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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NORIMASA NISHIDA

Appeal 2019-000705
Application 12/737,343
Technology Center 3600

Before CAROLYN D. THOMAS, MICHAEL J. STRAUSS, and
NABEEL U. KHAN, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 5 and 7–8. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Toyoko Inn IT Shukyaku Solution, Co, Ltd. Appeal Br. 1.

CLAIMED SUBJECT MATTER

Appellant describes the invention as follows:

In a lodging reservation site, since the number of rooms of respective hotels allotted to each of lodging reservation sites is restricted, when users gather to a specific site, the users cannot reserve vacant rooms in the specific site despite another sites have vacant rooms. Searched objects for vacant rooms in a lodging reservation site server are extended from allotted hotel rooms to web sites managed by the hotels. Situation where reservation is not made even with a vacant room is prevented and it is possible to make reservations based on actual number of remaining rooms of hotels.

Abstract.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A reservation system for performing reservations of user, comprising:

a first computer performing reservations of a plurality of facilities requested from a user terminal accessed through a network, wherein the facilities include a general facility, a certain number of rooms of the general facility are allotted for reservation to a lodging reservation site, and a specific facility, no room of the specific facility are allotted for reservation to the lodging reservation site, the first computer further having a first vacant room information database to store the certain number of rooms allotted for reservation of the general facility and vacancy data of the rooms for respective date;

a second computer accessing the first computer through a network and having a second vacant room information database to store vacancy data of a predetermined specific facility among the plurality of facilities for respective date;

wherein the first computer includes:

a central processing device for controlling an overall operation of the first computer;
a hotel information database to store property data containing a location and an address of a source for obtaining the vacancy data for the general facility and the specific facility, the location and the address of the source being associated with each other, where the address for the general facility is that of the first vacant room information database and the address for the specific facility is an external link information on a server which manages the specific facility;
a reservation information database to store reservation data containing a lodging date for the general facility and the specific facility; and
the central processing device of the first computer is specifically configured to conduct the following operations of:

performing a reservation option searching process that executes the following steps when receiving data including a lodging date and a location where the user wishes to lodge are received:

(1) accessing the hotel information database and extracting a facility based on the property data and the received data;

(2) extracting an address of a source for obtaining the vacancy data corresponding to the extracted facility;

(3) accessing the extracted address and determining whether or not there exists a vacancy on the lodging date which was included in the received data:

performing an input data receiving process that displays an input screen for reservation at more than one facility including a general facility and a specific facility for which the reservation option searching process determined as a vacancy

exists on a user terminal, and receives input data which is inputted to the user terminal;

performing a reservation data storing process that creates the reservation data, when the input data includes the general facility to which the reservation is allotted based on the input data and writes the created reservation data into the reservation information database;

performing an input data transmission process that transmits the input data containing the specific facility, when the input data includes the specific facility, based on the address extracted by the reservation option searching process; and

performing a referring location changing process that changes an address of a source in the hotel information database, only when the number of remaining rooms of a facility in the first vacant room information database falls below a preset number, from the address of the first vacant room information database to the external link information on the server which manages a corresponding facility;

wherein the second computer includes:

a central processing device for controlling an overall operation of the second computer, where the central processing device of the second computer is specifically configured to conduct the following operations of:

performing a vacancy data updating process that operates to decrease the number of rooms on the lodging date for the specific facility which was included in the input data from the vacancy data stored in the second vacant room information database, when the input data transmitted from the first computer was received; and

performing a reservation completion data displaying process that creates, after the operation of the vacancy data updating process, reservation completion data for the specific facility based on

the input data, and transmits the reservation completion data to the first computer;
wherein the reservation data storing process of the first computer further creates reservation data on the specific facility based on the reservation completion data transmitted from the second computer and writes the created reservation data on the specific facility into the reservation information database.

REJECTION

Claims 1, 5 and 7–8 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception to patentable subject matter. Final Act. 3–6.

OPINION

Rejection under 35 U.S.C. § 101

Legal Principles

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. *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*. *Alice*, 573 U.S. 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)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

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). “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 State Patent and Trademark Office published revised guidance on the application of § 101 (2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019)) and recently, published an update to that guidance (*October 2019 Patent Eligibility Guidance Update*, 84 Fed. Reg. 55,942) (jointly referred to as “Guidance”). Under the Guidance, in determining whether a claim falls within an excluded category, we first look, under step 2A of the Guidance, 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 move to step 2B of the Guidance and 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 Guidance 84 Fed. Reg. at 56.

Prong One of Step 2A

Under prong 1 of step 2A, we first look to whether the claim recites any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities, or mental processes). 2019 Guidance, 84 Fed. Reg. at 52–54. The preamble of claim 1 recites, “a reservation system for performing reservations.”

