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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILLIAM CAMERON POWELL and STEPHEN TREY MOORE

Appeal 2018-006222
Application 13/075,903
Technology Center 3600

Before ST. JOHN COURTENAY III, MARC S. HOFF, and
DENISE M. POTHIER, *Administrative Patent Judges*.

POTHIER, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellant^{1,2} appeals under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 1–20.

We AFFIRM.

¹ Throughout this opinion, we refer to the Final Action (Final Act.) mailed September 14, 2017, the Appeal Brief (Appeal Br.) filed January 10, 2018, the Examiner's Answer (Ans.) mailed April 3, 2018, and the Reply Brief (Reply Br.) filed May 29, 2018.

² 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 Airstrip IP Holdings, LLC. Appeal Br. 4.

Appellant's invention "generally relates systems and methods for transmitting, receiving and displaying data and/or information over wireless communication and data processing devices, and more specifically to systems and methods for multi-factor authentication for accessing medical patient data and/or information from a mobile device." Spec. ¶ 2.

Illustrative, independent claim 1 reads as follows:

A computer-implemented method for authenticating a mobile device and a user of the mobile device to receive patient data, comprising:

[(A)] receiving, by a data management system comprising one or more processors, a logon request, the logon request comprising credentials associated with the user and at least one technical factor associated with the mobile device;

[(B)] accessing, by the data management system, a validation database based on one of the at least one technical factor and the credentials;

[(C)] authenticating, by the data management system, the mobile device by determining that the mobile device is an authorized mobile device based on information provided by the validation database and at least one of the at least one technical factor and the credentials;

[(D)] authenticating the user by comparing the credentials received at the data management system with authentication information stored at a first clinical information system of a first medical facility and a second clinical information system of a second medical facility that is different from the first medical facility to validate the credentials to ensure that the user is authorized to access the patient data provided by the first clinical information system and the second clinical information system, from which the mobile device is configured to receive the patient data; and

[(E)] then, in response to authenticating the mobile device and authenticating the user:

[(i)] establishing a session to communicate the patient data between the mobile device and the first clinical

information system and the second clinical information system through the data management system,

[(ii)] integrating, by the data management system, the patient data from a plurality of clinical information systems, by selectively synchronizing a portion of the patient data, the portion of the patient data being less than all of an available patient data within the plurality of clinical information systems, such that none of the available patient data is synchronized prior to establishing the session and the portion of the patient data is selectively synchronized based on one or more configuration settings used by the plurality of clinical information systems and a custom rule defining data elements corresponding to the patient data that are to be synchronized, the configuration settings defining a first arrangement of a first set of patients within the first medical facility and a second arrangement of a second set of patients within the second medical facility and being automatically provided by a configuration module to the data management system, and

[(iii)] processing, by the data management system, the patient data communicated to the mobile device during the session.

Appeal Br. 30–31 (Claims App’x) (bracketing, letters, numbering, and parentheses added) (“steps (A)–(E)(iii)”).

We have reviewed the Examiner’s rejections³ in light of Appellant’s arguments presented in this appeal. Arguments which Appellant could have made, but did not make in the Brief are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2016). On the record before us and as explained below, we are unpersuaded the Examiner has erred.

³ The Examiner has withdrawn the rejection under 35 U.S.C. § 112(a) or § 112, first paragraph (pre-AIA). Ans. 3.

THE PATENT INELIGIBILITY REJECTION

Claims 1–20 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Final Act. 4–7. Appellant argues claims 1–20 as a group. Appeal Br. 15–23. We select independent claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Regarding claim 1, the Examiner found that claim 1 is directed to “[a]uthenticating a mobile device and a user of the mobile device to receive patient data.” Final Act. 5. The Examiner identified the “non-transitory computer readable storage device, mobile device and computer processors” as additional elements that “serve[] to perform generic computer functions” and “generally link the abstract idea to a particular technological environment or field of use.” *Id.* at 6 (bolding omitted). The Examiner found the additional elements perform functions that are well-understood, routine and conventional. *Id.* The Examiner further stated “there is no indication that the combination of elements improves the functioning of a computer or improves any other technology” and “[t]heir collective functions merely provide conventional computer implementation.” Ans. 6.

Appellant argues the Examiner did not establish a prima facie case of patent-ineligibility and overgeneralized claim 1. Appeal Br. 20–21. More specifically, Appellant asserts the Examiner did not identify the abstract idea, explain how the abstract idea corresponds to those identified by the courts as abstract ideas, and did not address any additional elements and why they failed to amount to significantly more than a judicial exception. *Id.* at 20. In the Reply Brief, Appellant argues the Examiner has ignored claim language, including the “processing” step in claim 1. Reply Br. 3.

