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Paratus Law Group, PLLC
1765 Greensboro Station Place
Suite 320
Tysons Corner, VA 22102

EXAMINER	
EL-CHANTI, HUSSEIN A	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENICHIRO OI, QUAN WANG,
KOUICHI MATSUDA, and
TAKAYUKI YOSHIGAHARA

Appeal 2018-002819
Application 15/041,752
Technology Center 3600

Before: JILL D. HILL, FREDERICK C. LANEY, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

HILL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Sony Corporation ("Appellant") appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–19.[1] We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

[1] Applicant Sony Corporation is identified as the real party in interest. Appeal Br. 3.

THE CLAIMED SUBJECT MATTER

Independent claims 1 (device), 14 (method), and 15 (non-transitory computer-readable medium) are pending. Claim 1, reproduced below, illustrates the claimed subject matter:

> 1. An information processing device comprising:
>
> a global map acquiring unit configured to acquire at least a part of a global map representing positions of one or more objects in a real space;
>
> a local map generating unit configured to generate a local map representing positions of the one or more objects detectable by a device associated with a user;
>
> a calculating unit configured to compare three-dimensional position of feature points included in common in the global map and in the local map, and to calculate a relative position of the local map relative to the global map based on the comparison;
>
> a converting unit configured to convert the position data of one or more objects included in the local map into data of the global map; and
>
> an updating unit configured to update at least a portion of the global map based on the local map, by replacing the updated portion of the global map with a corresponding portion of the local map at a predetermined period of time, or by adding the corresponding portion of the local map to the global map,
>
> wherein the position data further includes a time stamp indicating a point in time when the position data is generated, and
>
> wherein the global map acquiring unit, the local map generating unit, the calculating unit, the converting unit, and the updating unit are each implemented via at least one processor.

App. Br. 16 (Claims Appendix).

REJECTION

Claims 1–19 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

ANALYSIS

The Examiner rejects claims 1–19 under 35 U.S.C. § 101, finding that the claims are directed to an abstract idea without significantly more. *See* Final Act. 2. In particular, the Examiner finds that the claimed system is directed to map updating, which concept is "an idea of itself" and "an abstract idea." *Id*. The Examiner also finds that the claim limitations "are merely instructions to implement the abstract idea on a computer and require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities." *Id*. According to the Examiner, the processor recited in claim 1 does not satisfy the inventive concept requirement, because it can be "merely a general purpose computer [performing] basic computer functions that are well-understood routine and conventional." *Id.* at 3.

The Examiner further finds that "[n]othing in the claims seems to improve the functioning of the computer itself or effect an improvement in another technology or technical field . . . [n]or do the claims solve a problem unique to the Internet." *Id*. at 2. The Examiner then finds that "[t]he claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because they are merely an abstract idea with additional generic computer elements." *Id.* at 3.

The Examiner then finds that "[t]he concept of map updating is a well-known and conventional step in the licensing field," such that

"[m]onopolization of this well-known and vital concept 'through the grant of a patent might tend to impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws.'" *Id.* at 3–4 (citing *Alice Corp. Pty, Ltd. V. CLS Bank Int'l*, 573 U.S. 208, 216 (2014)).

Appellant argues that the claimed time stamp, and the recited detecting, calculating, and updating, amount to "significantly more than the judicial exception due to being more than just an abstract idea with additional generic computer elements," and "affect an improvement to another technology or technical field, and are not "conventional or routine." Appeal Br. 13–14.

The Examiner responds that the claims, despite reciting detecting, comparing, calculating, and updating, are still directed to the abstract idea of updating a map, and are similar to comparing and collecting information (*see Classen v. Biogen*, 659 F.3d 1057, 1068 (Fed. Cir. 2011) (reviewing effects of known immunization schedules was directed to an abstract idea, but immunizing based thereon made claims directed to patent eligible subject matter)), and collecting, analyzing and displaying certain results of the collection and analysis (*see FairWarning v. Iatric*, 839 F.3d 1089, 1093–94 (Fed Cir 2016) (collecting information, analyzing information "by steps people go through in their minds, or by mathematical algorithms," and presenting results of such data collection and analysis, without more, is an abstract idea)) which have been found by the courts to be abstract ideas. Ans. 4.

The Examiner further responds that even if the claims solve "a technical problem including enabling a change in position of a physical object in the real space to be more quickly and accurately shared among

users," the claims use "generic functional language to achieve the solutions," and "[n]othing in the claim requires anything other than conventional computer/components operating according to their ordinary functions." *Id*. Thus, the Examiner contends, the claims recite "mere instructions to implement the abstract idea on a computer," and "[t]aking these computer limitations as an ordered combination adds nothing that is not already present when the elements are taken individually," so that the claims "do[] not amount to significantly more than the recited abstract idea and the additional limitations add no inventive concept." *Id.* at 5.

Appellant replies that the claims are directed to "improvements to a computer-related technology," that "'enable a change in position of a physical object in the real space to be more quickly and accurately shared among user.'" Reply Br. 4. Appellant further argues that the combined claim elements are "clearly not a fundamental or well-known practice, and the Examiner has not properly considered the elements of the claim that go beyond mere comparing, collecting, analyzing, and displaying of information using conventional or routine configurations." *Id.* at 6. According to Appellant, the Specification explains how the claim elements "improve[] a computer technology by providing a particular solution to a problem or particular way to achieve a desired outcome." *Id*. at 7–8 (citing Spec. ¶¶ 5, 29–30, 55–62). Appellant contends that "detection and comparison of physical three-dimensional positions of feature points between a global map and a local map, along with the calculation of relative position based on the comparison and updating the global map," as recited in the claims, "represent improvements to a technical solution of map sharing

related to tangible objects at least by the manner in which feature points are utilized in the claims." *Id.* at 8

Section 101 of the Patent Act provides, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 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. *E.g.*, *Alice Corp. Pty. Ltd. 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."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

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. 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)). If the claim is "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).

