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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN D. LOWRANCE and THOMAS A. BOYCE

Appeal 2014-009006[1]
Application 11/672,930[2]
Technology Center 3600

Before MURRIEL E. CRAWFORD, JAMES A. WORTH, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

WORTH, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 4, 6, 7, 15, 17, 18, and 23–36. We have jurisdiction under 35 U.S.C. §§ 134 and 6(b).

We AFFIRM-IN-PART and enter a NEW GROUND OF REJECTION.

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[1] Our decision refers to the Appellants' Appeal Brief ("Appeal Br.," filed May 12, 2014) and Reply Brief ("Reply Br.," filed Aug. 20, 2014), and the Examiner's Final Office Action ("Final Act.," mailed Nov. 14, 2013) and Answer ("Ans.," mailed June 20, 2014).

[2] According to Appellants, the real party in interest is SRI International (Appeal Br. 3).

Introduction

Appellants' application relates to "intelligence and business processes involving iterative collaborative synthesis and analysis activities." (Spec. ¶ 3).

Claims 4, 15, and 23 are the independent claims on appeal. Claim 4, reproduced below, is representative of the subject matter on appeal:

> 4. A computer-implemented method for synthesizing and analyzing user input in a collaborative work session, the method comprising:
>
> monitoring a plurality of inputs submitted by a group of users in the collaborative work session, wherein at least some of the plurality of inputs include natural language content;
>
> algorithmically analyzing the natural language content in real time in order to parse a plurality of ideas from the plurality of inputs;
>
> algorithmically identifying similarities among the plurality of ideas;
>
> clustering the plurality of ideas into a set of clusters based on the similarities; and
>
> presenting the clusters to the group of users during the collaborative work session,
>
> wherein the algorithmically analyzing, the algorithmically identifying, and the clustering are each performed at least in part using a processor.

(Appeal Br., Claims App.)

Rejections on Appeal

The Examiner maintains, and Appellants appeal, the following rejections:

1. Claims 4, 15, 23, 25, 31, 34–36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smiga (US 2002/0019825 A1, pub. Feb. 14, 2002) and Gruen (US 2002/0188681 A1, pub. Dec. 12, 2002).
2. Claims 6, 7, 17, 18, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smiga, Gruen, and Mizrahi (US 2003/0227479 A1, pub. Dec. 11, 2003).
3. Claims 26, 27, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smiga, Gruen, and Razin (US 6,098,034, iss. Aug. 1, 2000).
4. Claims 28, 29, 32, and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smiga, Gruen, and Appelt (US 2003/0078766 A1, pub. Apr. 24, 2003).

ANALYSIS

Independent claims 4, 15, and 23

Appellants do not contest the Examiner's rejections under § 103 of independent claims 4, 15, and 23. Therefore, any arguments with respect thereto are considered waived. 35 U.S.C. § 41.37(c)(1)(iv). We, therefore, sustain the Examiner's rejections under § 103 of independent claims 4, 15, and 23.

Dependent claim 29

We are unpersuaded by Appellants' argument that Appelt fails to disclose identifying similarities between a current and previous collaborative work sessions, as recited in claim 29, i.e., "wherein the pattern recognition

techniques identify similarities between a current collaborative work session and a previous, stored collaborative work session" (Appeal Br. 9). Appellants assert that Appelt discloses a system with traditional speech recognition which converts audio into text but does not identify similarities among ideas (*id.* at 9–10).

With respect to identifying similarities among a plurality ideas, as argued by Appellants, such a recitation is found in independent claim 4, from which claim 29 ultimately depends. The Examiner relies on the disclosure in Smiga (¶ 34) of a system for parsing pre-determined keywords (action, memo, personal keynote, shared keynote, action request) from text inputs, and classifying text inputs according to the keywords (*see* Final Act. 6). We agree with the Examiner inasmuch as the disclosed keywords are within the broadest reasonable interpretation of "ideas."

The Examiner further relies on the disclosure in Gruen (¶ 25) of on-line and off-line processing of text inputs based on similarities (Final Act. 7–8). Gruen further describes that, for on-line processing, current inputs are compared with a running database of previous inputs (Gruen ¶¶ 42–47). Examples of input dialogues are provided in Appendix A of Gruen, and Appendices B and C of Gruen demonstrate how inputs are classified into topics. We agree with the Examiner that it would have been obvious to a person of ordinary skill in the art to combine the teachings of Smiga and Gruen in order to be informed of topics, as suggested by Gruen (¶¶ 3–8) (*see* Final Act. 8).

