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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KEITH PONTING, REIN SIKVELAND,
and DAVID ZEITLYN

Appeal 2017-007015
Application 14/301,901
Technology Center 2600

Before DENISE M. POTHIER, JUSTIN BUSCH, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellants appeal from the Examiner’s decision to reject claims 1–20, 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.

CLAIMED SUBJECT MATTER

Appellants’ invention is generally directed to “systems, methods, and computer readable media for analyzing a conversation between a plurality of participants.” Spec. ¶ 3. Appellants’ claimed invention identifies at least two speakers from a plurality of participants, determines turns (i.e., portions of the conversation when a respective speaker is speaking) for each speaker,

determines statistics for at least some of the determined turns, and identifies conversation phases based on the determined statistics. Spec. ¶¶ 3, 26–27. Claims 1, 11, and 20 are the independent claims. Claim 1 is illustrative and reproduced below:

1. A method of analyzing a conversation between a plurality of participants, comprising:
 - accessing stored digital audio information of audio captured from the plurality of participants by one or more communication devices during the conversation;
 - in processing circuitry that processes the stored digital audio information:
 - determining a first speaker from the plurality of participants and determining a second speaker from the plurality of participants;
 - determining a first plurality of turns comprising portions of the conversation when the first speaker is speaking;
 - determining a second plurality of turns comprising portions of the conversation when the second speaker is speaking;
 - determining per-turn statistics for turns of the first and second pluralities of turns; and
 - identifying phases of the conversation based on the per-turn statistics and generating phase information that includes a start time and an end time within the conversation for each one of the phases.

REJECTIONS

Claim 20 stands rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 4.

Claims 1–20 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 3–4.

Claims 11–13 and 15–20 stand rejected under 35 U.S.C. § 102(a)(1) as anticipated by Pereg (US 2011/0307257 A1; Dec. 15, 2011). Final Act. 7–9.

Claims 1–3, and 5–10 stand rejected under 35 U.S.C. § 103 as obvious in view of Pereg and Chen (US 2013/0121580 A1; May 16, 2013). Final Act. 5–7.

Claim 4 stands rejected under 35 U.S.C. § 103 as obvious in view of Pereg, Chen, and Costello (US 2010/0166158 A1; July 1, 2010). Final Act. 9–10.

Claim 14 stands rejected under 35 U.S.C. § 103 as obvious in view of Pereg and Costello. Final Act. 10.

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments that the Examiner erred. In reaching this decision, we have considered all evidence presented and all arguments Appellants made. Arguments Appellants could have made, but chose not to make in the Briefs, have not been considered and are deemed waived. *See id.*

THE § 101 REJECTIONS

NON-STATUTORY SUBJECT MATTER REJECTION

The Examiner concludes claim 20 is directed to non-statutory subject matter because it claims a “computer readable storage medium,” which may include both statutory (non-transitory) and non-statutory (transitory) subject matter. Final Act. 4; Ans. 6. Appellants do not address the Examiner’s rejection of claim 20 as directed to non-statutory subject matter and, accordingly, have not argued that the Specification supports a narrower

construction of the recited phrase to exclude transitory media. Accordingly, on this record, we summarily affirm the Examiner’s rejection of claim 20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

JUDICIALLY EXCEPTED SUBJECT MATTER REJECTION

The Examiner concludes claims 1–20 are directed to judicially excepted subject matter. Final Act. 3–4; Ans. 12–14. In particular, the Examiner finds the claims merely recite steps involved in identifying phases in a conversation and concludes, therefore, the claims are directed to an abstract idea. Final Act. 3. The Examiner also concludes the particular elements recited in the claims are merely generic software code performing generic, well-understood, and routine functions and activities known to the industry, without imposing sufficient meaningful limitations to transform the abstract idea into patent-eligible subject matter. *Id.* at 4; Ans. 13. The Examiner finds the claims are more similar to those found ineligible by the Federal Circuit, rather than the claims found eligible in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336–38 (Fed. Cir. 2016). Ans. 13–14 (citing *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2015); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014)).

Alice/Mayo Framework

The Patent Act defines patent-eligible subject matter broadly: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. There is no dispute that claims 1–19 are directed to one of these categories. Although we summarily affirm

the rejection of claim 20 as directed to non-statutory subject matter, because amending claim 20 to recite only “non-transitory” media may suffice to limit the scope of claim 20 to statutory subject matter and because claim 20 otherwise recites substantially the same subject matter as claims 1 and 11, we include claim 20 in the following analysis.

