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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN LaLONDE

Appeal 2018-006958
Application 13/591,474
Technology Center 3600

Before JUSTIN BUSCH, JENNIFER L. McKEOWN, and
CATHERINE SHIANG, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–13 and 15–20, which constitute all the claims pending in this application. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Cardiac Pacemakers, Inc. Br. 3.

CLAIMED SUBJECT MATTER

Appellant's "invention relates to the care and evaluation of patients having implantable medical devices (IMDs) such as cardiac rhythm management devices." Spec. 1:8–9. "More particularly, the invention relates to methods and systems for remotely evaluating patients having IMDs." Spec. 1:9–10. Claims 1, 12, and 13 are independent claims, and claim 12 is reproduced below:

12. A method for assisting a remote implantable medical device (IMD) clinician with evaluation of a patient having an IMD, comprising:
 - a. providing a patient interface device having a processor at a patient location configured to retrieve identity data and sensor data from an implantable medical device (IMD), wherein the patient interface device is further configured to receive IMD data from the IMD;
 - b. providing a clinician interface device at a clinician location configured to be in remote, bi-directional audio/video communication with the patient interface device;
 - c. the patient interface device capturing first audio/video data of the patient, using at least one of the group of a camera and a microphone, while the patient performs a first evaluation protocol at the patient location at a first time; and
 - d. the patient interface device capturing second audio/video data of the patient, using at least one of the group of a camera and a microphone, while the patient performs a first evaluation protocol at the patient location at a second time later than the first time; and
 - e. a processor performing a pattern recognition analysis of the audio/video data of the patient, comprising comparing specific portions of the second audio/video data to like portions of the first audio/video data of the patient; and
 - f. providing to the clinician interface device a report of any changes identified during the pattern recognition analysis,

wherein the report comprises a quantification of at least one of a frequency shift in the patient's voice, swelling of a body part of the patient, a tremor in a body part of the patient, and changes in the patient's breathing pattern; and
g. determining whether the changes identified during the pattern recognition analysis meet alert threshold requirements, and upon determining that the alert threshold requirements are met, generating an alert.

REJECTIONS²

Claims 1–13 and 15–20 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 2–4.

Claims 1, 2, 5, and 10 stand rejected under 35 U.S.C. § 103 as obvious in view of Farhan (US 7,825,813 B2; Nov. 2, 2010) and Schaufele (US 2006/0206724 A1; Sept. 14, 2006). Final Act. 6–8.

Claims 3, 4, 7–9, 11–13, 15–17, and 20 stand rejected under 35 U.S.C. § 103 as obvious in view of Farhan, Schaufele, and Nelson (6,418,346 B1; July 9, 2002). Final Act. 8–14.

Claims 6, 18, and 19 stand rejected under 35 U.S.C. § 103 as obvious in view of Farhan, Schaufele, Nelson, and Zhang (US 2011/0301530 A1; Dec. 8, 2011). Final Act. 14–16.

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellant's arguments that the Examiner erred. In reaching this decision, we have

² Claim 14 was rejected as being directed to ineligible subject matter under 35 U.S.C. § 101, as obvious under 35 U.S.C. § 103, and as indefinite under 35 U.S.C. § 112(b). *See* Final Act. 2, 5, 12. Appellant cancelled claim 14 before filing the Appeal Brief and the Examiner entered the amendment. *See* Response After Final Action (filed Oct. 27, 2017), 6, 8; Advisory Action (mailed Dec. 7, 2017). Accordingly, claim 14 is not before us on appeal.

considered all evidence presented and all arguments Appellant made. Arguments Appellant could have made, but chose not to make in the briefs, are deemed waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

THE 35 U.S.C. § 101 REJECTION

The Examiner concludes claims 1–13 and 15–20 are directed to judicially excepted subject matter. Final Act. 2–4. Appellant argues the § 101 rejection of all claims as a group. *See* Appeal Br. 14–18. We select independent claim 12 as representative of the claims with respect to the rejection of claims 1–13 and 15–20 as being directed to ineligible subject matter. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2016).

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 United States Patent and Trademark Office 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) (“Guidance”).