With respect to comparing current collaborative sessions with previous stored sessions, the Examiner relies, *inter alia*, on the pattern recognition techniques of Appelt (¶¶ 90, 91) (Final Act. 16). We agree with

the Examiner that Appelt discloses recognition of speech based on patterns. Further, the on-line processing mode of Gruen, discussed immediately above with respect to independent claim 4 (from which claim 29 depends), amply meets the limitation "identifying similarities between a current and previous collaborative work sessions," as recited in dependent claim 29. Further, we agree with the Examiner that it would have been obvious to combine the teachings of Smiga and Gruen with speech pattern recognition of Appelt in order to increase the efficiency of indexing and identifying words, as suggested by Appelt (¶¶ 4–8) (*see* Final Act. 17).

For these reasons, we sustain the Examiner's rejection of dependent claim 29.

Dependent claim 32

We are unpersuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose assessing a thematic closeness of a subset of ideas, as recited in claim 32, i.e., "assessing a thematic closeness of a subset of the plurality of ideas" (Appeal Br. 10–11). Appellants assert that Appelt discloses a non-algorithmic, ad hoc method but does not disclose an algorithmic method (*id.*). However, as above, the Examiner relies instead on Gruen (¶ 25) for identifying similarities, in combination with the speech pattern recognition techniques of Appelt (¶¶ 90–91) (*see* Final Act. 15–17). Therefore, we sustain the Examiner's rejection of dependent claim 32, for similar reasons as for dependent claim 29.

Dependent claim 33

We are unpersuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose clustering of user-generated ideas with

assistance from a group of users, as recited in claim 33, i.e., "wherein the clustering is performed in part with assistance from the group of users." (Appeal Br. 12). Appellants assert that Appelt at best discloses a human analyst during the setup phase of the querying system but not during runtime (*id.*). However, the Examiner relies instead on Gruen (¶ 19) for the disclosure of presenting topics to chat participants to allow chat participants to participate in a chat on a topic, with respect to independent claim 4, from which claim 33 depends (*see* Final Act. 8). We find that this disclosure falls within the meaning of "clustering" ideas "with assistance from the group of users," as recited in dependent claim 33. We, therefore, sustain the Examiner's rejection of dependent claim 33.

Dependent claim 26

We are unpersuaded by Appellants' argument that the prior art relied on by the Examiner fails to using natural language processing techniques, as recited in claim 26, i.e., "wherein the algorithmically analyzing is performed using natural language processing techniques." (Appeal Br. 13). Appellants do not present this argument with any specificity (*id.*). The Specification (¶ 51) uses the term "Natural Language Processing" to refer, in one embodiment, to a technique that forms a tree of words mapped to a lexical database. The Examiner relies on Razin (col. 7, l. 30 – col. 8, l. 31) for natural language processing (*see* Final Act. 14). This portion of Razin discloses analyzing speech inputs based on lexical attributes, phrases, and sequence to create hierarchies for categorization, and also creating a "suffix tree." We find that Razin's method is a form of "natural language processing" within the meaning of the Specification. Further, Razin explicitly discloses representations with canonical forms. Thus, we find that

Razin meets the limitation "wherein the natural language processing techniques include generating canonical representations of the plurality of ideas," as recited in claim 26. We, therefore, sustain the Examiner's rejection of dependent claim 26.

Dependent claim 27

We are unpersuaded by Appellants' argument that the prior art relied on by the Examiner fails to use trees of words mapped to a lexical system, as recited in claim 27, i.e., "wherein canonical representations comprise trees of words mapped to a lexical system" (Appeal Br. 13–14). Appellants assert that Razin recognizes words or phrases in a document but does not explicitly disclose that the tree is mapped to a lexical system (*id.*). As with claim 26, the Examiner relies on Razin (col. 7, l. 30 – col. 8, l. 31) (*see* Final Act. 14). Razin discloses both "lexical attributes," whereby Razin recognizes that words may have independent meanings (col. 7, ll. 34–35), and "semantic attributes," whereby Razin categorizes a sequence of words according to its meaning, e.g., the name of a company (col. 7, ll. 54–57). Figure 11 of Razin demonstrates an example of a tree representing a textual input. We find that Razin discloses that the tree of words is mapped to a lexical system based on the independent meaning of words and phrases. We, therefore, sustain the Examiner's rejection of dependent claim 27.