Performing hotel reservations is a form of creating business relations and obligations between customers and hotels. To that end we note that claim 1 recites, amongst several other limitations:

performing a reservation option searching process that executes the following steps when receiving data including a lodging date and a location where the user wishes to lodge are received

(1) accessing the hotel information database and extracting a facility based on the property data and the received data;

(2) extracting an address of a source for obtaining the vacancy data corresponding to the extracted facility;

(3) accessing the extracted address and determining whether or not there exists a vacancy on the lodging date which was included in the received data.

Claim 1 further recites:

performing a vacancy data updating process that operates to decrease the number of rooms on the lodging date for the specific facility which was included in the input data from the

vacancy data stored in the second vacant room information database, when the input data transmitted from the first computer was received; and

performing a reservation completion data displaying process that creates, after the operation of the vacancy data updating process, reservation completion data for the specific facility based on the input data, and transmits the reservation completion data to the first computer.

The aforementioned limitations recite the process of determining whether a vacancy exists in a hotel on a particular date and completing the reservation, along with the required associated accounting steps necessary to keep the vacancy information updated. As such, these limitations are also directed to performing hotel reservations, which, as we explained above, is a form of creating business relations and obligations between customers and hotels. Additionally, these steps may also be performed in the human mind using pen and paper for recording purposes.

Creating business relations and obligations falls under the category of certain methods of organizing human activity, which, according to the Guidance, constitutes an abstract idea. *See* Guidance, 84 Fed. Reg. at 52. Similarly, mental processes also constitute an abstract idea under the Guidance. *Id.* Thus, under prong one of step 2A we determine the claims recite an abstract idea.

Prong Two of Step 2A

Under prong 2 of step 2A of the Guidance we determine whether the claim as whole integrates the recited abstract idea into a practical application of the abstract idea. A claim that integrates a judicial exception into a practical application will 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. To evaluate whether the claims integrate the abstract idea into a practical application, we identify whether there are any additional elements recited beyond the abstract idea, and evaluate those additional elements individually and in combination.

Some exemplary considerations laid out by the Supreme Court and the Federal Circuit indicative that an additional element integrates an abstract idea into a practical application include (i) an improvement in the functioning of a computer or to another technological field, (ii) an application of the judicial exception with, or by use of, a particular machine, (iii) a transformation or reduction of a particular article to a different state or thing, or (iv) a use of the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment. *See* MPEP § 2106.05(a)–(c), (e)–(h).

Reviewing the claim limitations as a whole, we determine the claim does not recite additional elements that integrate the abstract idea into a practical application. In particular we find that the claim limitations do not improve the functioning of a computer or other technological field. Instead the technological elements of the claim simply link the business process to the technological environment of computers, databases, and networks.

We note here that the problem addressed by the invention is one that stems from the fact that limited number of rooms are allotted to different lodging reservation sites from which a user can reserve a room for a given hotel. Spec. 1:22–25. This can create the situation where the number of allotted rooms for a particular reservation site may run out and prevent a user from reserving a room, even though the hotel has more rooms available

through other reservation sites. Spec. 1:22–25. The invention, therefore, “provide[s] a reservation system for managing remaining vacant rooms in all reservation sites properly while maintaining a chance of request for reservation for accommodations even when users gather to a specific reservation site.” Spec. 2:8–11. In terms of claim 1, the proposed solution to this problem can be seen, at least in the following limitation:

performing a referring location changing process that changes an address of a source in the hotel information database, only when the number of remaining rooms of a facility in the first vacant room information database falls below a preset number, from the address of the first vacant room information database to the external link information on the server which manages a corresponding facility.

Here, when the rooms available in a “first vacant room information database falls below a preset number” the invention changes the referring location to an external link which includes other vacancy information. Thus, when a user tries to reserve a room using a site where the allotted number of rooms have fallen below a certain preset number, the user is directed to another server where more rooms may be available.

We determine that this problem is a problem that stems from record keeping and the recited solution to this problem is one that is directed at improving the record keeping. We do not find that the recited solution is one that improves the functioning of a computer or another technological field.

Appellant argues “The present invention improves computer/network functionality by the unique structure of the hotel information database, combined with the reservation option searching process and the referring location changing process.” Appeal Br. 13. Appellant explains that a

manual analogue of the claim invention would require at least five ledgers keeping track of the vacancy information of the general facility, the vacancy information of the specific facility, whether a facility is a general facility or a specific facility, the inquiry address to find vacancy information, and a ledger to record reservation information for a specific facility. Appeal Br. 13–14. With the claimed invention, however, “the hotel information database is structured to store property data containing a location and an address of a source for obtaining the vacancy data for both the general facility and the specific facility.” Appeal Br. 15. The vacancy data for the general facility comes from the first vacant room information database, and the vacancy information for the specific facility comes from a link to the server that manages the specific facility. Appeal Br. 15. Because “the hotel information database is able to manage both the general facility and the specific facility, the reservation system of the recited invention can reduce the number of databases.” Appeal Br. 15. Appellant also argues that the reduced number of databases, would minimize the amount of memory used as compared to having separate databases for the general and specific facilities and would also improve speed. Appeal Br. 16–17.

