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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KEVIN M. POWER, MARSHA LAIRD-MADDOX, and SARA BOSWELL

Appeal 2018-008263
Application 13/939,406
Technology Center 3600

Before BARBARA BENOIT, ROBERT WEINSCHENK, and RUSSELL E. CASS, *Administrative Patent Judges*.

CASS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 and 5–8 under 35 U.S.C. § 101 and 35 U.S.C. § 103, which constitute all the claims pending in this Application. Appeal Br. 7.[2] Claims 9–14 have been cancelled and claims 15–20 have been withdrawn. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant lists Cerner Innovation, Inc. as the real party in interest. Appeal Brief filed January 30, 2018 ("Appeal Br.") 3.

[2] Rather than repeat the Examiner's positions and Appellant's arguments in their entirety, we refer to the above mentioned Appeal Brief, as well as the following documents for their respective details: the Final Action mailed August 31, 2017 ("Final Act."); the Examiner's Answer mailed June 12, 2018 ("Ans."); and the Reply Brief filed August 10, 2018 ("Reply Br.").

BACKGROUND

The present invention relates to integrated data capture of clinical event data from electronic medical records (EMRs) to case report forms associated with a clinical study. Spec. ¶ 1. According to the Specification, the invention uses a generic aliasing scheme to facilitate electronic transcription of clinical event data extracted from an EMR to clinical study case report forms. *Id.* ¶ 3. The generic aliasing scheme can include a first field for specifying a clinical event type or group, a second field for specifying a particular item of clinical data within the clinical event group, and a third field that specifies a suffix that describes how the clinical data within the clinical event group is grouped after extraction from the EMR. *Id.* The grouping may be based on, for example, the time and date when the data was collected or whether a task was completed with respect to a data element. *Id.* The groups may be presented to a user on a user interface, and the user can select one or all of the groups to import to a case report form. *Id.* Once a group is selected, it can be automatically imported to appropriate fields on the case report form based on the aliasing scheme. *Id.*

The Specification provides an example of a generic aliasing scheme for grouping clinical event data based on the time and date when the data was collected and stored in the EMR as: "<ITEM GROUP ALIAS><ITEM ALIAS>.DTTM." *Id.* ¶¶ 36–37. Using this example, the aliasing scheme "VS.SYSBP.DTTM" may be used where "VS" is an item group alias for vital signs, "SYSBP" is an item alias for systolic blood pressure, and DTTM is the suffix representing a timestamp indicating the date and time that the systolic blood pressure measurement was taken. *Id.* ¶ 39. Using this aliasing scheme, the patient's systolic blood pressure readings and

associated time stamps can be extracted from the patient's EMR, and those readings that occurred on the same day and the same time can be grouped together under the item group "vital signs." *Id.*

Claim 1 is illustrative of the claims at issue, and is reproduced below with lowercase Roman numerals added at the beginning of each limitation to allow it to be referred to more easily throughout this opinion:

> 1. One or more non-transitory computer storage media having computer-executable instructions embodied thereon that, when executed by a computing device, perform a method of using a generic aliasing scheme to facilitate electronic transcription of clinical event data extracted from one or more electronic medical records (EMRs) within an EMR system to one or more electronic case report forms associated with one or more clinical studies, the method comprising:
>
> [i] receiving inputs specifying the generic aliasing scheme that defines a set of clinical event data stored in association with the one or more EMRs and that describes one or more ways to group the set of clinical event data, the generic aliasing scheme comprising an item group alias that describes a clinical event group to which the set of clinical event data belongs[,] an item alias that describes an individual item of clinical event data in the set of clinical event data[,] and a suffix that indicates one or more ways to group clinical event data within the clinical event group, the one or more ways to group comprising at least one of a date and time associated with the clinical event data and whether one or more tasks associated with the clinical event data were completed;
>
> [ii] automatically extracting the set of clinical event data corresponding to the generic aliasing scheme from the one or more EMRs;
>
> [iii] automatically grouping the set of clinical event data into one or more groups of clinical event data based on the suffix of the generic aliasing scheme;

> [iv] automatically presenting the one or more groups of clinical event data on a user interface;
>
> [v] receiving a selection of a selected group, wherein the selected group is at least one of the one or more groups of clinical event data; and
>
> [vi] automatically modifying the one or more electronic case report forms by importing the clinical event data of the selected group into one or more fields on the one or more electronic case report forms that correspond to one or more of the item group alias and the item alias.