In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 70 (2012), and *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014), the Supreme Court explained that § 101 “contains an important implicit exception” for laws of nature, natural phenomena, and abstract ideas. See *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). In *Mayo* and *Alice*, the Court set forth a two-step analytical framework for evaluating patent-eligible subject matter: (1) “determine whether the claims at issue are directed to” a patent-ineligible concept, such as an abstract idea; and, if so, (2) “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements” add enough to transform the “nature of the claim” into “significantly more” than a patent-ineligible concept. *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 79); see *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016).

Step one in the *Mayo/Alice* framework involves looking at the “focus” of the claims at issue and their “character as a whole.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Step two involves the search for an “inventive concept.” *Alice*, 134 S. Ct. at 2355; *Elec. Power*, 830 F.3d at 1353. For an inventive concept, “more is required than ‘well-understood, routine, conventional activity already engaged in’”

by the relevant community. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 79–80).

Step One of Alice Framework

Turning to step one of the *Alice* framework, the Examiner finds the claims merely recite steps involved in identifying phases in a conversation and concludes, therefore, the claims are directed to an abstract idea. Final Act. 3. The Examiner finds Appellants’ claims are similar to the claims in *Intellectual Ventures* and *Digitech*, which were found to be directed to abstract ideas. Ans. 13–14 (citing *Intellectual Ventures*, 792 F.3d 1363; *Digitech*, 758 F.3d at 1344).

Appellants argue the claims recites a technological improvement because the claimed solution to identifying conversation phases requires less processing than conversation phase identification using speech recognition. App. Br. 7 (citing *Enfish*, 822 F.3d at 1335). Specifically, Appellants assert the claims are directed to “an improvement in the art of determining phases of a captured conversation.”

We agree with the Examiner that claim 1, as a whole, is directed to collecting information, recognizing or identifying other data within the received information, and organizing information through mathematical correlations. Ans. 13. The Federal Circuit has “treated *collecting information*, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.” *Elec. Power*, 830 F.3d at 1353–54 (emphasis added) (finding collecting, analyzing, and displaying information, regardless of particular content, is an abstract idea); *Content Extraction*, 776 F.3d at 1347 (finding collecting, recognizing, and storing information is an abstract idea); *Digitech*, 758 F.3d

at 1350 (“The method in the ’415 patent claims an abstract idea because it describes a process of organizing information through mathematical correlations and is not tied to a specific structure or machine.”); *see also Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348–49 (Fed. Cir. 2015); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015).

In *Enfish*, the Federal Circuit found the self-referential table recited in the claims was a *new* data structure; on the other hand, Appellants’ claims merely recite using known speaker recognition techniques and identifying phases based on statistics about the speakers’ turns in the conversation. Appellants’ claims are thus directed to automating a conversation phase identification process, which Appellants acknowledge is something that a person can do, just allegedly not as quickly (or for the same volume of conversations) as when using Appellants’ claimed invention. *See* Spec. ¶ 1.

For the above reasons, we are unpersuaded the Examiner erred in concluding the claims are directed to an abstract idea.

Step Two of Alice Framework

Next, we turn to step two of *Alice* to determine whether the limitations, when considered both “individually and ‘as an ordered combination’” contain an “inventive concept” sufficient to transform the claimed “abstract idea” into a patent-eligible application. *Alice*, 134 S. Ct. at 2355–58. The Examiner finds the claims merely recite generic software performing generic functions without imposing meaningful limits on the claimed subject matter. Final Act. 4; Ans. 13. Thus, the Examiner concludes the claims do not recite significantly more than the abstract idea

itself sufficient to transform the claim into a patent-eligible invention. Final Act. 4; Ans. 13.

Appellants argue only that the claims are not directed to an abstract idea and do not assert claims recite significantly more than the abstract idea itself. App. Br. 7–8; Reply Br. 2. Appellants’ claims merely recite accessing an audio recording, identifying speakers within the recording, determining speakers’ turns and statistics associated with those turns, identifying conversation phases, and generating start and stop times for each identified phase.