We are unpersuaded by Appellant’s argument. When considering whether claims are directed to an improvement in computer functionality, we “ask whether the focus of the claims is on the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016). We find the improvement stemming from the invention relates to organizing information in a way so that one database can manage both the

general and specific facilities rather than having two databases. Appellant's analogy to ledgers illustrates this point. If one business uses five ledgers to manage their business, while a second business improves the way in which records are kept so that only four ledgers were needed, such an improvement could certainly help increase efficiency, use fewer resources, or minimize costs, but such an improvement would still be directed to a better business process rather than an improvement to the underlying technology (e.g. an improvement to the ledgers themselves).

Similarly here, the improvement stems from the fact that the hotel information database stores addresses of sources of information for the general facility and specific facilities. While storing addresses to sources of information to these two different facilities may be an improvement to having two separate databases for the two facilities, this is not an improvement to the databases themselves or how they operate, rather it is an improvement to how databases are used and the kind of information stored in them.

Accordingly, we determine that the claim as whole does not integrate the recited abstract idea into a practical application of the abstract idea. We move next to Step 2B.

Step 2B of the Guidance

Under step 2B of the Guidance we analyze the claims to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself). Considerations that are evaluated with respect to step 2B include determining whether the claims as a whole add a specific limitation or

combination of limitations that are not well-understood, routine, conventional activity in the field.

The Examiner finds the present invention uses generic computers performing routine and conventional activities or gathering and storing information, rather than something significantly more than the exception itself. Final Act. 5 (citing Spec. ¶ 24). Appellant argues “[t]he present invention provides a functionality not offered by the prior art.” Appeal Br. 18. Appellant argues that “[i]n the prior art if a facility desired by the user does not exist in the database of the hotel reservation site, an alternative facility is provided by directing the user to another database of another hotel reservation site. That is, if the desired facility desired by the user is not found by searching Ledger 1 . . . the user is directed to Ledger 2” Appeal Br. 18–19. “In contrast, under the present invention, the reservation system allows the user to find a desired facility in response to the user’s input of a desired location and date, and presents matching facilities without resorting to Ledger 2.” Appeal Br. 19. Therefore, Appellant argues, “the claimed invention recites non-conventional elements not found on prior art and does not merely draw on generic functionality of pre-existing computer systems.” Appeal Br. 19.

We are unpersuaded by Appellant’s argument. First, we note that although the second step in the *Alice/Mayo* framework is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or non-obviousness, but rather a search for “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. A novel and nonobvious claim directed to a purely

abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90. Appellant’s argument that the invention provides a functionality not offered by the prior art is inapposite. Second, Appellant’s argument that the system provides an improvement because it manages the reservation system using one database rather than two, was addressed above with respect to Prong Two of Step 2A. Namely, this improvement is directed to the abstract idea itself, rather than something significantly more than the abstract idea.

Appellant argues that under the Patent Office’s April 19, 2018 Memorandum titled “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision” issued in light of the Federal Circuit’s *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018) decision, the Examiner “fails to expressly support the rejection in writing by a citation to an express statement in the specification, a court decision, a publication, or a statement that the examiner is taking official notice.” Reply Br. 5.

We disagree. The Examiner explicitly finds that the computers upon which the claimed system and associated databases are implemented are generic and used in their well understood and routine ways. Final Act. 5. The Examiner provides a citation to paragraph 24 of the published application (PG Pub 2011/0099038) as support which directs the user’s attention to functional block diagrams of the system and database structure. *See Spec.*, Figs. 2 and 3. The associated description of these figures explains that the reservation system includes servers and user terminals connected via the Internet. *See Spec.* Spec. 12:11–14. The servers include a central processing unit “for performing processing on the reservations, a memory unit 33 for storing information required for the reservations, an input unit 34

such as a keyboard for inputting data, and an output unit 35 for outputting data such as a printer or a display.” Spec. 12:11–20. As described, the servers and computers used to implement the reservation system include generic computer components such as a central processing unit, memory, and input and output units that operate in their well-understood, routine, and conventional ways, consistent with the Examiner’s findings. We agree with the Examiner that these additional elements “do[] not offer a meaningful limitation beyond generally linking the use of the method to a computer.” Final Act. 5. *See also* 2019 Revised Guidance, 84 Fed. Reg. at 54; *Alice*, 573 U.S. at 221 (“[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.”); MPEP § 2106.05(f)(2) (“Use of a computer or other machinery in its ordinary capacity for economic or other tasks (*e.g.*, to receive, store, or transmit data) or simply adding a general purpose computer or computer components after the fact to an abstract idea (*e.g.*, a fundamental economic practice or mathematical equation) does not provide significantly more.”).

We do not find error in the Examiner’s conclusion that the invention does not claim something significantly more than the abstract idea, nor in whether the Examiner followed proper procedure under PTO guidance.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 5, 7–8	101	Eligibility	1, 5, 7–8	

Appeal 2019-000705
Application 12/737,343

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED