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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RYAN HAMILTON, BHARAT SUTARIYA, TEHSIN SYED, BENJAMIN DAVID WILKERSON, and ANGIE GLOTSTEIN

Appeal 2018-000645
Application 14/048,365[1]
Technology Center 3600

Before DAVID M. KOHUT, BETH Z. SHAW, and JAMES W. DEJMEK, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1–20. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We affirm.

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[1] Appellants identify Cerner Innovation, Inc. as the real party in interest. Br. 3.

STATEMENT OF THE CASE

Introduction

Appellants' disclosed and claimed invention generally relates to "organizational management of population health." Spec. ¶ 4. More particularly, Appellants describe the managing population health techniques includes building and maintaining data stores related to healthcare organizations and healthcare providers, building and maintaining data stores related to patient information, and attributing patients to healthcare providers. Spec. ¶¶ 4–5. According to the Specification, exemplary healthcare organization and provider data may include information such as operating hours, geographic location, associated providers, credentials, affiliations, and demographic characteristics. Spec. ¶ 47. Patient data may include patient demographics, health history, diagnoses, treatments, test results, insurance information, and preferences. Spec. ¶¶ 56, 77. Patient information from various reference records is combined "to form person-centric longitudinal health records known as population records. Each record is longitudinal in that it contains information on all of the patient's health encounters even though the encounters may have occurred at disparate locations and with disparate providers." Spec. ¶ 61. In a disclosed embodiment, an attribution program "attributes patients to various healthcare providers within a healthcare organization." Spec. ¶ 74. For example, in a tired attribution schema, a patient may be attributed to a healthcare organization or provider based on organizational data, whereas attributing a specific provider to a patient may be based on patient data. Spec. ¶ 79.

Claim 1 is representative of the subject matter on appeal and is reproduced below:

1. One or more non-transitory computer-readable media having computer-executable instructions embodied thereon that, when executed, perform a method of using organizational data and patient population data to attribute patients within a defined patient population segment to one or more providers associated with a healthcare organization, the method comprising:

building a data store of organizational data associated with a healthcare organization from data received from one or more sources;

based on the organizational data associated with the healthcare organization, identifying one or more providers associated with the healthcare organization, specialties associated with the one or more providers, and locations of the one or more providers;

based on a plurality of longitudinal patient population records, identifying a set of patients currently associated with the healthcare organization;

using the longitudinal patient population records:

1) identifying a set of patients associated with the healthcare organization;

2) for each patient in the set of patients associated with the healthcare organization, identifying within a corresponding longitudinal patient population record previous and current provider relationships based on one or more provider encounters of the patient, and

3) identifying preference information of the patient regarding a provider type;

creating an attribution scheme for implementation by a program engine, wherein the attribution scheme attributes each patient in the set of patients to at least one of the one or more providers associated with the healthcare organization based on:

1) the specialties associated with the one or more providers,

2) the locations of the one or more providers relative to a location associated with the patient,

> 3) the previous and current provider relationships identified based on the one or more provider encounters of the patient, and
>
> 4) the preference information identified for the patient regarding a provider type; and
>
> modifying the attribution scheme when one or more of the organizational data associated with the healthcare organization or the longitudinal patient population records is updated.

The Examiner's Rejection

Claims 1–20 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–13.

ANALYSIS[2]

Appellants dispute the Examiner's conclusion that the pending claims are directed to patent-ineligible subject matter. Br. 10–20. In particular, Appellants argue the Examiner oversimplifies the claims (e.g., claim 1) and fails to consider "the character of each claim as a whole." Br. 11. Rather, Appellants assert, the Examiner relies on two non-precedential opinions to conclude the claims are directed to an abstract idea. Br. 11–14 (referring to *Cyberfone Sys. v. CNN Interactive Grp.*, 558 F. App'x 988 (Fed. Cir. 2014); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950 (Fed. Cir. 2014)). Appellants argue the claims are not directed to an abstract idea

