

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EGBERT AMMICHT,
J. ERIC FOSLER-LUSSIER,
AND ALEXANDROS POTAMIANOS

Appeal 2007-1066
Application 10/170,510
Technology Center 2600

Decided: July 30, 2007

Before KENNETH W. HAIRSTON, HOWARD B. BLANKENSHIP,
and JAY P. LUCAS, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 1-20, the only claims pending in this application. We have jurisdiction under 35 U.S.C. §§ 6(b), 134(a).

INTRODUCTION

The claims are directed to a system and method for resolving ambiguity in natural language text and spoken dialogue. Claim 1 is illustrative:

1. A system for representing and resolving ambiguity in natural language text, comprising:

a context tracker that places said natural language text in context to yield candidate attribute-value (AV) pairs, whereby said context is expressed as a path of a parameterizable data structure; and

a candidate scorer, associated with said context tracker, that adjusts a confidence associated with each candidate AV pair based on system intent.

The Examiner relies on the following prior art references to show unpatentability:

Su	US 5,418,717	May 23, 1995
Reed	US 6,278,987 B1	Aug. 21, 2001

Alexandros Potamianos et al. (Potamianos), “*Dialogue Management In The Bell Labs Communicator System*,” Proc. of the Internat. Conf. Speech Language Processing, Beijing, China, October 2000.

The rejection as presented by the Examiner is as follows:

1. Claims 1-20 are rejected under 35 U.S.C § 103(a) as unpatentable over Su, Reed, and Potamianos.

OPINION

The Examiner applies the teachings of Su against representative claim

1. The Examiner finds, however, that Su does not expressly disclose that the

candidate scorer “adjusts a confidence” as set forth in the claim. The rejection submits that the feature was well known in the art, as evidenced by Reed at column 50, lines 22 through 27. (Answer 5.) That section of Reed describes a pseudo-deduction module (PDM) 58 (Fig. 21), which includes a response selection submodule 212 to determine whether there is sufficient confidence that the highest scoring response category is the “best” response category from among the possible response categories.

Appellants argue that selection submodule 212 does not adjust the confidence. According to Appellants, Reed provides no teaching that the confidence is adjusted but simply outputs an indication that a reliable answer could not be determined if the highest score is not sufficient. (Br. 9.) The Examiner, in turn, finds that Reed at column 50, lines 22 through 27 suggests that a confidence can be measured by, or based on, the associated higher or highest score. The combination of Su and Reed would thus have suggested providing a confidence measured by, or based on, a score mechanism, so that a score adjustment would be associated with the adjustment of the confidence (i.e, a confidence score). (Answer 10-11.) Appellants respond, in turn, that Su teaches adjustment of parameters for a scoring mechanism, rather than an adjustment of a score. The combination of Su and Reed thus may teach adjusting parameters for determining a confidence, but does not teach adjusting the confidence itself. (Reply Br. 2.)

The Examiner relies also, however, on Potamianos for a teaching of adjusting a confidence. (Answer 6-7.) Appellants respond that Potamianos does not teach adjusting a confidence based on system intent. According to Appellants, Potamianos teaches using the confidence score to obtain a single

attribute score that is used to order attributes, but Appellants “do not find” where the reference teaches or suggests that the confidence score is adjusted. (Reply Br. 3.)

Potamianos teaches context tracking in which confidence scores may be assigned to ambiguous branches. Potamianos § 3.3. Specifically, an e-form score is attached to each attribute in an application tree that is dynamically updated at each dialogue turn. The e-form score includes the confidence that an attribute has been given an unambiguous value; more specifically, it includes a confidence score for each attribute-value pair. The e-form score is used by the dialogue manager to rank order the attributes of the e-form and decide which attribute, if any, should be in focus for the next dialogue turn. The dialogue manager selects the appropriate dialogue act based on the value(s) and on the confidence(s) associated with those values. The dialogue act may include prompting, re-prompting, or “implicit confirmation” for an AV with mid to high confidence. Potamianos § 4.1

Even assuming instant claim 1 might distinguish over adjusting parameters for determining a confidence (as Appellants acknowledge to be taught by Su and Reed), we are not persuaded that Potamianos fails to teach adjusting a confidence based on system intent. Potamianos, in fact, teaches a candidate scorer, associated with a context tracker, that adjusts a confidence associated with each candidate AV pair. The confidence is dynamically updated at each dialogue turn. The confidence is adjusted “based on system intent” because the adjustment is based on implicit confirmation. The confidence is also adjusted “based on system intent” because the adjustment is based on user input. (*See* Specification, ¶ 8.)

Further, in view of Patamianos' disclosure of context tracking using AV pairs assembled and stored in tree data structures (§ 2.1), the use of prototype trees and application trees (§§ 3 - 3.1), and adjustment of a confidence associated with each candidate AV pair based on system intent (§ 4.1), it is not clear how the reference might fail to anticipate the broad terms of instant claim 1.¹ Appellants' Specification (¶ 23) cites the reference, but is not helpful in providing information as to how the claims might be thought to distinguish over the reference. The Specification, in fact, at paragraph 23 appears to acknowledge the reference as describing an embodiment of the presently claimed system, although the system as claimed is not limited to a travel domain. On this record, it appears that two instant co-inventors are co-authors of the § 102(b) reference. The instant inventors should be in the best position to express how the claims might be thought to distinguish over the system as described in the publication. Even if Appellants "do not find" where the reference teaches or suggests that the confidence score is adjusted (Reply Br. 3), we do. The score, which encodes the confidence that an attribute has been given an unambiguous value and is at least "associated with" each candidate AV pair, is dynamically updated at each dialogue turn. Potamianos § 4.1, 1st ¶. Moreover, confidence scores for each attribute-value pair are also adjusted at each dialogue turn. *Id.* § 4.1, 3rd ¶.

In any event, we are not persuaded that Patamianos fails to teach adjusting a confidence based on system intent. To the extent that the

¹ Potamianos reports at paragraph 5 that in the preliminary system no confidence scores were implemented, which does not negate what the reference teaches as a publication under § 102(b).

reference may anticipate claim 1, we note that the claim would also be obvious under 35 U.S.C. § 103. A claim that is anticipated by a reference is also obvious under 35 U.S.C. § 103, since “anticipation is the epitome of obviousness.” *See, e.g., Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983); *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); *In re Pearson*, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974).

We are therefore not persuaded of error in the rejection of instant claim 1. We sustain the rejection of claim 1, and of claims 8 and 15 grouped with the claim.

The remainder of Appellants’ remarks, apart from repeating language from the claims, rely on the limitations of claim 1 that we have considered. Although claims are placed in separate headings, the remarks under the headings are not arguments for separately patentability of the respective claims. *See* 37 C.F.R. § 41.37(c)(1)(vii). Even if assumed to constitute arguments for separate patentability, the remarks fail to show error in the Examiner’s rejection.

Appellants submit, however, that page 14 of the Brief provides separate arguments for representative, dependent claim 7. (Reply Br. 4.) However, even were we to assume that, as alleged, Su does not teach a machine or module that allows a user to provide “explicit” error correction, Potamianos does (e.g., § 4.1, “*explicit confirmation*” of a value, thus discarding erroneous values). We therefore disagree with Appellants (Br. 14) that the cited combination of Su, Reed, and Potamianos does not

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establish (at the least) a prima facie case of obviousness for the subject matter of instant claim 7.

We thus sustain the rejection of all the claims.

CONCLUSION

In summary, the rejection of claims 1-20 under 35 U.S.C § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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