If a claim falls within one of the statutory categories of patent eligibility (i.e., a process, machine, manufacture, or composition of matter), we determine 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 our inquiry, we “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 (Fed. Cir. 2016). The Guidance directs us to address this inquiry using the following two prongs of

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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 Guidance, if the judicial exception is integrated into a practical application, the claim is patent eligible under § 101. 84 Fed. Reg. at 54–55. If the claim is directed to a judicial exception (i.e., the claim both recites a judicial exception and fails to integrate the exception into a practical application), we next determine whether the claim provides an inventive concept, which includes determining 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 representative claim 12 is directed to mental processes (i.e., a concept performed in the human mind, such as an observation, evaluation, judgment, and opinion), which are abstract ideas. *See* 84 Fed. Reg. at 52. Claim 12 generally is directed to observing a patient to evaluate the patient and render an opinion regarding changes in the patient’s medical condition.

This is consistent with how Appellant describes the claimed embodiments of the invention. Br. 3 (“the invention relates to methods and systems for remotely evaluating patients having IMDs by capturing and analyzing audio/video data of the patient”); Spec. 1:10 (“methods and systems for remotely evaluating patients”), 1:13–27 (describing problems with prior art systems and explaining that “visual and audio observation of the patient . . . can provide important information about the patient’s condition and overall health status,” such that “[c]linicians would benefit

from improved systems for providing and analyzing audio/video patient data”).

Claim 12 is reproduced below, with the claim limitations that recite elements of the abstract idea of observing a patient to evaluate the patient and render an opinion regarding changes in the patient’s medical condition emphasized in *italics*:

12. A method for assisting a remote implantable medical device (IMD) clinician with evaluation of a patient having an IMD, comprising:

- a. providing a patient interface device having a processor at a patient location configured to retrieve identity data and sensor data from an implantable medical device (IMD), wherein the patient interface device is further configured to receive IMD data from the IMD;
- b. providing a clinician interface device at a clinician location configured to be in remote, bi-directional audio/video communication with the patient interface device;
- c. the patient interface device *capturing first audio/video data of the patient*, using at least one of the group of a camera and a microphone, *while the patient performs a first evaluation protocol at the patient location at a first time*; and
- d. the patient interface device *capturing second audio/video data of the patient*, using at least one of the group of a camera and a microphone, *while the patient performs a first evaluation protocol at the patient location at a second time later than the first time*; and
- e. a processor *performing a pattern recognition analysis of the audio/video data of the patient, comprising comparing specific portions of the second audio/video data to like portions of the first audio/video data of the patient*; and
- f. *providing to the clinician interface device a report of any changes identified during the pattern recognition analysis, wherein the report comprises a quantification of at least one of a frequency shift in the patient's voice, swelling of*

a body part of the patient, a tremor in a body part of the patient, and changes in the patient's breathing pattern; and

- g. determining whether the changes identified during the pattern recognition analysis meet alert threshold requirements, and upon determining that the alert threshold requirements are met, generating an alert.*

More particularly, the abstract idea of observing a patient to evaluate the patient and render an opinion regarding changes in the patient's medical condition comprises (i) capturing patient audio/video data while the patient performs an evaluation protocol at a patient location at two different times; (ii) analyzing the two patient video/audio sets of data to recognize patterns; (v) providing a report of changes identified in the pattern recognition analysis that quantifies a particular characteristic; (vi) determining whether the identified changes are above a threshold; and (vi) if above the threshold, generating an alert. These steps that make up the concept recited in claim 12 are simply a series of observations, evaluations, and judgements for render an opinion regarding changes in the patient's medical condition, and these steps all fall within the types of mental processes considered abstract—i.e., observations, evaluations, judgments, and opinions. *See* 84 Fed. Reg. at 52.

Consistent with our Guidance and case law, we conclude this concept is a mental process and, therefore, an abstract idea. *See* 84 Fed. Reg. at 52; *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1067 (Fed. Cir. 2011) (determining claims that recite reviewing information to determine a lower-risk immunization schedule were directed to an abstract idea because they involve only mental processes); *Digitech Image Techs., LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (concluding “taking existing information . . . and organizing this information

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into a new form” is an abstract idea); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App’x 950, 954–56 (Fed. Cir. 2014) (concluding claims that analyzed provided patient information using knowledge bases to generate a ranked list of treatment regimens and advisory information for treatment regimens were directed to an abstract idea); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (concluding claims were directed to the abstract idea of “selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis”). If a claim, under its broadest reasonable interpretation, covers performance 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. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“[W]ith 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.”); *see Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (concluding that “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category” and concluding claims directed to “collecting information, analyzing it, and displaying certain results of the collection and analysis” were abstract). In other words, we agree with the Examiner that claim 12 is similar to the claims held ineligible in *SmartGene* and *Electric Power*.

