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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JONATHAN KENNEL and SANDEEP JAIN

Appeal 2018-007065
Application 14/210,132
Technology Center 3600

Before MAHSHID D. SAADAT, ALLEN R. MacDONALD, and
NABEEL U. KHAN, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–6, 8–11, 13–18, and 20–26, which constitute all the claims pending in this application.² 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. Appellant identifies the real party in interest as HireVue. Appeal Br. 3.

² Claims 7, 12, and 19 have been canceled.

STATEMENT OF THE CASE

Introduction

Appellant's invention relates to "[i]nterview scheduling technologies." Spec. ¶ 24.

Representative Claim

Representative claim 1 under appeal read as follows;

1. A method of scheduling an interview with a candidate, the method comprising:

receiving, by a first device of a scheduling system comprising one or more devices, scheduling information including constraint information for scheduling the interview with the candidate, and candidate information including candidate availability, wherein the constraint information includes one or more location tags, an interview load, and an interviewer tag;

defining, by the first device, a data structure representing a first interview specification containing the constraint information and the candidate availability;

determining, by an interview-scheduling tool executed by the first device, a list of locations and a list of interviewers that satisfy a combination of the candidate availability and the constraint information;

encoding, within the data structure by the interview-scheduling tool, a plurality of constraint satisfaction problems (CSPs) comprising a set of objects having a state that satisfies the constraint information, the candidate availability, the list of locations, and the list of interviewers, wherein the interview load of the constraint information is integrated within one of the plurality of CSPs as a penalty for a first interviewer of the list of interviewers;

generating, by a framework generator of the interview-scheduling tool, an interview schedule

framework, containing the plurality of CSPs, as a first input file comprising a two-dimensional array of variables, where a first dimension of the two-dimensional array contains the list of locations and a second dimension of the two-dimensional array contains timing of interview sessions;

transmitting, by the first device, the first input file to a constraint solver tool;

solving, by the constraint solver tool, the plurality of CSPs stored within the first input file to generate an optimized interview schedule, of the interview schedule framework, matching the constraint information, the candidate availability, the list of locations, and the list of interviewers, wherein the optimized interview schedule:

includes at least one interview slot, at least one location of the list of locations, and at least a second interviewer, of the list of interviewers, associated with the at least one interview slot; and

excludes the first interviewer, from the list of interviewers, as a result of the penalty from the interview load;

receiving, by the interview-scheduling tool from the constraint solver tool, the optimized interview schedule; and

transmitting the optimized interview schedule to a user device, of the at least the second interviewer, in a format for display in a user interface of the user device.

Rejection on Appeal

Claims 1–6, 8–11, 13–18, and 20–26 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. *See* Final Act. 18.

ANALYSIS

Appellant argues the pending claims as a group. Appeal Br. 7–29; Reply Br. 2–9. As permitted by 37 C.F.R. § 41.37, we decide the appeal based on claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Arguments

The Examiner determines that the claims are directed to “a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.” Final Act. 18 (emphasis omitted). The Examiner adds that the claims are directed to an abstract idea because they are directed to “scheduling an interview with a candidate,” which constitute an “idea of itself.” Final Act. 18–19 (citing *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (data recognition and storage) and *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (collecting information, analyzing it, and displaying certain results of the collection and analysis)). With respect to the additional elements and whether they amount to significantly more than the judicial exception, the Examiner finds:

The additional elements or combination of elements in the claims other than the abstract idea per se, including the devices, network, memory, processor, framework generator, constraint solver tool and interview-scheduling tool amount to no more than mere instructions to implement the idea on a computer, and/or a recitation of generic computer structure that serves to perform generic computer functions that are well-understood,

routine, and conventional activities previously known to the pertinent industry, such as receiving, processing, and storing data, electronic recordkeeping, automating mental tasks, and receiving or transmitting data over a network, *e.g.*, using the Internet to gather data[.]

Final Act. 19. The Examiner further finds “the receiving elements in the claims are considered immaterial pre-solution activities and the transmitting elements in the claims are considered immaterial post-solution activities, neither of which render an abstract idea eligible.” *Id.* Based on these determinations, the Examiner concludes that the claims are ineligible under § 101.