Dependent claim 30

We are persuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose that similarities are quantified using a graph edit distance, as recited in claim 30 (Appeal Br. 15–16). Appellants argue, *inter alia*, that the Examiner's rejection of claim 30 is not based on

Appelt, which is included in the basis for the Examiner's rejection of claim 29, from which claim 30 depends. Appellants are correct that the rejection of claim 30 is an inverted rejection because it is based on fewer than all references relied on for claim 29, from which claim 30 depends. As such, the Examiner's rejection of claim 30 fails to set forth a prima facie case, and we reverse *pro forma* the Examiner's rejection of dependent claim 30. However, we set forth a new ground of rejection below, with respect to dependent claim 30, addressing this issue.

Dependent claim 25

We are unpersuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose natural language processing techniques, as recited in claim 25, i.e., "wherein the algorithmically analyzing is performed using natural language processing techniques" (Appeal Br. 16–18). This clause refers to independent claim 4, which recites in pertinent part, "algorithmically analyzing the natural language content in real time in order to parse a plurality of ideas from the plurality of inputs." Appellants assert that Smiga parses pre-defined words or phrases rather than ideas (*id.* at 17). Appellants assert that natural language processing is a term of art that involves syntactic or semantic analysis so that the intent of an input can be understood based on content (*id.*). However, as above, the Examiner also relies on Gruen (with respect to independent claim 4), which groups chat dialogue by topic (*see* Discussion of Claim 29, *supra*). We, therefore, sustain the Examiner's rejection of claim 25.

Dependent claim 31

We are persuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose filtering duplicative ideas, as recited in dependent claim 31, i.e., "filtering those of the plurality of ideas that are duplicative" (Appeal Br. 18–19). Appellants argue that Smiga's keyword system avoids creating duplicative objects in the first instance rather than filtering duplicative requests (*id.* at 19). The Examiner finds that Smiga also teaches a system for database management (¶ 233) for filtering duplicative entries (Ans. 7; Final Act. 9). However, we agree with the Appellants that this portion of Smiga avoids creating duplicative entries rather than filtering them. Therefore, we do not sustain the Examiner's rejection of claim 31.

Dependent claim 34

We are persuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose receiving initial clusters comprising user-generated clusters of user inputs, as recited in claim 34, i.e., "receiving initial clusters of the plurality of inputs from the group of users" (Appeal Br. 19–21). Appellants argue, *inter alia*, that Gruen's initial clusters are system-generated rather than user generated (Appeal Br. 20). The Examiner relies on the disclosure in Gruen (¶ 18) of receiving chat data from users (Final Act. 10; Ans. 7). However, as discussed above in regard to claim 33, the Examiner appears to rely on Gruen's presentation of topics to users for the "clusters," in which users may then choose to participate after receiving the topics from the system. Accordingly, we agree with Appellants that, on the basis of the Examiner's own reasoning, the "clusters" in Gruen are system-generated rather than user-generated. Thus, we do not sustain the Examiner's rejection of dependent claim 34.

Dependent claim 36

We are persuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose automatically formulating a question, as recited in claim 36, i.e., "automatically formulating a question that is relevant to the natural language content" (Appeal Br. 21–22). Appellants assert that the input text in Smiga, relied on by the Examiner, is formulated by a user rather than formulated automatically (*id.* at 21). The Examiner relies on the disclosure in Smiga (¶ 218) of a user adding the word "please" to initiate an action request (Final Act. 11–12), and on alternative user collaboration tools (Smiga ¶ 216) (Ans. 7). We agree with Appellants that the portions of Smiga relied on by the Examiner illustrate user-input of text rather than automatic computer generated text. Therefore, we do not sustain the Examiner's rejection of dependent claim 36.