Appellant contends claim 1 is rooted in technology (1) arising in computer networks and (2) that did not exist prior to the Internet. Appeal Br. 19–20, 23. Appellant specifically asserts the “integrating” step in claim 1 addresses (1) technical challenges/constraints that “relate[] to speed, performance, memory and display size” associated with large data amounts (*id.* at 22) and (2) a concrete solution to technical problem, including “technology work[ing] reliably and efficiently over potentially low speed, low bandwidth, and sometimes intermittent wireless connections” (*id.* at 19 (quoting Spec. ¶ 3); *id.* at 21–22) for “service[ing] an increased number of clients and configurations” with custom business rule logic (*id.* at 22 (quoting Spec. ¶ 51)). *See also* Reply Br. 3. Appellant further indicates the recited “selectively synchronizing patient data for efficient remote monitoring of patient data” in claim 1 addresses “technological problems.” *Id.* at 23.

ISSUE

Under § 101, has the Examiner erred in rejecting claim 1 by determining that the claims are directed to judicially excepted, patent ineligible subject matter?

PRINCIPLES OF LAW

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. *Mayo Collaborative Servs. v. Prometheus Labs.*,

Inc., 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

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 Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 75–77). 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, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding of rubber products” (*Diehr*, 450 U.S. at 193); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 252, 267–68 (185))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

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.*

In January 2019, the USPTO published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised Guidance”). Under the Revised 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) (Revised Guidance, 84 Fed. Reg. at 52–54); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* the Manual of Patent Examining Procedure (MPEP) §§ 2106.05(a)–(c), (e)–(h)) (Revised Guidance, 84 Fed. Reg. at 53–55).

Only if a claim (1) recites a judicial exception, and (2) does not integrate that exception into a practical application (“Revised Step 2A”), 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 Revised Guidance, 84 Fed. Reg. at 56 (“Step 2B”).

ANALYSIS

At the outset, we disagree with Appellant that the Examiner did not establish a *prima facie* case of patent-ineligibility. Appeal Br. 20–21. The Examiner stated the claims are directed to abstract idea, including “[a]uthenticating a mobile device and a user of the mobile device to receive patient data.” Final Act. 5. The Examiner further identified additional elements in the claims and found, when viewed as a whole, they are not sufficient to amount to significantly more than the judicial exception. *Id.* at 5–6. Specifically, the Examiner found the additional elements merely perform generic computer functions and generally link the abstract idea to a particular technological environment without improving any technology, perform conventional computer implementations, and perform insignificant, conventional extra-solution activities. *Id.* at 6; *see* Ans. 6. The Examiner, as such, analyzed both steps of the *Alice/Mayo* framework under § 101.

Alice Step One

Claim 1 recites a method and, therefore, falls within the process category of § 101. *See* Revised Guidance, 84 Fed. Reg. at 53–54. Despite falling within a statutory category, we must determine whether claim 1 as a whole is directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217. To this end, we determine (1) whether claim 1 recites a judicial exception (“Revised Step 2A - Prong 1”) and, if so, (2) whether the

identified judicial exception is integrated into a practical application (“Revised Step 2A – Prong 2”). *See Revised Guidance*, 84 Fed. Reg. at 52–55. If both elements are satisfied, the claim is directed to a judicial exception under the first step of the *Alice/Mayo* test. *See id.*

Revised Step 2A - Prong 1

In step, we identify claim 1’s specific limitations that recite a judicial exception, and determine whether the identified limitations fall within certain subject matter groupings, namely (a) mathematical concepts (mathematical relationships, formulas, and calculations); (b) certain methods of organizing human activity (e.g., fundamental economic practices, commercial or legal interactions, and managing personal behavior or interactions between people); or (c) mental processes (e.g., concepts performed in the human mind including an observation, evaluation, judgment, or opinion). *See Revised Guidance*, 84 Fed. Reg. at 52. We agree with the Examiner (*see* Final Act. 5) that claim 1 recites at least one judicial exception.

Claim 1 recites a “method for authenticating a mobile device and a user of the mobile device to receive patient data,” the method “comprising”; limitations [A] (i.e., “receiving . . . a . . . request, the . . . request comprising credentials associated with the user and at least one technical factor associated with the mobile device,”), limitation (C) (i.e., “authenticating . . . the mobile device by determining that the mobile device is an authorized mobile device based on information . . . and at least one of the at least one technical factor and the credentials,”), and limitation (D) (i.e.,

(D) authenticating the user by comparing the credentials . . . with authentication information stored at a first clinical information system of a first medical facility and a second

clinical information system of a second medical facility that is different from the first medical facility to validate the credentials to ensure that the user is authorized to access the patient data provided by the first clinical information system and the second clinical information system . . . [.]