[2] Throughout this Decision, we have considered the Appeal Brief, filed March 16, 2017 ("Br."); the Examiner's Answer, mailed August 25, 2017 ("Ans."); and the Final Office Action, mailed October 20, 2016 ("Final Act."), from which this Appeal is taken. Appellants did not file a Reply Brief. To the extent Appellants have not advanced separate, substantive arguments for particular claims or issues, such arguments are considered waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2016).

but instead recite an attribution schema "customized to reflect a specific healthcare organization, its contractual quality measures goals, its providers' specialties and locations, and its patient population's preferences and locations and known relationships with providers." Br. 15–16. Moreover, Appellants assert the claims provide an inventive concept to transform the alleged abstract idea into a patent-eligible application. Br. 18–20. Specifically, Appellants argue the claims are necessarily rooted in computer technology because the embodiments "include computer-based network and attribution services for building a customized healthcare organization attribution schema that is specifically created for, and implemented by, a computer program engine." Br. 19.

The Supreme Court's two-step framework guides our analysis of patent eligibility under 35 U.S.C. § 101. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). In addition, the Office recently published revised guidance for evaluating subject matter eligibility under 35 U.S.C. § 101, specifically with respect to applying the *Alice* framework. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Office Guidance"). If a claim falls within one of the statutory categories of patent eligibility (i.e., a process, machine, manufacture, or composition of matter) then the first inquiry is whether the claim is directed to one of the judicially recognized exceptions (i.e., a law of nature, a natural phenomenon, or an abstract idea). *Alice*, 573 U.S. at 217. As part of this inquiry, we must "look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1257–58 (Fed. Cir. 2016) (internal citations omitted). Per Office Guidance,

this first inquiry has two prongs of analysis: (i) does the claim recite a judicial exception (e.g., an abstract idea), and (ii) if so, is the judicial exception integrated into a practical application. 84 Fed. Reg. at 54. Under the Office Guidance, if the judicial exception is integrated into a practical application, *see infra*, the claim passes muster under § 101. 84 Fed. Reg. at 54–55. If the claim is directed to a judicial exception (i.e., recites a judicial exception and does not integrate the exception into a practical application), the next step is to determine whether any element, or combination of elements, amounts to significantly more than the judicial exception. *Alice*, 573 U.S. at 217; 84 Fed. Reg. at 56.

Here, we conclude Appellants' claims recite an abstract idea. In particular, Appellants' claims are generally directed to using organizational data and patient population data to attribute patients to healthcare providers in a healthcare organization. This is consistent with how Appellants describe the claimed invention. *See, e.g.*, Spec. ¶ 27 (describing the program templates are designed to "identify population segments . . . [and] attribute patients within the segment to healthcare providers"); *see also* Br. 15 (describing claimed embodiments as defining an attribution schema for a healthcare organization to reflect the attribution of its healthcare providers and its patient population). We conclude that attributing patients to healthcare providers based on organizational data and patient population data is a certain method of organizing human activity (e.g., managing relationships between people)—i.e., an abstract idea. *See* 84 Fed. Reg. at 52.

Claim 1 is reproduced below and includes the following claim limitations that recite using organizational data and patient population data

to attribute patients to healthcare providers in a healthcare organization, emphasized in *italics*.

> 1. One or more non-transitory computer-readable media having computer-executable instructions embodied thereon that, when executed, perform a method of using organizational data and patient population data to attribute patients within a defined patient population segment to one or more providers associated with a healthcare organization, the method comprising:
>
> building a data store of organizational data associated with a healthcare organization from data received from one or more sources;
>
> based on the organizational data associated with the healthcare organization, identifying one or more providers associated with the healthcare organization, specialties associated with the one or more providers, and locations of the one or more providers;
>
> based on a plurality of longitudinal patient population records, identifying a set of patients currently associated with the healthcare organization;
>
> using the longitudinal patient population records:
>
> 1) identifying a set of patients associated with the healthcare organization;
>
> 2) for each patient in the set of patients associated with the healthcare organization, identifying within a corresponding longitudinal patient population record previous and current provider relationships based on one or more provider encounters of the patient, and
>
> 3) identifying preference information of the patient regarding a provider type;
>
> *creating an attribution scheme for implementation by a program engine, wherein the attribution scheme attributes each patient in the set of patients to at least one of the one or more providers associated with the healthcare organization based on:*
>
> *1) the specialties associated with the one or more providers,*