Appellant argues the Examiner oversimplifies the claims when comparing the claims to identified abstract ideas in previous court decisions by generally paraphrasing different features of the claims and analyzing the paraphrased claim features rather than the entire claim limitations. *See* Appeal Br. 8–10. As argued by Appellant, the Examiner considers the claims to be directed to “scheduling an interview with a candidate” based on claim 1 reciting “defining, determining, encoding, generating and solving meeting scheduling data,” while largely ignoring specific requirements of the claims. *See* Appeal Br. 12. Appellant additionally argues the claims are distinct from the claims at-issue in *Content Extraction* and *Electric Power Group*. *See* Appeal Br. 22–25; *see also* Reply Br. 6–8. Appellant also argues, even if the claims recite operations involving certain concepts that were previously identified by courts as abstract idea, the claims merely involve an abstract concept, rather than being directed to an abstract idea. *See* Appeal Br. 13. As also argued by Appellant, the Examiner’s analysis

erroneously mix the two steps of the patent eligibility framework. *See* Appeal Br. 10–11; *see also* Reply Br. 5–6.

Appellant further argues the claims are directed to an improvement to computer-related technology. *See* Appeal Br. 13; *see also* Reply Br. 3. More specifically, Appellant argues the claims are directed to specific improvements in the field of optimizing interview scheduling in a way not previously performed by humans, employing computer functionality to reduce enterprise communication between parties and which overcome deficiencies with previous techniques for scheduling interviews. *See* Appeal Br. 14–17; *see also* Reply Br. 3–5. As argued by Appellant, the improvement is similar to the improvement described in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016). *See* Appeal Br. 17–22; *see also* Reply Br. 6.

Appellant also argues the claims recite significantly more than an abstract idea. *See* Appeal Br. 25. As argued by Appellant, the claim recitations amount to significantly more than mere instructions to implement an abstract idea on a general purpose computer, because the claim recitations invoke an improvement to computer technology. *See* Appeal Br. 26–28; *see also* Reply Br. 8–9. Thus, as argued by Appellant, the claims are similar to the claims at-issue in *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1316 (Fed. Cir. 2016) and *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). *See* Appeal Br. 26.

Principles of Law

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 each 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 claims 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).

In January 2019, the USPTO published revised guidance on the application of § 101. See 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“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 activities such as a fundamental economic practice, or mental processes); and

(2) additional elements that integrate the judicial exception into a practical application (*see* Manual of Patent Examining Procedure (MPEP) §§ 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)). 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, and conventional in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, and 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.

Abstract Idea

To determine whether a claim recites an abstract idea, we (1) identify the claim’s specific limitations that recite an abstract idea, and (2) determine whether the identified limitations fall within certain subject matter groupings, namely (a) mathematical concepts; (b) certain methods of organizing human activity; or (c) mental processes.

Independent claim 1 is directed to an abstract idea because the claim recites a method of organizing human activity, one of the abstract idea groupings listed in the Guidance. *See* Guidance, 84 Fed. Reg. at 52, 53 (listing “[c]ertain methods of organizing human [activities such as] commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations)” as one of the “enumerated groupings of abstract ideas”).

The claims are directed to a “[method] of scheduling candidates for complex interviews based on input parameters and constraints.” Spec. ¶ 25.

The claimed method includes the following:

- (1) “receiving . . . scheduling information including constraint information for scheduling [an] interview with [a] candidate, and candidate information including candidate availability, wherein the constraint information includes one or more location tags, an interview load, and an interviewer tag;”
- (2) “defining . . . a data structure representing a first interview specification containing the constraint information and the candidate availability;”
- (3) “determining . . . a list of locations and a list of interviewers that satisfy a combination of the candidate availability and the constraint information;”
- (4) “encoding, within the data structure . . . a plurality of constraint satisfaction problems (CSPs) comprising a set of objects having a state that satisfies the constraint information, the candidate availability, the list of locations, and the list of interviewers, wherein the interview load of the constraint information is integrated within one of the plurality of CSPs as a penalty for a first interviewer of the list of interviewers;”
- (5) generating . . . an interview schedule framework, containing the plurality of CSPs, as a first input file comprising a two-dimensional array of variables, where a first dimension of the two-dimensional array contains the list of locations and a second dimension of the two-dimensional array contains timing of interview sessions;” and