Dependent claims 6 and 7

We are persuaded by Appellants' argument that the prior art relied on by the Examiner fails to disclose a synthetic participant, as recited in dependent claim 6, i.e., "wherein at least one user of the group of users is a synthetic participant that is independent from a moderator" (Appeal Br. 22–24). Appellants assert that the participant and the moderator in Mizrahi may be the same entity but Mizrahi does not explicitly disclose that a non-moderator participant may be a computer (*id.* at 23). The Examiner finds that Mizrahi discloses the use of a software unit as a "synthetic participant" (¶¶ 57, 61) (Ans. 8). Indeed, Mizrahi (¶ 61) describes automated means of injecting prepared questions. We find that such automated participation is within the meaning of a "synthetic participant" but we agree with Appellants

that the Examiner has not demonstrated that the "synthetic participant" of Mizrahi is "independent from the moderator," as recited. Therefore, we do not sustain the Examiner's rejection of dependent claim 6, and of claim 7 which depends therefrom.

Dependent claims 17 and 18

Dependent claim 17 contains similar language and requirements as dependent claim 6. For similar reasons as for claim 6, we do not sustain the Examiner's rejection of claim 17, and of claim 18 which depends therefrom.

Dependent claims 24 and 28

The Appeal Brief does not contest the Examiner's rejections under § 103(a) of dependent claims 24 and 28. As such, any arguments with respect thereto are waived. 35 C.F.R. § 41.37. We, therefore, sustain the Examiner's rejections under § 103(a) of dependent claims 24 and 28.

NEW GROUND OF REJECTION

Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Smiga and Gruen as applied to claim 4, further in view of Razin. As noted by Appellants (Appeal Br. 15), claim 30 depends from claim 29, which stands rejected as being unpatentable over Smiga, Gruen, and Appelt. Nevertheless, we understand the Examiner's erroneous phrasing to have been inadvertent, and we understand the Examiner have intended to reject claim 30 as being unpatentable over Smiga, Gruen, and Appelt, as applied to claim 29, further in view of Razin. In this regard, the Examiner's reasoning in the Final Office Action for the combination with Razin remains applicable to the combination of Smiga, Gruen, Appelt, and Razin, i.e.: "It

would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Smiga and Gruen with Razin because using canonical representations in the natural language processing technique would save time for users by having avoiding confusion of the meaning of phrasings" (Final Act. 15 citing Razin, col.1, ll. 5–53). In sum, we conclude that it would have been obvious to further modify the combination of the teachings of Smiga, Gruen, and Appelt with the canonical representations of Razin in order to save time, as suggested by Razin.

Appellants also argue that Razin fails to disclose "[wherein] the similarities are quantified using a graph edit distance," because, according to Appellants, Razin discloses a weighted edit distance and does not use a graph to store data (Appeal Br. 15–16). However, Razin states, "The calculation of minimal edit distance is best demonstrated through the use of an example . . . . The Edit Distance Filter will determine whether the similarity between the two phrases is sufficient for the candidate phrase to be designated an Approximate Phrase." (Razin, col. 27, ll. 41–44). Thus, Razin's edit distance is disclosed as analyzing "similarit[ies]," as recited in dependent claim 30. Razin proceeds to disclose that "[t]he calculation can be expressed in the form of the array:" followed by Table 1 of Razin, titled "Edit Distance Calculation Array." (Razin, col. 27, ll. 54–65). We find that the array distance of Razin is within the meaning of the recited "graph edit distance." We, therefore, conclude that the combination of Smiga, Gruen, Appelt, and Razin render obvious the subject matter of claim 30. Accordingly, we enter a new ground of rejection under 35 U.S.C. § 103(a) of claim 30 as being unpatentable over Smiga, Gruen, Appelt, and Razin.

DECISION

The Examiner's decision to reject claims 4, 15, 23–29, 32, 33, and 35 is affirmed.

The Examiner's decision to reject claims 6, 7, 17, 18, 30, 31, 34, and 36 is reversed.

Claim 30 is newly rejected.

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).

NEW GROUND

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION:

> must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:
>
> (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. . . .
>
> (2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. . . .

Should Appellants elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek

review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If Appellants elect prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Patent Trial and Appeal Board for final action on the affirmed rejection, including any timely request for rehearing thereof.

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)