> *2) the locations of the one or more providers relative to a location associated with the patient,*
>
> *3) the previous and current provider relationships identified based on the one or more provider encounters of the patient, and*
>
> *4) the preference information identified for the patient regarding a provider type; and*
>
> *modifying the attribution scheme when one or more of the organizational data associated with the healthcare organization or the longitudinal patient population records is updated.*

More particularly, using organizational data and patient population data to attribute patients to healthcare providers in a healthcare organization requires: (i) creating an attribution scheme to attribute patients to at least one of healthcare providers based on information related to the healthcare providers and information related to the patient (i.e., the claimed step of creating an attribution scheme); and (ii) updating the attribution scheme as information associated with the healthcare provider or patient is updated (i.e., the claimed step of modifying the attribution scheme).

Because the claim recites an abstract idea, we next determine whether the claim integrates the abstract idea into a practical application. 84 Fed. Reg. at 54. To determine whether the judicial exception is integrated into a practical application, we identify whether there are "*any additional elements recited in the claim beyond the judicial exception(s)*" and evaluate those elements to determine whether they integrate the judicial exception into a recognized practical application. 84 Fed. Reg. at 54–55 (emphasis added); *see also* Manual of Patent Examining Procedure ("MPEP") § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018).

Here, we find the additional limitations do not integrate the judicial exception into a practical application. Specifically, "building a data store . . . from data received from one or more sources," identifying one or more healthcare providers based on the data store of the data, and identifying a set of patients from a plurality of longitudinal patient population records serve to link the judicial exception to a particular technological environment or field of use. *See* MPEP § 2106.05(h); *see also Parker v. Flook*, 437 U.S. 584, 589–90 (1978); *Affinity Labs*, 838 F.3d at 1258–59 (stating "that merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract"); 84 Fed. Reg. at 55. Moreover, the limitations of gathering the data to be operated upon (i.e., identifying data from a database), is also insufficient to transform the judicial exception into a patent-eligible application. *See* MPEP § 2106.05(g); *see also Flook*, 437 U.S. at 590; *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989) ("deriv[ing] data for the algorithm will not render the claim statutory"); 84 Fed. Reg. at 55.

Further, contrary to Appellants' assertions (*see* Br. 18–20), the claims do not provide a technical solution to a problem necessarily rooted and arising in computer technology. Rather, as in independent claim 15, the claims merely invoke a computer to perform the judicial exception, which is insufficient to confer patent eligibility to an otherwise ineligible concept. *See Alice*, 573 U.S. at 222–25; *see also* 84 Fed. Reg. at 55; MPEP § 2106.05(f); Ans. 3–4; *but see DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1225–59 (Fed. Cir. 2014).

Because we determine the claims are directed to an abstract idea or combination of abstract ideas, we analyze the claims under step two of *Alice*

to determine if there are additional limitations that individually, or as an ordered combination, ensure the claims amount to "significantly more" than the abstract idea. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73, 77–79 (2012)). As stated in the Office Guidance, many of the considerations to determine whether the claims amount to "significantly more" under step two of the *Alice* framework are already considered as part of determining whether the judicial exception has been integrated into a practical application. 84 Fed. Reg. at 56. Thus, at this point of our analysis, we determine if the claims add a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field, or simply appends well-understood, routine, conventional activities at a high level of generality. 84 Fed. Reg. at 56.

Here, Appellants' claims do not recite specific limitations (or a combination of limitations) that are not well-understood, routine, and conventional. For example, when describing the control server and remote computers of a computing environment for practicing the claimed invention (*see, e.g.*, Fig. 1), Appellants describe the components at a high level of generality and note the components are "well-known computing systems" such as personal computers or laptop devices. Spec. ¶ 31; *see also* Spec. ¶¶ 35–38.

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101.

DECISION

We affirm the Examiner's decision rejecting claims 1–20 under 35 U.S.C. § 101.

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. § 41.50(f).

AFFIRMED