(6) “solving . . . the plurality of CSPs stored within the first input file to generate an optimized interview schedule, of the interview schedule framework, matching the constraint information, the candidate availability, the list of locations, and the list of interviewers, wherein the optimized schedule: includes at least one interview slot, at least one location of the list of locations, and at least a second interviewer, of the list of interviewers, associated with the at least one interview slot; and excludes the first interviewer, from the list of interviewers, as a result of the penalty from the interview load.”

Appeal Br. 30–31.

Here, apart from the claimed “first device of a scheduling system comprising one or more devices,” “interview-scheduling tool executed by the first device,” “framework generator of the interview-scheduling tool,” and “constraint solver tool,” as well as the claimed “transmitting” of the first input file and the claimed “receiving” and “transmitting” of the optimized interview schedule, every limitation of claim 1 recites an abstract idea, namely organizing human activity, or managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions). The claimed method of scheduling candidates for complex interviews based on input parameters and constraints does not require a machine, let alone a particular machine, to implement, and therefore fits squarely within the human activity organization category of the agency’s guidelines. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary methods of organizing human activity including (1) commercial interactions, and (2) managing interactions between people including following rules or instructions). More

specifically, the recited steps are similar to steps performed by any multi-constraint problem solver to optimize a solution for a problem that includes multiple constraints. Here the multi-constraint problem solver is applied to the field of scheduling interviews.

Appellant's argument that the Examiner failed to consider all the limitations of the claims is not persuasive, as we agree with the Examiner did consider each and every claim limitation, both individually and in combination. *See* Ans. 4–5. Appellant's argument that the claims are unlike the claims at-issue in *Contract Extraction* and *Electric Power Group* is also not persuasive, as the argument merely reiterates the claim limitations without explaining how they distinguish the claims from the abstract ideas identified in *Contract Extraction* and *Electric Power Group*. We have also considered Appellant's other arguments that the claims do not recite an abstract idea, but we are not persuaded of Examiner error.

Although claim 1 recites an abstract idea based on these methods of organizing human activity, we nevertheless must still determine whether the abstract idea is integrated into a practical application, namely whether the claim applies, relies on, or uses the abstract idea in a manner that imposes a meaningful limit on the abstract idea, such that the claim is more than a drafting effort designed to monopolize the abstract idea. *See* Guidance, 84 Fed. Reg. at 54–55. We therefore (1) identify whether there are any additional recited elements beyond the abstract idea, and (2) evaluate those elements individually and collectively to determine whether they integrate the exception into a practical application. *See id.*

Here, the claimed “first device of a scheduling system comprising one or more devices,” “interview-scheduling tool executed by the first device,”

“framework generator of the interview-scheduling tool,” “constraint solver tool,” as well as the claimed “transmitting” of the first input file and the claimed “receiving” and “transmitting” of the optimized interview schedule, are the only recited elements beyond the abstract idea, but these additional elements do not integrate the abstract idea into a practical application when reading claim 1 as a whole. We are not persuaded that the claimed invention improves the computer or its components’ functionality or efficiency, or otherwise changes the way the computer functions. In other words, contrary to Appellant’s assertion (*see* Appeal Br. 13; *see also* Reply Br. 3), the claimed invention improves solving multiple constraints in order to optimize an interview schedule rather than improving the computer that is used for performing the recited functions. Thus, the claims here merely use generic computing components to provide the optimized interview schedule to a user interface for display, but does not improve a display mechanism as was the case in *McRO*, 837 F.3d at 1314, and also does not improve the way a computer stores and retrieves data in memory as was the case in *Enfish*, 822 F.3d at 1339.