Appellant fails to persuasively argue that claim 12 does not recite an abstract idea. Appellant merely states disagreement “with the conclusion that

the claims are directed to an abstract idea,” and generally asserts that Appellant’s claims are not analogous to the claims in *SmartGene* because Appellant’s “claims are not alleged to include mental steps.” Appeal Br. 14–15; Reply Br. 5–6. Appellant also argues the claims are unlike *SmartGene*’s claims because Appellant’s claims “utilize an improvement in technology to perform a function that humans are incapable of doing.” Reply Br. 6. This argument, however, fails to persuasively explain why the steps identified above claim more than simply mental processes—i.e., observations, evaluations, judgments, or opinions. Therefore, because we determine claim 12 recites mental processes, we disagree with Appellant that claim 12 fails to recite an abstract idea.

Because claim 12 recites a judicial exception, we next determine whether it integrates the judicial exception 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 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, the additional limitations recited beyond the judicial exception itself fail to integrate the exception into a practical application. More particularly, and contrary to Appellant’s vague and general assertions, claim 12 does not recite: (i) an improvement to the functionality of a computer or other technology or technical field (*see* MPEP § 2106.05(a)); (ii) a “particular machine” to apply or use the judicial exception (*see* MPEP §

2106.05(b)); (iii) a particular transformation of an article to a different thing or state (*see* MPEP § 2106.05(c)); or (iv) any other meaningful limitation (*see* MPEP § 2106.05(e)). *See also* 84 Fed. Reg. at 55.

Rather, the additional elements simply use computers as tools to implement the abstract idea requiring no more than generic computer elements to perform generic computer functions or add insignificant extra-solution activity. The additional elements recited in claim 12 are: (1) the patient interface device having a processor and providing the device at a patient location configured to retrieve identity data and sensor data from an implantable medical device (IMD) and receive IMD data from the IMD; (2) the clinician interface device and providing the device at a clinician location configured to be in remote, bi-directional audio/video communication with the patient interface device; (3) the camera and/or microphone used by the patient interface device to capture data; and (4) the processor (that performs the pattern recognition analysis).

The patient interface device, clinician interface device, camera, microphone, and processor are generic computer elements or components recited at a high level of generality. The claims recite the patient interface device includes a processor and includes or is connected to at least one of a microphone and a camera.

Otherwise, the Specification and claims provide generic, high-level, mostly functional descriptions of the interface devices, without providing detail indicating these elements include any improvement to existing computers or technology. *See* Spec. 5:1–20 (describing the two interface devices only by the functions they are configured to perform), 6:14–23 (describing the two interface devices as having a communication link—e.g.,

“phone lines, a wired network, the Internet 130, a pervasive wireless network or any other data connection”), 7:5–6 (describing connecting the patient interface device to external storage media); *cf. Berkheimer Memo*³ § III.A.1. Although the Specification provides exemplary features of a patient interface device, the Specification explains that the patient interface device and the clinician interface device may be generic computing devices. Spec. 7:18–8:3 (“the patient interface device may take the form of . . . a laptop computer, a desktop computer, a tablet computer, a smart phone or another configuration”), 16:13–19 (explaining that the clinician interface device may be the same as the patient interface device, such as “a laptop computer, a desktop computer, a tablet computer, a smart phone or another configuration”), 16:29–17:21 (describing various functional components that the interface devices may include, but explaining that the interface devices need not have all the components), 17:22–18:8 (describing the interface devices as optionally including various generic computer components). Similarly, the recited microphone, camera, and processor are generic components recited as performing their basic functions of recording audio and video or executing computer instructions.

³ “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” at 3 (Apr. 19, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF> (explaining that a specification that describes additional elements “in a manner that indicates that the additional elements are sufficiently well-known that the specification does not need to describe the particulars of such additional elements to satisfy 35 U.S.C. § 112(a)” can show that the elements are well-understood, routine, and conventional).

The claimed steps of “providing” the interfaces are the type of insignificant extra-solution activity the courts have determined insufficient to transform judicially excepted subject matter into a patent-eligible application. *See* 84 Fed. Reg. at 55, 55 n.31; MPEP § 2106.05(g); *Bilski v. Kappos*, 561 U.S. 593, 612 (2010) (holding the use of well-known techniques to establish inputs to the abstract idea as extra-solution activity that fails to make the underlying concept patent eligible); *Mortgage Grader, Inc. v. First Choice Loan Svcs., Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (generic computer component (i.e., an interface) fails to provide an inventive concept); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) (“[T]he interactive interface limitation is a generic computer element.”).