Appeal Br. 30–31 (Claims App’x) (“steps (A)–(E)”).

Like the Examiner found (*see* Final Act. 5; *see* Ans. 5–6), the above steps (A), (C), and (D), under their broadest reasonable interpretation, recite authenticating a device and a user to ensure the user is authorized to access and receive certain patient data from medical facilities. Appeal Br. 30 (Claims App’x). Consistent with the written description, the Specification also states the invention relates to “multi-factor authentication for accessing medical patient data and/or information from a mobile device.” Spec. ¶ 2. Although claim 1 recites authenticating “based on” certain information (e.g., step (C)) or by comparing information (e.g., step (D)), the claim does not sufficiently recite or limit the claimed method to a particular way of, or algorithm, for performing its steps. Appeal Br. 30 (Claims App’x); *see* Spec. ¶¶ 53, 67, Fig. 4. Thus, the scope of steps (A), (C), and (D) are broad enough to encompass processes that would occur normally in a human’s mind when authenticating a device and a user to receive patient data from medical facilities.

For example, a person can merely *observe* a user’s credentials and a technical factor (e.g., a user’s name and a user id/telephone number (*see* Spec. ¶ 63)) by viewing the information on a screen or paper and thus “receiv[e] . . . a . . . request, the . . . request comprising credentials associated with the user and at least one technical factor associated with the mobile device” as step (A) encompasses. Also, a person can *evaluate*

mentally (or with pen and paper) (1) information provided within files (e.g., a validation data source) at different medical facilities (e.g., a doctor's office and a hospital), (2) the provided technical factor, and (3) the provided user credential by comparing this data against an authorized device/user list to ensure that the user is authorized to access the patient data as steps (C) and (D) encompass.

Thus, with the exception of generic computer-implementations recited in claim 1's steps (A), (C), and (D), there is nothing in these steps that forecloses the steps from being performed mentally or using pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (determining that a claim's steps could “be performed in the human mind, or by a human using a pen and paper” when neither the claim nor the written description limited the steps to a particular algorithm), 1375 (noting “purely mental processes can be unpatentable, even when performed by a computer”); *see Prism Techs. LLC v. T-Mobile USA, Inc.*, 696 F. App'x 1014, 1017 (Fed. Cir. 2017) (noting claims directed to receiving identity data from a device, confirming the data authenticity, determining whether the device is authorized to access resources, and permitting access if authorized are abstract processes and noting T-Mobile provided “various pre-computer-age corollaries for which humans similarly restrict and provide access to resources”); *see also EasyWeb Innovations, LLC v. Twitter, Inc.*, 689 F. App'x 969, 971 (Fed. Cir. 2017) (stating claims reciting “the familiar concepts of receiving, authenticating, and publishing data” are analogous to “claims involving data collection, analysis, and publication,” which are directed to an abstract idea) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)).

Further, claim 1's step (E)(ii), under its broadest reasonable interpretation, recites combining certain patient data from two clinical information systems based on configuration setting(s) and a custom rule. *Id.* at 31 (Claims App'x); *see also* Spec. ¶¶ 51–52. This step is broad enough to encompass acts that people can perform mentally or using pen and paper when combining patient data from two clinical information sources. Although step (E)(ii) recites integrating and selectively synchronizing patient data “based on” certain setting(s) and a rule, the claim does not recite or limit the claimed method sufficiently to a particular way of or particular algorithm for performing the step. Appeal Br. 31 (Claims App'x); *see* Spec. ¶¶ 53, 67, Fig. 4. Thus, the scope of step (E)(ii) is broad enough to encompass processes that would occur normally in a human's mind when integrating certain patient data from two clinical information sources.

For example, a person can *evaluate* mentally (or using pen and paper) information from clinical information sources based on (1) doctor/patient assignment (e.g., a patient arrangement) within two medical facilities (e.g., the recited “configuration setting”) and (2) a date range (e.g., the recited “custom rule”) to integrate and synthesize certain patient data as step (E)(ii) broadly encompasses. Other than the generic computer-implementations recited in step (E)(ii), there is nothing in this step that forecloses the step from being performed mentally or with pen and paper. *See Univ. of Fla. Res. Found. Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1366–67 (2019) (indicating an invention directed to integrating physiologic treatment data and “data synthesis technology” sought to automate “pen and paper methodologies” as the specification disclosed) (citing *Elec. Power Grp.*, 830 F.3d at 1353–54); *see also Apple Inc. v. Ameranth Inc.*, 842 F.3d 1229,

1240–42 (Fed. Cir. 2016) (indicating claims that synchronize data from different sources without claiming a particular way of programming or designing the software are directed to an abstract idea); *see also Elec. Power Grp.*, 830 F.3d at 1353–54 (holding the claims directed to “collecting information, analyzing it, and displaying certain results of the collection and analysis” were abstract and treating analyzing information “as essentially mental processes within the abstract-idea category”); *see Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (noting collecting data, recognizing certain data within a collected data set, and storing the recognized data is abstract).