Appellants’ steps are nothing more than the routine use of a conventional computer. *See Enfish*, 822 F.3d at 1335–36 (“[T]he first step . . . asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.”); *see also Alice*, 134 S. Ct. at 2358–59. Here, the focus of the claims is not on an improvement in computers as tools or upon an innovative way to use computers or other devices, but is focused on an independently abstract idea that uses generic and routine steps as tools.

More specifically, Appellants’ claims utilize generic computing hardware to perform a human function—i.e., identifying phases of a conversation by analyzing the conversation. *See Spec.* ¶ 1 (“Such information may be easily obtainable for a conversation by a human listening to the conversation. However, the number of conversations handled by the call center makes human analysis of every conversation unachievable.”). Improving the speed at which a process can be done by automating that process does not render an ineligible subject matter eligible.

See OIP Techs., 788 F.3d at 1363 (“[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.”); *see also Intellectual Ventures*, 792 F.3d at 1370 (“[O]ur precedent is clear that merely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea.”).

The fact that the recited process and systems can more efficiently perform a human process does not improve a computer or technology, but rather improves the process itself. *See Gottschalk v. Benson*, 409 U.S. 63, 66 (1972) (explaining that the claimed steps could easily “be carried out in existing computers long in use, no new machinery being necessary.”). Accordingly, the claimed limitations, considered both individually and together, do not add significantly more to the abstract idea and, therefore, do not render the subject matter patent eligible.

Summary

For the above reasons, Appellants have not persuaded us the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 101 as being directed to merely an abstract idea, rendering the claimed subject matter ineligible.

THE §§ 102 AND 103 REJECTIONS

The Examiner finds Pereg discloses every limitation recited in claims 11–13 and 15–20. Final Act. 7–9 (citing Pereg ¶¶ 9–10, 28–31, 34, 83–86, 91–95, Figs. 1, 4, 6). The Examiner finds Pereg discloses every limitation recited in claims 1–3, and 5–10, except for the generating phase information recited in claim 1 and the additional limitations recited in claim 8, all of which the Examiner finds Chen teaches or suggests. *Id.* at 5–7. Finally, the

Examiner finds Costello teaches the additional limitations recited in claims 4 and 14. *Id.* at 9–10. Of particular note with respect to the independent claims, the Examiner finds Pereg’s identification of certain features of an interaction, or a segment thereof, disclose the recited steps of “determining per-turn statistics” and “identifying phases of the conversation based on the per-turn statistics.” *Id.* at 5. More specifically, the Examiner finds Pereg’s “average customer activity; average interaction; [and] average agent talk” disclose the recited per-turn statistics and Pereg’s “silence time, talk time, etc.” disclose the recited phases of a conversation. *Id.* (citing Pereg ¶¶ 9–10, 34, 83–86, 93).

Pereg discloses “obtaining business insights” using a “method and system [used in call centers] for indicating in real time that an interaction is associated with a problem or issue.” Pereg, ¶ 1, Abstract. Exemplary scenarios for which Pereg may be used to obtain business insight include fraud detection, “unsatisfied customers which do not immediately leave the organization but may do so when the opportunity presents itself, sales interactions in which some help from a supervisor can make the difference between success and failure, or similar cases.” *Id.* ¶¶ 4–5. Pereg refers to conversations between a representative of a business entity and “customers, users, suppliers or other persons” as “interactions.” *Id.* ¶ 2.

Pereg captures interactions and may break interactions into shorter segments of a certain length of time in order to provide real time indications. Pereg ¶ 32. Pereg captures interactions and extracts various information in real time while the interaction is occurring, including feature vectors “for every predetermined time frame” (i.e., for segments of the interaction). *Id.* ¶ 21. Pereg uses that information to classify the interaction or segment,

which essentially identifies whether or not there is a “problem” that the organization wants to identify. *Id.* ¶¶ 31–32, 43.