Further, the remaining elements recited in claim 1 do not integrate the abstract idea into a practical application. Regarding the claimed “first device of a scheduling system comprising one or more devices,” “interview-scheduling tool executed by the first device,” “framework generator of the interview-scheduling tool,” and “constraint solver tool,” Appellant’s Specification discloses that the recited elements encompass generic components, such as a general-purpose computer. *See* Spec. ¶¶ 32, 34, 39, 57, 59, 69. In addition, independent claim 14 recites the claimed “memory,” and “processor coupled to the memory,” which are not disclosed in the

Specification as requiring anything more than generic components. *See* Spec. ¶¶ 139–141, 145–149. Simply adding generic hardware and computer components to perform abstract ideas does not integrate those ideas into a practical application. *See* Guidance, 84 Fed. Reg. at 55 (identifying “merely includ[ing] instructions to implement an abstract idea on a computer” as an example of when an abstract idea has not been integrated into a practical application). Even further, regarding the claimed “transmitting” of the first input file and the claimed “receiving” and “transmitting” of the optimized interview schedule, we agree with the Examiner that these are merely insignificant extra-solution activities which do not render an abstract idea patent-eligible. *See* Final Act. 19; *see also* Guidance, 84 Fed. Reg. at 55 (identifying “[adding] insignificant extra-solution activity to the judicial exception” as an example of when an abstract idea has not been integrated into a practical application).

We have considered Appellant’s argument that the claims are directed to an improvement to computer-related technology but we are not persuaded by this argument. Instead, as previously discussed, we agree with the Examiner’s finding that an improvement to a process of optimizing an interview scheduling involving multiple constraints is an improvement to an existing business process and not an improvement to computer-related technology. *See* Ans. 9.

Thus, the claims do not integrate the judicial exception into a practical application. The claims do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine (except for a generic computer), (3) do not effect a transformation of a particular article to a different state, and (4) are not applied in any meaningful way beyond

generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(a)–(c), (e)–(h).

Inventive Concept

Because we determine claim 1 is “directed to” an abstract idea, we consider whether claim 1 recites an “inventive concept.” The Examiner determined claim 1 does not recite an inventive concept because the additional elements in the claim do not amount to “significantly more” than an abstract idea. *See* Final Act. 19; *see also* Ans. 19–23.

We agree. The additional elements recited in the claim include a “first device of a scheduling system comprising one or more devices,” an “interview-scheduling tool executed by the first device,” a “framework generator of the interview-scheduling tool,” and a “constraint solver tool.” The claim recites these elements at a high level of generality, and the written description indicates that these elements are generic computer components. *See, e.g.*, Spec. ¶¶ 34, 39, 57, 59, 69. Using generic computer components to perform abstract ideas does not provide the necessary inventive concept. *See Alice*, 573 U.S. at 223 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”). The additional elements recited in the claim also include the “transmitting” of the first input file and the “receiving” and “transmitting” of the optimized interview schedule. However, we agree with the Examiner that these are merely insignificant extra-solution activities. *See* Final Act. 19. Adding insignificant extra-solution activities to existing abstract ideas also does not provide the necessary inventive concept. *See Parker v.*

Flook, 437 U.S. 584, 590 (1978) (“The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance.”). Thus, these elements, taken individually or together, do not amount to “significantly more” than the abstract ideas themselves.

We have considered Appellant’s argument that the claims recite an inventive concept because the claims recite an improvement to computer-related technology, but it is not persuasive. Instead, as previously discussed, we agree with the Examiner’s finding that an improvement to a process of optimizing an interview scheduling involving multiple constraints is an improvement to an existing business process and not an improvement to computer-related technology. *See* Ans. 9.

Decision

For at least the above reasons, we agree with the Examiner that claim 1 is “directed to” an abstract idea and does not recite an “inventive concept.” Accordingly, we sustain the Examiner’s rejection of claim 1 and the remaining claims which fail to include additional elements that add significantly more to the abstract idea, under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1–6, 8–11, 13–18, and 20–26	§ 101	1–6, 8–11, 13–18, and 20–26	

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FINALITY AND 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