Response to Notice of Non-Compliant Appeal Br. Filed February 22, 2018 ("Response to Notice") 5–6 (Claims Appendix).

PRINCIPLES OF LAW RELATING TO PATENT ELIGIBILITY

I. SECTION 101

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 Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012), and *Alice*. *Alice*, 573 U.S. at 217–18 (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, 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 183 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 176; *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 (citation 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.* (alterations in original) (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.*

II. USPTO SECTION 101 GUIDANCE

The United States Patent and Trademark Office ("USPTO") recently published revised guidance on the application of § 101. USPTO, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Guidance"). Under the 2019 Guidance, we first look to whether the claim recites the following:

> (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* MPEP §§ 2106.05(a)–(c), (e)–(h)).

See 2019 Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 2019 Guidance, 84 Fed. Reg. at 56.

ANALYSIS

I. THE SECTION 101 REJECTION

A. The Examiner's Rejection and Appellants' Contentions

In the Final Office Action, the Examiner rejects claims 1 and 5–8 under 35 U.S.C. § 101 as directed to non-statutory subject matter. Final Act. 3. The Examiner determines that claim 1 is directed to the abstract idea of "using categories to organize, store and transmit information." *Id.* at 2–3; Ans. 4. The Examiner further determines that the claims do not include additional elements that amount to significantly more than the judicial exception. *Id.* at 4. Specifically, the Examiner finds that the additional computer-related limitations including a non-transitory computer-storage media, a computing device, and a record system, are recited at a high level of generality and perform generic computer functions routinely used in computer applications. *Id.* Finally, the Examiner determines that looking at the limitations as an ordered combination adds noting that is not already

present when looked at the elements taken individually, and there is no indication that the combination improves the functioning of a computer or improves any other technology. *Id.* Rather, according to the Examiner, the collective functions in the claims merely provide conventional computer implementation. *Id.*

Appellant argues, *inter alia*, that claim 1 is not abstract under *Alice* Step 1. Appeal Br. 8–11; Reply Br. 4–5. Appellant further argues that under *Alice* Step 2, the Examiner has not established that the claimed features that go beyond the abstract idea are well-understood, routine, and conventional, and that the claims address technological problems associated with integrated data capture for electronic transcription of clinical data from EMRs. Appeal Br. 14–15; Reply Br. 6–7.

B. Analysis under Step 2A, Prong 1, of the 2019 Guidance

Under Step 2A, Prong 1, of the 2019 Guidance, we first must determine whether any judicial exception to patent eligibility is recited in the claim. The 2019 Guidance identifies three judicially excepted groupings: (1) mathematical concepts, (2) certain methods of organizing human activity such as fundamental economic practices, and (3) mental processes. 2019 Guidance, 84 Fed. Reg. at 52–53. Based on existing Supreme Court and Federal Circuit precedent, the 2019 Guidance has identified "mental processes" as including "concepts performed in the human mind (including an observation, evaluation, judgment, opinion)." *Id.* at 53. The "mental processes" judicial exception also includes concepts that can be performed by a human with a pen and paper as well as those that can be performed entirely in the mind. *See* October 2019 Update: Subject Matter Eligibility

("October 2019 PEG Update") at 9 ("a claim that encompasses a human performing the step(s) mentally with the aid of a pen and paper recites a mental process"); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (finding claims to be patent ineligible because ''with the exception of generic computer implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper'').

Here, claim 1 recites various steps involving the grouping of information and transfer of information from one record to another that can be performed in the human mind or by a human using pen and paper. More specifically, claim 1, limitation [i] recites

> receiving inputs specifying the generic aliasing scheme that defines a set of clinical event data stored in association with the one or more EMRs and that describes one or more ways to group the set of clinical event data, the generic aliasing scheme comprising an item group alias that describes a clinical event group to which the set of clinical event data belongs[,] an item alias that describes an individual item of clinical event data in the set of clinical event data[,] and a suffix that indicates one or more ways to group clinical event data within the clinical event group, the one or more ways to group comprising at least one of a date and time associated with the clinical event data and whether one or more tasks associated with the clinical event data were completed

This step can be performed by giving a human a piece of paper that defines a generic aliasing scheme with an item group alias, an item alias, and a suffix as claimed. For example, a human could receive a piece of paper defining the generic aliasing scheme as one that will organize data by clinical event group (such as vital signs) and item (such as systolic blood pressure). Each entry on the piece of paper could also have a suffix in the

form of an indication at the end of the data item indicating the date and time at which it was collected. This suffix would allow the person receiving the paper to group the information based on the date and time of collection, such as grouping together all measurements taken on the same date.

Claim 1, limitation [ii] recites the step of "extracting the set of clinical event data corresponding to the generic aliasing scheme from the one or more EMRs." This step can be performed by a human who reviews a medical record (on a computer screen, a printout, or some other format) and records information corresponding to the categories defined by the aliasing scheme (e.g., systolic blood pressure measurements along with the date and time they were recorded) on a piece of paper using a pen.

Claim 1, limitation [iii] recites the step of "grouping the set of clinical event data into one or more groups of clinical event data based on the suffix of the generic aliasing scheme." A human can perform this step by looking at the date and time information for each patient measurement read off of the patient's medical record and writing on a piece of paper all of the measurements taken on the same day in a group under a heading containing that date.

Claim 1, limitation [iv] recites "presenting the one or more groups of clinical event data." This step can be performed by a human by reading off of a piece of paper patient measurements for different vital signs that were all recorded on the same day.

Claim 1, limitation [v] recites "receiving a selection of a selected group, wherein the selected group is at least one of the one or more groups of clinical event data." This step could be performed having a human communicate with another human (for example, verbally or by written

communication) who has identified a particular group of vital signs that should be captured for a clinical trial.

Claim 1, limitation [vi] recites "modifying the one or more electronic case report forms by importing the clinical event data of the selected group into one or more fields on the one or more . . . case report forms that correspond to one or more of the item group alias and the item alias." This step can be performed by a human by taking the information on the selected vital signs (along with date and time of collection) and entering that into fields of a case report form.

For these reasons, we are persuaded that claim 1 recites a judicial exception to patent eligibility, namely, claim 1 recites a judicial exception that falls within the mental processes category.

C. Analysis under Step 2A, Prong 2, of the 2019 Guidance

Having concluded that the claims recite a judicial exception, we next consider whether the claims recite "additional elements that integrate the [judicial] exception into a practical application." *See* 2019 Guidance, 84 Fed. Reg. at 54; MPEP §§ 2106.05(a)–(c), (e)–(h). We determine that claim 1 does not do so.

In addition to the mental steps discussed above, claim 1 also includes limitations that recite the performance of these steps on a generic computer using generic software. More specifically, claim 1 recites "[o]ne or more non-transitory computer storage media having computer-executable instructions embodied thereon." Claim 1 further recites that the "extracting," "grouping," "presenting," and "modifying" steps in limitations [ii]–[iv] and [vi] are performed "automatically," presumably by a computer. Additionally, claim 1 recites that the groups of clinical event data are

presented "on a user interface." We agree with the Examiner that these limitations all recite generic computer components recited as performing generic computer functions. *See* Final Act. 4.

The Examiner's determination is supported by Appellant's Specification, which discloses the use of generic computer hardware and software for implementing the claimed invention. As to computer hardware, the Specification explains that the invention can be implemented using "well-known computing systems, environments and/or configurations" such as "personal computers, server computers, hand-held or laptop devices, multiprocessor systems, microprocessor-based systems, set top boxes, programmable consumer electronics, network PCs, minicomputers, mainframe computers, distributed computing environments that include any of the above-mentioned systems or devices, and the like." Spec. ¶ 12. Similarly, the Specification discloses that the functions recited in claim 1 may be carried out using generic software, explaining that "[t]he present invention might be described in the general context of computer-executable instructions, such as program modules, being executed by a computer" and that "[e]xemplary program modules comprise routines, programs, objects, components, and data structures that perform particular tasks or implement particular abstract data types." *Id.* ¶ 13.

The 2019 Guidance explains that "[i]f a claim, under its broadest reasonable interpretation, covers performing in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind." *Id.* at 53 n. 14. *See also* October 2019 Update: Subject Matter Eligibility ("October 2019 PEG Update") at 8 ("The courts have found

claims requiring a generic computer or nominally reciting a generic computer may still recite a mental process even though the claim limitations are not performed entirely in the human mind."). Federal Circuit precedent is in accord. *See Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d. 1314, 1324 (Fed. Cir. 2016) (holding that computer-implemented method for "anonymous loan shopping" was an abstract idea because it could be "performed by humans without a computer"); *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) ("Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind."); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375, 1372 (Fed. Cir. 2011) (holding that the incidental use of "computer" or "computer readable medium" does not make a claim otherwise directed to process that "can be performed in the human mind, or by a human using a pen and paper" patent eligible).

Additionally, the generic computer limitations in claim 1 are not directed toward an improvement in the functioning of the computer itself. *See* October 2019 PEG Update at 11 ("If the additional limitations reflect an improvement in the functioning of a computer, or an improvement to another technology or technical field, the claim integrates the judicial exception into a practical application and thus imposes a meaningful limit on the judicial exception.") These generic computer limitations merely automate steps that can be performed in the human mind or using pen and paper (creating a scheme for grouping information, using this scheme to extract information from medical records, selecting portions of the extracted

information, and adding those selected portions to a case report form), and do not involve improvements in how the computer itself operates.

For these reasons, claim 1 is not analogous to the claim at issue in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016), upon which Appellant relies. *See* Reply Br. 5. In *Enfish*, the claimed "self-referential table" was "a specific type of data structure designed to improve the way a computer stores and retrieves data in memory" which was "a specific implementation of a solution to a problem in the software arts." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). Thus, the claims were "directed to an improvement in the functioning of a computer." *Id.* at 1338. Here, by contrast, claim 1 is directed to creating a scheme for grouping information, using this scheme to extract information from medical records, and selecting portions of the extracted information, and adding those selected portions to a case report form, which can all be performed in the human mind or using pen and paper and therefore are not directed specifically toward improving the functioning of a computer. Moreover, the use of generic computer equipment to automate the claimed mental steps is not comparable to the "specific type of data structure designed to improve the way a computer stores and retrieves data in memory" at issue in *Enfish*. 822 F.3d at 1339.

Consequently, the additional limitations in claim 1 beyond the judicial exception do not serve to integrate the judicial exception into a practical application.

D. Analysis under Step 2B

Under Step 2B, we consider whether claim 1 includes additional elements individually or in combination that provide an inventive concept

and, therefore, amount to significantly more than the exception itself. Here, Appellant has not established that claim 1 includes any such "inventive concept," or that claim 1 adds limitations beyond the judicial exception that are not "well-understood, routine, or conventional" in the field. *See* MPEP § 2106.05(d).

Appellant argues that claim 1 includes an "inventive concept" because it is "directed to a specific implementation of a solution to a problem in the software arts." Reply Br. 5. Specifically, Appellant argues that claim 1 "address[es] technological problems associated with integrated data capture used to electronically transcribe clinical event data to EMRs to case report forms associated with clinical studies," and that such problems included the need to "creat[e] custom programs to perform the data capture for a particular study because only a limited number of discrete data elements could be pulled from more generic programs." Appeal Br. 14. Appellant argues that claim 1 "provide[s] a solution to this problem by utilizing a generic aliasing scheme that can be applied across multiple different clinical studies, thereby eliminating the need to build custom software on an as-needed basis." *Id.*

We do not find this argument persuasive. The claims explain that the "generic aliasing scheme" "defines a set of clinical event data stored in association with the one or more EMRs" and "describes one or more ways to group the set of clinical event data." However, as discussed above, because this "generic aliasing scheme" can be implemented in the human mind or by a human with pen and paper, it is part of the judicial exception itself. The fact that this generic aliasing scheme can be used for multiple different clinical studies does not alter this fact. And, the claims do not include

specific *technological* limitations (beyond the claimed mental process steps) that distinguish the invention from prior systems using custom programs to perform the data capture for a particular study. To the contrary, the computer-related limitations of claim 1 merely recite the use of generic computer equipment to automate the claimed mental process, and do not reflect an improvement in the functioning of the computer itself. Therefore, these limitations do not recite an inventive concept that amounts to significantly more than the judicial exception itself.

Appellant also argues that "the claimed features, by themselves and in combination, were unconventional and not widely known in the industry at the time this application was filed." Reply Br. 7. For example, Appellant asserts that "it was unconventional for a tool for case report forms at least to receive inputs specifying a generic aliasing scheme as defined in claim 1, to extract data according to the scheme, or group data based on the suffix of the generic aliasing scheme." *Id.* As discussed above, however, specifying a generic aliasing scheme, extracting information according to that scheme, and grouping data based on the suffix of that scheme are part of the judicial exception because they are mental processes that can be performed in the human mind or by a human with pen and paper. And, the computer "tools" recited in the claim for performing these steps ("non-transitory computer storage media," "computer-executable instructions," "automatically" performing steps, and a "user interface") are well-understood, routine, and conventional, and Appellant does not argue otherwise. Spec. ¶¶ 12–13. *See also Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018) (whether a claim element is well-understood, routine and conventional is a question of fact). As a result, Appellant has not persuaded us that claim 1 includes any

limitations beyond the judicial exception that are not "well-understood, routine, or conventional" in the field.

In summary, Appellant has not established that the Examiner erred in rejecting claim 1 as being directed to patent-ineligible subject matter. We therefore sustain this rejection, as well as the rejection of claims 5–8, which are not argued separately.

II. THE SECTION 103 REJECTION

In the Final Office Action, the Examiner rejected claim 1 as unpatentable over Larrea (US 2003/0208490 A1; published Nov. 6, 2003) in view of Davies (US 2003/0046114 A1; published Mar. 6, 2003), Andersson (US 2002/0187496 A1; published Dec. 12, 2002) and Arond (US 2007/0239484 A1; published Oct. 11, 2007). Final Act. 6. The Examiner determines that Larrea discloses, *inter alia*, a method of using a generic aliasing scheme to facilitate electronic transcription of clinical event data extracted from one or more EMRs to one or more electronic case report forms associated with one or more clinical studies, in which the generic aliasing scheme uses an item group alias that describes a clinical event group to which the set of clinical event data belongs and an item alias that describes an individual item of clinical event data in the set of clinical event data. *Id.* at 6.

The Examiner relies on Davies to disclose automatically extracting the clinical event data according to the generic aliasing scheme from the one or more EMRs, automatically grouping the set of clinical event data into one or more groups based on the generic aliasing scheme, and receiving a selection of a group of clinical event data. *Id*. at 6–7. The Examiner relies

on Andersson to disclose automatically modifying the case report forms by importing the clinical event data of the selected group into fields on the electronic case report forms corresponding to one or more of the item group alias and the item alias. *Id.* at 7. And, the Examiner relies on Arond to disclose a suffix (in the form of ".dttm") that allows clinical event data to be grouped based on a date and time associated with the clinical event, and automatically grouping data based on the suffix. *Id.* at 7. The Examiner concludes that it would have been obvious to combine these references to achieve the claimed invention because one of ordinary skill would have been motivated "to automate the clinical documentation process and unlock the clinical and economic value of patient medical records" (as taught by Davies) to provide genetic research information to a user" (as taught by Andersson), to "provide on-demand historical, real-time, and predictive reports, alerts and recommendations" (as taught by Arond). *Id.* at 7–8.

Appellant argues that the Examiner erred in concluding that Arond teaches the claimed suffix. Appeal Br. 18–19. Appellant acknowledges that Arond describes an integrated health care delivery system in which data can be input and output with a "dttm" timestamp indicator at the end of the data item. *Id.* at 19 (citing Arond ¶¶ 60, 61, 97, and 213 (Table 3.3), 215 (Table 3.5), 218 (Table 3.8); Figs. 6, 10). Appellant also admits that Arond discloses having a user enter a particular date range when searching for data for a report. *Id.* Appellant, however, contends that "nothing in Arond suggests that the '.dttm', as used in the disclosed system, indicates a way to group clinical event data within the clinical event group," and that "Arond does not describe using date/time as part of an aliasing scheme for grouping and extracting data." *Id.* Therefore, Appellant argues, Arond fails to cure

the deficiencies of the other references, which lack this limitation. *Id.* at 19–20.

We are not persuaded that the Examiner's rejection is in error. As Appellant acknowledges, Arond discloses the use of data with "_Dttm" at the end to indicate data and time. *See* Arond ¶¶ 60, 61, 97, 213 (Table 3.3), 215 (Table 3.5), 218 (Table 3.8); Figs. 6, 10. For example, Figure 6 includes the data items "PatientReady_Dttm," "NeedsAttention_Dttm," and "Action_Dttm." *Id.*, Fig. 6. Because the "_Dttm" indicator comes at the end of the data item, it is a "suffix" under the broadest reasonable interpretation of that term in claim 1. Thus, Arond discloses a suffix that indicates a date and time associated with the data, as claimed.

Arond also discloses the capability of grouping together data in a report by date and time. Paragraph 151 of Arond discloses that the user can "enter[] a date range for the report" and then "select[] how the report is stratified (by date, day of week, time, or Unit)." Arond ¶ 151. We agree with the Examiner that, based on this discussion, a person of ordinary skill in the art would have understood Arond to disclose grouping of data by date and time based on the "-Dttm" suffix, and that the Examiner correctly relied on Arond for the suffix limitations in claim 1. *See* Final Act. 7; Ans. 5.

To the extent Appellant is arguing that Arond does not describe using data/time as part of an "aliasing scheme" for clinical event data (Appeal Br. 19), such an argument would not be persuasive because the Examiner is relying on Larrea rather than Arond for the disclosure of an aliasing scheme using clinical event data (Final Act. 5–6). Therefore, such an argument would not meet the substance of the Examiner's rejection, which is based on a combination of references. *See In re Keller,* 642 F.2d 413, 425 (CCPA

1981) (one cannot show nonobviousness by attacking references individually when the rejection is based on a combination of references).

Accordingly, we sustain the Examiner's rejection of claim 1 under Section 103. We also sustain the Section 103 rejection of claims 5–8, which are not separately argued.

CONCLUSION

We affirm the Examiner's rejection of claims 1 and 5–8 under 35 U.S.C. § 101 as directed to non-statutory subject matter and under 35 U.S.C. § 103.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 5–8	101	Eligibility	1, 5–8	
1, 5–8	103	Larrea, Davies, Andersson, Arond	1, 5–8	
Overall Outcome			1, 5–8	

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)(1).

AFFIRMED