Among other arguments, Appellants contend Pereg does not disclose, teach, or suggest “identifying phases of the conversation based on the per-turn statistics,” as recited in the claims. App. Br. 8. Specifically, Appellants argue Pereg’s determined metrics are not phases of a conversation, and the Examiner provides no explanation regarding how Pereg’s silence time and talk time (i.e., Pereg’s metrics the Examiner finds disclose the recited conversation phases) are determined from Pereg’s customer activity, average interaction, and average agent talk (i.e., Pereg’s metrics the Examiner finds disclose the recited per-turn statistics). *Id.* Appellants assert an ordinarily skilled artisan would not consider Pereg’s metrics to be conversation phases. *Id.* (citing Chen ¶ 103). Rather, Appellants contend, Pereg’s metrics are simply numerical values which are not equivalent to phases, let alone phases of a conversation between two people. *Id.*

The Examiner responds by stating that Appellants’ Specification is open-ended, providing only exemplary phases, which include “identifying the customer and the agent” and “prompt.” Ans. 15 (citing Spec. ¶¶ 42, 57, 59, Fig. 5). The Examiner also finds, as an example, “phase 1 can correspond[] to customer speaking, then a[n] agent speaking, that’s a turn between customer and agent” and because “Pereg also mention[s] average customer speaking time and average agent speaking time, that’s based on per-turn since there is a turn between customer and agent, or they both are speaking at the same time.” Ans. 15–16.

Appellants’ Specification describes four exemplary phases of a conversation: greeting, identification, main, and closing. Spec. ¶¶ 57–58.

Similarly, Chen describes six exemplary phases of a conversation (two of which are identical and one that is synonymous): greeting, verification, question, back-end interaction, answering, and closing. Chen ¶ 103.

Appellants' Specification also describes that other phases "may include the various prompts and spoken responses in an interactive voice response (IVR) system before the customer and the agent are connected or after they are disconnected" but, contrary to the Examiner's implication, does not disclose that a "prompt" *is* a particular phase. Spec. ¶ 42. Even if the portion of an interaction prior to the customer and agent are connected, or some portion thereof, is identified as a "prompt" phase, that is consistent with Appellants' and Chen's other examples regarding distinct portions of a conversation (e.g., greeting, identification or authorization, main, closing). *See* Spec. ¶¶ 57–59.

Based on our review, Pereg does not contemplate identifying particular phases of the conversation because it is not dependent on identifying phases to perform its functions of identifying features of the interaction that may indicate a potential "problem." Pereg analyzes segments of interactions in order to provide real time indications, but the length of each segment is based on a determined amount of time, not on a particular speaker speaking or a phase of the call. Thus, we agree with Appellants that the Examiner has not demonstrated that Pereg discloses "identifying phases of the conversation," as recited in the claims because we see nothing in the Pereg's cited portions, or elsewhere, that is equivalent to a phase of a conversation, as would have been understood by a person of ordinary skill in the art.

Moreover, even assuming Pereg's statistics the Examiner cites disclose the recited per-turn statistics, the Examiner's explanation does not address Appellants' contention that the statistics the Examiner maps to the conversation phases (i.e., silence time and talk time, Final Act. 5, or average customer speaking time and average agent speaking time, Ans. 15–16) are *based on* per-turn statistics, as recited in the claims. In addition to lacking clarity regarding the particular aspects in Pereg allegedly disclose a “phase of the conversation,” the Examiner's explanation that “there is a turn between a customer and an agent, or they are both speaking at the same time” fails to clearly identify on which statistic(s) the Examiner finds a determination of any conversation phase is *based*. See Ans. 15–16.

For the reasons discussed above, we are persuaded the Examiner erred in rejecting claims independent claims 11 and 20, which recite “identify[ing] phases of the conversation based on per-turn statistics,” and claims 12, 13, and 15–19, which depend from claim 11, as anticipated by Pereg. Accordingly, we do not sustain the Examiner's rejection of claims 11–13 and 15–20 under 35 U.S.C. § 102(a)(1). The Examiner relies on the same portions of Pereg for disclosing the commensurate limitation in independent claim 1. Therefore, for similar reasons, we also do not sustain the Examiner's rejection of independent claim 1, claims 2–9, which depend therefrom, and claim 14, which depends from claim 11, as obvious in view of Pereg and Chen, or Pereg, Chen, and Costello.

DECISION

We affirm the Examiner's decision to rejection claim 20 as directed to non-statutory subject matter under 35 U.S.C. § 101.

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We affirm the Examiner's decision to rejection claims 1–20 as directed to ineligible subject matter under 35 U.S.C. § 101.

We reverse the Examiner's decision to reject claims 1–20 under 35 U.S.C. §§ 102(a)(1) and 103.

Because we affirm at least one ground of rejection with respect to each claim on appeal, the Examiner's decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

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)(iv).

AFFIRMED