For the above reasons, we conclude claim 1 as a whole recites mental processes identified in the Revised Guidance. *See* Revised Guidance, 84 Fed. Reg. at 52. Accordingly, we determine claim 1 recites an abstract idea.

Revised Step 2A - Prong 2

Because claim 1 recites judicial exceptions, we must determine whether the judicial exceptions are integrated into a practical application, namely whether the claim applies, relies on, or uses the judicial exceptions in a manner that imposes a meaningful limit on the judicial exceptions, such that the claim is more than a drafting effort designed to monopolize the judicial exceptions. *See* Revised Guidance, 84 Fed. Reg. at 53. We (1) identify whether there are any additional, recited elements beyond the judicial exceptions, and (2) evaluate those elements individually and collectively to determine whether they integrate the exceptions into a practical application. *See id.*, 84 Fed. Reg. at 54–55.

The additionally recited elements beyond the above-identified judicial exceptions in claim 1 are “a mobile device,” “a data management system

comprising one or more processors,” “a *logon* request,” “a validation database,” “a first clinical information system of a first medical facility,” “a second clinical information system of a second medical facility,” “a plurality of clinical information systems,” “accessing, by the data management system, a validation database based on one of the at least one technical factor and the credentials” (i.e., step (B)), “establishing a session to communicate the patient data between the mobile device and the first clinical information system and the second clinical information system through the data management system,” (i.e., step (E)(i)), “automatically” providing the recited one or more configuration settings “by a configuration module to the data management system” (i.e., parts of step (E)(ii)), and “processing, by the data management system, the patient data communicated to the mobile device during the session” (i.e., step (E)(iii)). Appeal Br. 30–31 (Claims App’x) (emphasis added); *see* Final Act. 6. Independent claims 17 and 18 additionally recite a “non-transitory computer-readable storage device encoded with a computer program” and “non-transitory computer-readable medium” respectively. *Id.* at 34, 36 (Claims App’x). When considering these elements individually or in combination, we determine they do not integrate the above-identified judicial exceptions into a practical application.

Rather, the additionally recited elements merely automate the above-identified judicial exceptions (i.e., authenticating a mobile device/user to receive patient data and arranging certain patient data based on a setting and a rule) using generic computer elements as tools, which does not constitute an improvement in a computer or computer technology. *See* Final Act. 30; *see Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044,

1055 (Fed. Cir. 2017); *see Alice*, 573 U.S. at 221, 223, 225; *see EasyWeb*, 689 F. App'x at 971. For example, the claimed “mobile device,” “one or more processor,” and the “data management system” (DMS) are merely tools to perform the identified judicial exceptions, including steps (A), (C), (D), and (E)(ii), but do not recite an improvement to these elements or on how they function. Appeal Br. 30–31 (Claims App'x). The written description also discusses these components generically. *See, e.g.*, Spec. ¶¶ 17–18 (describing processors “perform one or more actions in accordance with methods provided herein”), 30. Likewise, the recited “validation database,” “first clinical information system of a first medical facility,” “second clinical information system of a second medical facility,” and “plurality of clinical information systems” are generic computer tools that perform storing functions in steps (B), (C) and (E)(ii) but do not recite a technological improvement in these elements or on how they operate. Appeal Br. 30–31 (Claims App'x).

The claimed “configuration module” is a software component used to provide the configuration settings automatically but does not recite an improvement in its functionality (*id.* at 31 (Claims App'x), and the recited “*logon request*” in claim 1 (Appeal Br. 30 (Claims App'x) (emphasis added)) merely automates the above-identified abstract idea (e.g., authenticating a mobile device/user based on a user request) rather than improve on a computer function or technology (*id.* (Claims App'x)).

We add that recited steps (B), (E)(i), and (E)(iii) in claim 1 can be considered insignificant extra-solution activities. For example, recited step (B), which accesses a validation database for information, and step (E)(iii), which processes certain patient data communicated to a mobile device, can

be considered insignificant data-gathering activities. *See Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008); *see buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”). Similarly, step (E)(ii), which establishes a session to communicate the patient data between the mobile device and the clinical information systems through the DMS, is an insignificant pre-solution activity that allows for the data-gathering activity in step (E)(ii) and does not add a meaningful limitation to the abstract process of combining certain patient data from two clinical information systems based on a configuration setting and a custom in claim 1. *Cf. Ameranth*, 842 F.3d at 1242 (indicating synchronizing data from different sources, printing features, and types of ordering were insignificant post-solution activities); *cf. Elec. Power Grp.*, 830 F.3d at 1354–55 (indicating selecting data based on certain information for collection and analysis was considered insignificant extra-solution activities). Thus, steps (B), (E)(i), and (E)(iii) do not integrate the judicial exceptions into a practical application for these additional reasons. *See Guidance*, 84 Fed. Reg. at 55 (citing MPEP § 2106.05(g)).