The PTO recently published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, 2019 *Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance"). Under that guidance, 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); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

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:

(3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, 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.

See 2019 Revised Guidance. "The question of whether a claim element or combination of elements is well-understood, routine and conventional to a

skilled artisan in the relevant field is a question of fact." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

Step 2A, Prong One

Under the 2019 Revised Guidance, we begin our analysis by first turning to *Alice* step one (Step 2A of the 2019 Revised Guidance).

Claim 1 recites an information processing device including a global map acquiring unit, a local map generating unit, a local-global map relative position calculating unit, a local-to-global map position data converting unit, and a global map updating unit, wherein the position data includes a time stamp. Appeal Br. 16 (Claims App.).

We agree with the Examiner that the claims, despite reciting acquiring, generating, comparing, converting, and updating, are still directed to updating a map, which is similar to comparing, collecting, and analyzing information, and displaying certain results of the collection and analysis, which have been found by the courts to be abstract ideas (Ans. 4).

Rather than refuting the Examiner's determination that map updating is similar to comparing, collecting, and analyzing information, and displaying certain results of the collection and analysis, which have been found by the courts to be abstract ideas, Appellant argues that the claims recite additional elements or "significantly more" than the judicial exception, for example, a time stamp and detection and comparison of feature points for global and local map correlation. Appeal Br. 13–14. Appellant also argues that the claim elements improve computer-related technology. Reply Br. 4. We consider these arguments below.

Step 2A, Prong Two – Practical Application

Because we determine that the claims recite an abstract idea, we turn to prong two of the first step of the *Alice* analysis and consider whether these claims integrate this abstract idea into a practical application. *See* 2019 Revised Guidance, 84 Fed. Reg. 51. In doing so, we consider whether there are any additional elements beyond the abstract idea that, individually or in combination, "integrate the [abstract idea] into a practical application, using one or more of the considerations laid out by the Supreme Court and the Federal Circuit." *See* 2019 Revised Guidance, 84 Fed. Reg. 54–55.

Appellant also argues that the claim elements improve computer-related technology. Reply Br. 4. Appellant's assertion, however, fails to explain how any actual functioning of the computer is improved. We do not find this unsupported assertion persuasive.

We agree with the Examiner that the claims require only a generic computer performing routine steps. Final Act. 2. "[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea . . . on a generic computer." *Alice*, 573 U.S. at 225. They do not.

We determine that the claimed controller does not integrate the recited abstract ideas into a practical application. *See* 2019 Revised Guidance, 84 Fed. Reg. 55 (explaining that courts have identified "merely us[ing] a computer as a tool to perform an abstract idea" as an example of when a judicial exception may not have been integrated into a practical application). Further, we conclude that the claims do not integrate the judicial exception into a practical application, and thus are directed to the judicial exception. In particular, we determine the do not recite:

(i) an improvement to the functioning of a computer;

(ii) an improvement to another technology or technical field;

(iii) an application of the abstract idea with, or by use of, a particular machine;

(iv) a transformation or reduction of a particular article to a different state or thing; or

(v) other meaningful limitations beyond generally linking the use of the abstract idea to a particular technological environment.

See MPEP §§ 2106.05(a)–(c), (e)–(h).

Step 2B — Inventive Concept

Finally, we consider whether claims 1 and 8 incorporate an inventive concept, that is, whether any additional claim elements "'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78, 79). This requires us to evaluate 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." *See* 2019 Revised Guidance, 84 Fed. Reg. 56.

Appellant argues that the claims recite additional elements or "significantly more" the judicial exception. Appeal Br. 13–14. Appellant argues that the additional elements include (1) the time stamp, (2) the detecting, calculating, and updating steps, and (3) the detection and comparison of physical three-dimensional positions of feature points between the global and local map, along with calculation of relative position based on the comparison. Appeal Br. 13; Reply Br. 8. The Examiner

provides no analysis or evidence that these additional elements, particularly detection and comparison of feature point positions between the global and local map, along with calculation of relative position based on the comparison are well known or conventional, or fail to pose a meaningful limit on the map updating. *See Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018) (whether the purported improvements were more than well-understood, routine, conventional activity previously known in the industry is a factual determination). While map updating may be known, the Examiner provides no evidence that comparing feature point positions to determine a relative position of global and local maps is well-known and fundamental in the field.

The Examiner's analysis, therefore, fails to consider the claim elements individually, and the finding that "[t]he concept of map updating is a well-known and conventional step in the licensing field and therefore the abstract idea is deemed *fundamental* in this field" (Ans. 3), fails to consider the claim elements individually and completely, and is not supported by substantial evidence.

Considering the claims as a whole, we determine that the additional elements recited in the claims provide "a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field." *See* 2019 Revised Guidance, 84 Fed. Reg. 56. For this reason, we do not sustain the rejection of the claims as directed to non-statutory subject matter.

DECISION

The Examiner's decision rejecting claims 1–19 is reversed.

REVERSED