Appellant also argues that, even to the extent the claims are directed to an abstract idea, the claims recite significantly more than just the abstract idea. Appeal Br. 15–18; Reply Br. 6–7. Appellant contends the claims “are directed to a telemedicine system for IMD patients using audio/video data” that improves on prior patient management techniques. Appeal Br. 17. Appellant asserts the claimed solution includes specific meaningful limitations that integrate the abstract idea into a particular application resulting in a claimed combination that is not well-understood, routine, and conventional. Appeal Br. 17. Appellant asserts the steps relating to the patient performing an evaluation protocol at two times, comparing the two performances, and providing a report that quantifies changes add non-conventional and non-generic steps to the claim that, in combination, claim significantly more than the abstract idea. Appeal Br. 17–18; Reply Br. 6–7.

Notably, Appellant neither claims nor describes any claimed *technological* improvement tied to the invention recited in claim 12. Rather, Appellant merely claims a general use of computing devices and components (i.e., interfaces, camera, microphone, and processor) to aid in collecting and analyzing data to assist in observing a patient to evaluate the patient and render an opinion regarding changes in the patient's medical condition.

Appellant asserts the present claims do not recite mental steps, but Appellant does not persuasively explain *why* or *how* the claims differ from claims the Federal Circuit previously found ineligible in *SmartGene* and *Electric Power*. Appellant identifies a problem that conventional systems do not provide audio and video patient data and claims a solution that captures and communicates such audio and video data. *See* Spec. 1:18–27. This, however, is a data collection problem not a technical problem. Accordingly, Appellant's claimed solution captures, analyzes, and displays information so a clinician may observe and evaluate a patient and render an opinion regarding changes in the patient's medical condition. As discussed above, the claimed solution uses conventional components to capture, analyze, and provide information, but the claims fail to improve a computer, technology, or other technical field. Appellant's claimed solution is rooted in data collection and analysis, not technology.

Moreover, Appellant does not argue limitations *in addition to* the abstract idea differentiate the claims over those found ineligible in *Electric Power* and *SmartGene*. Instead, Appellant vaguely argues the limitations recited in the claims that are *part of* the abstract idea, when taken in combination, are unconventional and not generic. These arguments are

insufficient to demonstrate Appellant’s claims are directed to something other than mental processes to perform the abstract idea of observing a patient to evaluate the patient and render an opinion regarding changes in the patient’s medical condition. To the extent Appellant asserts the combination of these limitations is more than what was well-understood, routine, and conventional in the field, we address that assertion below.

For these reasons, we determine representative claim 12 recites an abstract idea comprised of mental steps and fails to integrate the judicial exception into a practical application. Therefore, claim 12 is directed to an abstract idea, and we analyze the claims under step two of *Alice* to determine whether 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 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 claim 12 adds 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.

As mentioned above, Appellant argues the claims recite specific meaningful elements that, considered as an ordered combination, provide significantly more than the abstract idea and integrate the abstract idea into a

particular application, which results in a claimed combination that is not well-understood, routine, and conventional. Appeal Br. 15–18; Reply Br. 6–7. Specifically, Appellant asserts the steps relating to the patient performing an evaluation protocol at two times, comparing the two performances, and providing a report that quantifies changes add non-conventional and non-generic steps to the claim that, in combination, claim significantly more than the abstract idea. Appeal Br. 17–18; Reply Br. 6–7.

An inventive concept “cannot be furnished by the unpatentable law of nature (or natural phenomenon or abstract idea) itself.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *see also* 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 217 (explaining that, after determining a claim is directed to a judicial exception, “we then ask, ‘[w]hat else is there in the claims before us?’” (emphasis added, brackets in original) (quoting *Mayo*, 566 U.S. at 78)). Instead, an “inventive concept” is furnished by an element or combination of elements that is recited in the claim *in addition to* the judicial exception and sufficient to ensure the claim as a whole amounts to significantly more than the judicial exception itself. *Alice*, 573 U.S. at 218–19 (citing *Mayo*, 566 U.S. at 72–73); *see BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (explaining that the Supreme Court in *Alice* “only assessed whether the claim limitations *other than the invention’s use of the ineligible concept* to which it was directed were well-understood, routine and conventional,” (emphasis added)).

As alluded to above, however, Appellant’s argument focuses on limitations that are part of the abstract idea, not limitations *in addition to* the abstract idea. Appellant does not identify elements *in addition to* the abstract idea that allegedly are not well-understood, routine, and conventional.

Claim 12 fails to recite specific additional limitations (or a combination of limitations) that are not well-understood, routine, and conventional. Rather, Appellant’s claimed solution uses conventional components to capture, analyze, and provide information, but fails to improve a computer, technology, or other technical field. Even considered as an ordered combination, the *additional* elements recited in representative claim 12 merely perform their conventional functions that they perform separately. As discussed above, the recited additional elements are generic components recited at a high level of generality or extra-solution activity, which do not recite limitations beyond what was well-understood, routine, and conventional in the field. *See Berkheimer Memo* § III.A.1.

To the extent Appellant argues the claims are similar to the claims held eligible in *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), we disagree. *See* Appeal Br. 12–14. In *BASCOM*, the court found “the patent describes how its particular arrangement of elements is a technical improvement” and, when construed in favor of *BASCOM*,⁴ the claims may be read to improve an existing technological process. *BASCOM*, 827 F.3d at 1350. As discussed above, claim 10 does not improve an existing technological process, but rather receives and analyzes data using a generic interfaces, cameras, microphones, and processors. Additionally, unlike the arrangement of elements (i.e., installation of a filtering tool at a specific location) in *BASCOM*, 827 F.3d at 1349–50, claim 12 does not recite a non-conventional and non-routine arrangement of known elements because the additional components are well-

⁴ In *BASCOM*, *BASCOM* appealed the district court’s granting of a motion to dismiss under Fed. R. Civ. P. 12(b)(6). *BASCOM*, 827 F.3d at 1341.

understood, routine, and conventional elements performing their ordinary functions both when considered individually and in combination. Using interfaces to receive and output information, using a camera and microphone to record audio and video, and using a processor to execute computer instructions are the most basic functions of the respective components and do not even arguably constitute an unconventional or non-routine arrangement or use of the generic components.

For the above reasons, Appellant has not persuaded us of Examiner error, and we sustain the Examiner's rejection of claims 1–13 and 15–20 under 35 U.S.C. § 101 as being directed to ineligible subject matter.

THE 35 U.S.C. § 103 REJECTIONS

The Examiner finds a combination of Farhan and Schaufele teaches or suggests the subject matter recited in claims 1, 2, 5, and 10. Final Act. 6–8. Of particular relevance to Appellant's arguments, the Examiner finds Schaufele teaches using biometric data to identify an individual, including creating voice spectrographs from audio data to improve identity verification. Final Act. 7 (citing Schaufele ¶¶ 54, 52, 59, 90). The Examiner finds Schaufele discloses creating a spectrograph including at least three separate audio portions that can be represented graphically and may help identify an individual's breathing pattern. Final Act. 7 (citing Schaufele, Fig. 9 (901–904)); Ans. 11 (additionally citing Schaufele ¶ 123).

The Examiner concludes it would have been well known to expand or modify Farhan's method "to use sound spectrograph imaging as taught by Schaufele et al. in order to provide photographing or otherwise recording spectra." Final Act. 7. The Examiner also reasons a person of ordinary skill in the art would have been motivated to combine Farhan's and Schaufele's

teachings to provide “voice spectrograph data that may be less intrusive and generally provide more accurate biometric identification system data.”

Ans. 11 (citing Schaufele ¶ 123).

The Examiner finds independent claim 12 recites similar limitations to those recited in claims 1, 5, and 11, and the Examiner rejects claim 12 for the reasons set forth regarding those claims. Final Act. 12. Similarly, the Examiner finds independent claim 13 recites similar limitations to those recited in claims 1 and 11, and the Examiner rejects claim 13 for the reasons set forth regarding those claims. Final Act. 12.

Appellant argues Schaufele fails to teach or suggest a report that quantifies changes identified in the pattern recognition analysis, as recited in claim 1. Appeal Br. 9–10; Reply Br. 2. Appellant contends Schaufele’s cited disclosures—i.e., the voice spectrograph—merely provide graphical representations of raw data (e.g., breathing patterns) collected and fail to teach or suggest any quantification of changes. Appeal Br. 10; Reply Br. 2.

Appellant also argues the Examiner failed to provide a rational underpinning to support a reason for combining Farhan’s and Schaufele’s cited teachings. Appeal Br. 10–11; Reply Br. 3–4. Appellant argues there would have been no reason to combine Schaufele’s voice spectrograph used for biometric verification with Farhan’s comparison of detected non-speech sounds to a number of expected sound events because Farhan merely compares detected versus expected occurrences of habitual sounds, and there would have been “no purpose for providing ‘photographing or otherwise recording spectra’” in Farhan. Appeal Br. 11; Reply Br. 3. Appellant contends the Examiner provided no evidence supporting any benefits or desirability of combining Farhan and Schaufele. Appeal Br. 11. Even

accepting that Schaufele's biometric verification system is less intrusive and more accurate than other verification systems, Appellant asserts a person of ordinary skill would not have had a reason to combine Schaufele's teachings with Farhan because biometric verification would serve no purpose in Farhan's systems and methods. Reply Br. 4.

As Appellant notes, the portions of Farhan the Examiner finds teach or suggest the limitations related to performing pattern recognition analysis disclose identifying and counting a number of occurrences of certain types of sounds and comparing that to an expected number of occurrences of a type of sound. Farhan 2:52–59, 3:23–28, 4:11–20. Schaufele's cited portions relate to using biometric data, including an individual's breathing pattern, to verify an individual's identity. Schaufele ¶¶ 51, 52, 59, 90, 123.

We agree with Appellant that the Examiner's rationale for combining Farhan's and Schaufele's disparate teachings is problematic. The Examiner's reasons for combining the cited teachings are "to provide photographing or otherwise recording spectra" in Farhan's system and to provide spectrograph data that is less intrusive and more accurate than conventional biometric analysis. Final Act. 7; Ans. 11. These reasons, however, simply explain what Schaufele teaches, without providing any rational underpinning as to why one of ordinary skill in the art would have added Schaufele's biometric verification techniques or systems to Farhan's systems and methods that are unrelated to identity verification. Importantly, the Examiner provides insufficient explanation as to *why* a person of ordinary skill in the art would have combined Schaufele's biometric verification with Farhan's system.

For the reasons discussed above, we reverse the Examiner's rejection of independent claim 1 under 35 U.S.C. § 103 as obvious in view of Farhan

and Schaufele. Claims 2, 5, and 10 depend directly from claim 1 and incorporate claim 1's limitations. Therefore, for the same reasons, we also reverse the Examiner's rejection of dependent claims 2, 5, and 10 under 35 U.S.C. § 103 as obvious in view of Farhan and Schaufele.

The Examiner rejects claims 3, 4, 7-9, 11-13, 15-17, and 20 under 35 U.S.C. § 103 as obvious in view of Farhan, Schaufele, and Nelson. The Examiner rejects claims 6, 18, and 19 under 35 U.S.C. § 103 as obvious in view of Farhan, Schaufele, Nelson, and Zhang. Independent claims 12 and 13 recite limitations commensurate in scope to the limitations recited in claim 1, including providing a report quantifying the changes identified in pattern recognition analysis. *See* Appeal Br. 12-13 (arguing claims 12 and 13 are patentable for the same reasons asserted with respect to claim 1, Nelson does not cure the deficiencies, and the Examiner has not provided a sufficient rationale for combining Nelson with Farhan and Schaufele). Claims 3, 4, 6-9, and 11 ultimately depend from independent claim 1. Claims 15-20 ultimately depend from independent claim 13. The Examiner does not find Nelson or Zhang teach or suggest providing a report, and the Examiner provides no further explanation regarding the proposed combination of Schaufele's spectrograph with Farhan's teachings. Therefore, for the same reasons addressed with respect to independent claim 1, we reverse the Examiner's rejections under 35 U.S.C. § 103 of: (1) claims 3, 4, 7-9, 11-13, 15-17, and 20 as obvious in view of Farhan, Schaufele, and Nelson and (2) claims 6, 18, and 19 as obvious in view of Farhan, Schaufele, Nelson, and Zhang.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis / References	Affirmed	Reversed
1-13, 15-20	101	Ineligible	1-13, 15-20	
1, 2, 5, 10	103	Farhan, Schaufele		1, 2, 5, 10
3, 4, 7-9, 11-13, 15-17, 20	103	Farhan, Schaufele, Nelson		3, 4, 7-9, 11-13, 15-17, 20
6, 18, 19	103	Farhan, Schaufele, Nelson, Zhang		6, 18, 19
Overall Outcome			1-13, 15-20	

AFFIRMED