Contrary to Appellant’s assertions (*see* Appeal Br. 18–23), the additional elements beyond the identified judicial exceptions do not reflect an improvement in a computer’s functioning or an improvement to other technology or technical field as set forth in MPEP § 2106.05(a) and the Revised Guidance, 84 Fed. Reg. at 55. *See* Ans. 8 (citing Spec. ¶¶ 19, 25–27, 37–38). Appellant contends claim 1 is rooted in technology arising in computer networks that did not exist prior to the Internet. *See* Appeal Br. 19–20 (citing Spec. ¶ 3), 23. Appellant specifically asserts the “integrating”

step (i.e., step (E)(ii)) addresses (1) technical challenges/constraints that “relate[] to speed, performance, memory and display size” associated with large data amounts (*id.* at 22) and (2) a concrete solution to a technical problem, including “technology work[ing] reliably and efficiently over potentially low speed, low bandwidth, and sometimes intermittent wireless connections” (*id.* at 20 (quoting Spec. ¶ 3); *id.* at 21–22) for “servic[ing] an increased number of clients and configurations” with custom business rule logic (*id.* at 22 (quoting Spec. ¶ 51)). *See also* Reply Br. 3. For the below reasons, there is insufficient persuasive evidence to substantiate these contentions.

First, the “integrating” step (i.e., (E)(ii)) is part of the identified judicial exceptions (i.e., mental processes). But, an abstract idea itself cannot integrate the abstract idea into a practical application. *See Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019) (quoting *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1171 (Fed. Cir. 2018) (“The abstract idea itself cannot supply the inventive concept, ‘no matter how groundbreaking the advance.’”). To the extent step (E)(ii) has additional elements beyond the judicial exception (e.g., a DMS, clinical information systems, and a configuration module), we explained above how these elements do not integrate the judicial exception into a practical application but rather are no more than (a) tools to implement the judicial exception or (b) part of insignificant extra-solution activities to the judicial exception.

Second, many of the asserted technical advantages (e.g., improving memory, display size, and reliability/efficiency over potentially low speed, low bandwidth, and intermittent wireless connection (Appeal Br. 19)) are not recited features in claim 1. Appeal Br. 30–31 (Claims App’x). To

provide one example, claim 1, including step (E)(ii), does not recite implementing a notification system that provides a link between software development design and changes in software artifacts, such as source code, as argued. *Id.* at 21–22. To the extent the intelligent agent (*see id.*) discussed in the Specification (Spec. ¶ 51) is recited in step (E)(ii), the written description indicates *the custom rule*, which is part of the abstract idea, allows the DMS to function more efficiently and to serve more clients (*see id.*), thus at best improving on the identified abstract idea rather than a computer/technological improvement.

Appellant further contends that the claimed invention is necessarily rooted in computer technology and overcomes a problem specifically arising in computers as in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014). Appeal Br. 19–20. We disagree. Claim 1’s step (E)(ii), at best, is directed to nothing more than the performance of a judicial exception on the Internet using conventional computer components to execute its steps, which are insufficient for patent eligibility. *See DDR*, 773 F.3d at 1256 (stating “recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible”). Also, as previously noted, the problem of authenticating a device/user for receiving patient information and combining certain patient data from two sources based on configuration setting(s) and a custom rule, is not necessarily rooted in, or a problem that arose in, the realm of computer or networking technology but had pre-computer-age corollaries for which humans similarly restricted and provided access to resources. *See Prism Techs.*, 696 F. App’x at 1017; *see also FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1094 (Fed. Cir. 2016) (discussing implementing an old practice of analyzing records of

human activity to detect suspicious behavior in a new environment). Thus, for the above reasons, we further disagree that claim 1's step (E)(ii) provides a concrete technical solution to address a problem rooted in computer technology as asserted. Appeal Br. 22.

Third, “merely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea.” *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015). As such, Appellant's assertion that custom business rule logic used during synchronizing data permits the DMS to function more efficiently to “service an increase number of clients and configurations” (*id.* at 21–22 (quoting Spec. ¶ 51); *id.* at 23 (arguing the “synchronizing patient data” step permits “efficient remote monitoring of patient data”)) is not sufficiently persuasive to demonstrate the additional elements in claim 1 integrate its additional elements into a practical application. Notably, the Specification states that “*subsequent reviews . . . are much faster, because the patient data and/or information has been synchronized*” (Spec. ¶ 51) but this feature is not claimed (Appeal Br. 31 (Claims App'x)). We further note that the Specification indicates the configuration module in the “integrating” step “reduces, or obviates manual effort in entering the configuration information” (Spec. ¶ 52), which suggests the additional elements are used merely to automate the above-identified judicial exceptions and is insufficient to constitute an improvement in a computer or computer technology.

For the above-stated reasons, we determine the additional elements recited in claim 1 beyond the judicial exception, whether considered alone or in combination, are not integrated into a practical application.

Alice Step Two, Step 2B

Because we determine claim 1’s additional elements do not integrate the recited judicial exception into a practical application, we need to consider whether the additional elements add a specific limitation or combination of limitations that are not well-understood, routine, or conventional activity in the field. *See Revised Guidance*, 84 Fed. Reg. at 56. If so, this indicates that an inventive concept may be present. If, instead, the additional elements simply append well-understood, routine, and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exceptions, this indicates that an inventive concept may not be present. *Id.*

The Examiner finds certain functions performed by the additional elements are well-understood, routine, and conventional activities. Final Act. 6, 30 (citing *Alice*); *see* Ans. 6. Appellant asserts that claim 1 recites “features that . . . operate in an unconventional manner to achieve an improvement in computer functionality” (Appeal Br. 19; *id.* at 23 (stating “[a]s discussed above, the features of claims 1–20 . . . operate in an unconventional manner to achieve an improvement in computer functionality”)) and “provide a non-conventional and non-generic arrangement of known, conventional pieces” (*id.* at 20). At best, Appellant refers to the “integrating” step (i.e., step (E)(ii)) as features that are operate in an unconventional manner to achieve an improved computer functionality. However, as previously noted, many of step (E)(ii)’s limitations are not *additional* elements *beyond* the abstract idea, but rather are directed to the identified abstract idea as noted previously. *See*

Guidance, 84 Fed. Reg. at 56 (instructing that *additional* recited elements should be evaluated in *Alice/Mayo* step two).

Moreover, Appellant does not challenge any specific, additional elements recited in step (E)(ii) (e.g., the DMS, the clinical information systems, and the configuration module) that add a specific limitation or combination of limitations that are not well-understood, routine, or conventional activity in the field. *See* Appeal Br. 19–20, 22–23. We thus are not persuaded. In any event, the Specification discusses these additional elements as at a high level of generality and as computer components performing conventional activities that do not satisfy the inventive concept requirement. *See* Spec. ¶¶ 36, 40, 52; *see, e.g., Mort. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016); *see Alice*, 573 U.S. at 225; *see buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

In the Reply Brief, Appellant discusses *Berkheimer v. HP, Inc.*, 881 F.3d 1360 (Fed. Cir. 2018) and quotes from the related Office memorandum, “Memorandum - Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” published on April 19, 2018, arguing the Examiner has “fail[ed] to satisfy the requirements of step 2B analysis as indicated by USPTO’s Memorandum.” Reply Br. 3–4. However, Appellant does not challenge sufficiently any specific position taken by the Examiner (*see id.*), and thus the argument is unpersuasive.

For the above reasons, Appellant fails to show sufficiently the recited additional elements in claim 1 add a specific limitation or combination of limitations that is not well-understood, routine, or conventional activity in

the field. As such, the additional recited elements—considered individually and as an ordered combination—do not add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two.

Conclusion

For the foregoing reasons, Appellant has not persuaded us the Examiner erred in the rejecting independent claim 1 and claims 2–20, which are not separately argued with particularity.

THE OBVIOUSNESS REJECTION OVER WELLS, TING, TRAN,
AND MATHUR

Claims 1–5, 8, and 11–19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells, US 2003/0200226 A1, published Oct. 23, 2003, Ting, US Patent 9,118,656 B2, issued Aug. 25, 2015, Tran, US 2008/0004904 A1, published Jan. 3, 2008, and Mathur, US 2008/0109447 A1, published May 8, 2008. Final Act. 9–22. Appellant argues independent claims 1, 17, and 18 as a group and do not separately argue claims 2–5, 8, 11–16, and 19. Appeal Br. 23–28. We select independent claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Regarding claim 1, the Examiner finds that Wells and Ting teach many of its limitations. Final Act. 9–13. The Examiner turns to (1) Tran to teach authenticating a user’s identity and automatically synchronizing data are known to ordinary skilled artisans (*id.* at 13–14 (citing Tran ¶¶ 54, 71, 99–100, 224, 252, 403)) and (2) Mathur to teach synchronizing portions of healthcare data based on configuration settings and rules are known to ordinary skilled artisans (*id.* at 14–15 (citing Mathur ¶¶ 26, 104–108, 235)).

Appellant argues Tran teaches synchronizing a network at the same time as the network connections, which differs from the limitation “none of the available patient data is synchronized prior to establishing the session” as recited. Appeal Br. 26 (discussing Tran ¶ 403). Appellant also asserts Mathur fails to teach selectively synchronizing portions of patient data based on (1) one or more configuration settings and (2) a custom rule as recited in claim 1. *Id.* at 26–27. Specifically, Appellant contends Mathur’s teachings differ from “the portion of the patient data” as selectively synchronized “based on one or more configuration settings . . . and a custom rule” limitations in claim 1. *Id.* (discussing Mathur ¶¶ 105–109, 235).

ISSUES

Under § 103, has the Examiner erred in rejecting claim 1 by determining that Wells, Ting, Tran, and Mathur collectively would have taught or suggested

[I] selectively synchronizing a portion of the patient data, the portion of the patient data being less than all of an available patient data within the plurality of clinical information systems, . . . and the portion of the patient data is selectively synchronized based on one or more configuration settings . . . and a custom rule defining data elements corresponding to the patient data that are to be synchronized, the configuration settings defining a first arrangement of a first set of patients within the first medical facility and a second arrangement of a second set of patients within the second medical facility and being automatically provided by a configuration module to the data management system,

(“the ‘selectively synchronized’ step”) and

[II] “none of the available patient data is synchronized prior to establishing the session”?

Id. at 31 (Claims App’x) (bracketing added).

ANALYSIS

I.

Appellant argues Mathur teaches agent 108 processing “information in the physician office topic object to get rules for handling the HL7 [and] the agent 108 automatically processes the information” (*id.* at 27) to distribute to another agent, which differs from the “selectively synchronizing” step in claim 1. *Id.* (citing Mathur ¶ 235). This argument is unavailing.

Appellant argues Mathur differs from
the portion of the patient data is selectively synchronized based on one or more configuration settings used by the plurality of clinical information systems . . . , the configuration settings defining a first arrangement of a first set of patients within the first medical facility and a second arrangement of a second set of patients within the second medical facility and being automatically provided by a configuration module to the data management system

as recited in claim 1, without identifying sufficiently what particular elements in this limitation are not taught by Mathur’s paragraph 235. *Id.* Also, although Appellant discusses Mathur’s paragraph 235 (*id.*), the Examiner relies on several other passages in Mathur to teach the disputed feature. Final Act. 14–15 (citing Mathur ¶¶ 26, 104–108, 235).

Mathur teaches reconciling healthcare data between multiple distributed computing nodes involving intelligent agents which “determine

portions of healthcare data to be synchronized with other nodes.” Mathur ¶ 26, Fig. 1. This at least suggests “selectively synchronizing a portion of the patient data” from clinical information systems as claim 1 recites. As for the recited “one or more configuration settings” on which the “selectively synchronizing” step in claim 1 is based, the Specification provides an example of configuration settings to include “all of the patient beds of a particular facility 40, and to which unit(s) they belong” (Spec. ¶ 52), but we decline to import such an embodiment into claim 1. That is, claim 1 does not specify the “one or more configuration settings” beyond that they “defin[e] a first arrangement of a first set of patients within the first medical facility and a second arrangement of a second set of patients within the second medical facility.” Appeal Br. 31 (Claims App’x).

Mathur further teaches agent 108, which can determine portions of data to synchronize (Mathur ¶ 26), processes “the information in the physician office topic object to get rules for handling the HL7” (e.g., a configuration setting for handling a HL7 message). *Id.* ¶ 235. Mathur shows in Figure 10 a physician office topic object (e.g., 260) having filters capsule object 268, and this filters object provides specific data to the results agent for receiving Electronic Medical Records (EMR) (e.g., a portion of patient data). *Id.* ¶¶ 3, 173, Fig. 10. For example, filters (e.g., configuration settings) can be specific to result types, such as laboratory, radiology, pathology, and dictated reports, which can come from different medical facilities. *See id.* We therefore disagree that Mathur’s teachings do not at least suggest the disputed “selectively synchronizing” step based on configuration settings as claim 1 recites.

Although recognizing Mathur teaches a result agent (e.g., 142) can further process information according to specific rules (Appeal Br. 27 (citing Mathur ¶¶ 105–109)), Appellant contends Mathur differs from “the portion of the patient data is selectively synchronized based on a custom rule defining data elements corresponding to the patient data that are to be synchronized as recited in claim[] 1.” *Id.* We are not persuaded.

Similar to the “configuration settings” recitation, the Specification only provide an example of a custom rule. Spec. ¶ 51. Also, as noted by the Examiner (Ans. 7) and Appellant (Appeal Br. 27), Mathur teaches the result agent (e.g., 142) processes information, including portions of data selectively synchronized previously discussed, “*according to specified rules*” (Mathur ¶ 105 (emphasis added)). These rules include a “mapping” rule, an “adding” rule, a “removing or modifying” rule, and a “discarding” rule (e.g., processing a portion of patient data according to custom rules). *See id.* ¶¶ 105–109. Adding information not present in the original HL7 or removing/modifying data from the original HL7 also defines data elements (e.g., the added, removed, or modified information) corresponding to the patient data to be synchronized. *See id.* As such, Mathur teaches or suggests “the portion of the patient data is selectively synchronized based on . . . a custom rule defining data elements corresponding to the patient data that are to be synchronized” as claim 1 recites.

II.

Appellant also argues that Tran fails to teach the “integrating” step in claim 1, which includes the limitation “none of the available patient data is synchronized prior to establishing the session,” because Tran teaches

“network synchronization is established at the same time as the network connections.” Appeal Br. 25–26 (citing Tran ¶ 403). We are not persuaded.

The offending passage addresses *network* synchronization (Tran ¶ 403)—not data synchronization or “synchronizing a portion of the patient data” as claimed. Also, the Examiner relies on several passages in Tran to teach the disputed feature, which address data synchronization separate and apart from network synchronization. Final Act. 13–14 (citing Tran ¶¶ 71, 99–100, 252, 403). Appellant does not dispute these teachings in paragraphs 71, 99–100, and 252. *See* Appeal Br. 25–26. Tran further teaches synchronizing data automatically “to maintain a consistent state of the devices” (Tran ¶ 71) and “perform[ing] data synchronization to ensure that all base stations have access to the latest information” using a server (*id.* ¶ 100). Tran also teaches the user is “an authorized user” that can access a patient’s latest information from numerous base stations remotely through the server and the user’s computer (*id.*). Based on these teachings, Tran suggests “synchronizing . . . patient data, . . . such that none of the available patient data is synchronized prior to establishing the session” as claim 1 recites.

For the first time in the Reply Brief, Appellant asserts that OSI (Open Systems Interconnection) has four “lower” layers and three “upper” layers.” Reply Br. 4–5 (quoting Tran ¶¶ 110, 403). Appellant contends the synchronization time discussed in Tran’s paragraph 403 relates to a lower layer separate from a session layer in the upper layer. *Id.* at 5. Appellant then argues the Examiner’s interpretation of disputed “none of the available patient data is synchronized prior to establishing the session” limitation teaches away from Tran. *Id.* These arguments were not raised in the Appeal

Brief. Appeal Br. 25–26. Nor has Appellant presented good cause for presenting these arguments for the first time in the Reply Brief. The arguments are thus waived. *See* 37 C.F.R. § 41.41(a)(2). Accordingly, we will not consider these contentions except to note that to the extent these arguments are considered to respond to arguments raised by the Examiner’s Answer, we refer to the above discussion related to Tran.

For the foregoing reasons, Appellant has not persuaded us of error in the rejection of independent claim 1 and claims 2–5, 8, and 11–19, which are not argued separately.

THE REMAINING OBVIOUSNESS REJECTIONS

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wells, Ting, Tran, Mathur, and Bagepalli, US 2009/0063701 A1, published Mar. 5, 2009. Final Act. 22–23. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wells, Ting, Tran, Mathur, and Rice, US 2007/0204044 A1, published Aug. 30, 2007. Final Act. 23–24. Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wells, Ting, Tran, Mathur, and Holla, US 2008/0021834 A1, published Jan. 24, 2008. Final Act. 24–25. Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wells, Ting, Tran, Mathur, and Graves, US 2005/0066061 A1, published Mar. 24, 2005. Final Act. 25–26. Appellant argues these claims are “patentable” over the prior art “for the same reasons” as discussed for independent claims 1, 17, and 18. *See* Appeal Br. 28. We are not persuaded for the above-stated reasons.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–20	101	Eligibility	1–20	
1–5, 8, 11–19	103	Wells, Ting, Tran, Mathur	1–5, 8, 11–19	
6	103	Wells, Ting, Tran, Mathur, Bagepalli	6	
7	103	Wells, Ting, Tran, Mathur, Rice	7	
9–10	103	Wells, Ting, Tran, Mathur, Holla	9–10	
20	103	Wells, Ting, Tran, Mathur, Graves	20	
Overall Outcome			1–20	

AFFIRMED