

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUYUKI KANAI

Appeal No. 2002-2066
Application No. 09/288,504

HEARD: APRIL 2, 2003

Before RUGGIERO, BARRY, and LEVY, Administrative Patent Judges.
RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-26, which are all of the claims pending in the present application.

The claimed invention relates to a decision making system and method which utilizes a decision tree including branches that represent actions to be selected in deciding medical treatment

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plans or test plans for a patient. Expectations of the actions to be selected are calculated in accordance with occurrence probabilities for corresponding events which may occur as a result of the selected actions and in accordance with utility values which reflect the subjective worth the patient attributes to the corresponding events that may occur.

Claim 9 is illustrative of the invention and reads as follows:

9. A support system for use in making decisions on medical treatment or test plans, comprising:

a decision tree data storing section storing a decision tree, said decision tree having branches that represent available actions to be selected in deciding on a medical treatment or test plan for a patient and events that may occur upon selecting an available action; and

a calculating section calculating expectation values for each available action of said decision tree based on occurrence probabilities for events that may occur upon selecting the corresponding available action and utility values associated with the events that may occur, such utility values reflecting the subjective worth the patient attributes to the corresponding events that may occur,

wherein the occurrence probabilities for events that may occur upon selecting available action are based on patient attribute information.

The Examiner relies on the following prior art:

Dormond et al. (Dormond)	4,839,822	Jun. 13, 1989
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Jacob W. Ulvila et al. (Ulvila), "Decision Analysis Comes of Age," Harvard Business Review, pp. 1-10 (Sep/Oct 1982).

Claims 1-26, all of the appealed claims, stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Ulvila in view of Dormond.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Briefs¹ and Answer for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellant's arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the

¹ The Appeal Brief was filed December 28, 2001 (Paper No. 11). In response to the Examiner's Answer dated March 11, 2002 (Paper No. 12), a Reply Brief was filed May 9, 2002 (Paper No. 13), which was acknowledged and entered by the Examiner as indicated in the communication dated May 16, 2002 (Paper No. 14).

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particular art would not have suggested to one of ordinary skill in the art the invention as set forth in claims 1-26.

Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part

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of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to each of the appealed independent claims 1, 9, and 18, the Examiner, as the basis for the obviousness rejection, proposes to modify the decision tree analysis system disclosed by Ulvila. According to the Examiner (Answer, page 3), Ulvila discloses the claimed invention except for the use of the described decision tree support system "... for medical treatment plans or test plans." To address this deficiency, the Examiner turns to Dormond which, in the Examiner's view (id.), discloses a "... a support system for making decisions on medical treatment plans based in part on attribute information of the person to be inspected (see column 16, lines 58-61 and figure 20)." In the Examiner's analysis (id.), the skilled artisan would have been motivated and found it obvious to combine Ulvila with Dormond "... for the purpose of using decision tree analysis in the medical field"

Appellant's arguments (Brief, pages 13-15; Reply Brief, pages 3 and 4) in response to the obviousness rejection assert that a prima facie case of obviousness has not been established since there is no suggestion or motivation in the disclosures of

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the Ulvila and Dormond references for the Examiner's proposed combination. In addition, Appellant contends (Brief, pages 8-12; Reply Brief, pages 2 and 3) that even assuming, arguendo, that Ulvila and Dormond could be combined, the resulting combination would not provide all of the elements of appealed independent claims 1, 9, and 18.

Upon careful review of the applied prior art in light of the arguments of record, we are in general agreement with Appellant's stated position in the Briefs. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F. 2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

Initially, we find puzzling the Examiner's proposed rationale for combining Ulvila with Dormond, i.e., to provide a decision tree in the medical field, since Dormond's medical treatment support system already has a decision tree (Figure 20) in place. Further, while the Examiner correctly points out (Answer, page 11) that Ulvila, at page 9, lines 19-21 and 33-41, suggests the application of the disclosed decision tree analysis techniques to fields other than that explicitly described, it is noteworthy that none of the mentioned application fields involve

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medical treatment plans. In our view, while evidence may indeed exist that would convince us of the obviousness to the skilled artisan of applying Ulvila's particular disclosed decision tree analysis technique to medical treatment decision making, no such evidence is forthcoming from the Examiner in this case.

We also agree with Appellant that the decision making systems disclosed by Ulvila and Dormond would not, even if combined, teach all of the elements of the appealed independent claims. A review of the language of independent claims 1, 9, and 18 reveals that they require, inter alia, a decision tree with branches representing actions to be selected and events which may occur as a result of the selected actions. A further requirement is the calculation of expectations of the selected actions in accordance with occurrence probabilities for the events and utility values which either "... reflect intentions of the person to be inspected on the events" (claim 1) or reflect "... the subjective worth the patient attributes to the corresponding events that may occur" (claims 9 and 18).

Our review of Ulvila reveals a generalized discussion of a "personalized" decision tree analysis technique. We find, however, no disclosure of any calculated expectations of actions to be selected based on event occurrence probability and utility

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values influenced by subjective input from a patient or a person to be inspected as claimed.

We find a similar deficiency in the disclosure of Dormond. While inquiries are made to a patient, which in at least some instances require a subjective response from a patient (Figures 11 and 12), the answers to these inquiries are not part of the decision tree evaluation but, rather, are input to Dormond's expert system which results in suggested treatment choices for a particular patient (Figure 16). A decision tree (Figure 20) is subsequently developed which displays the likelihood of success of each of the suggested treatment choices. While entries farther down in the tree may be considered "events" occurring as a result of choices made at higher branches in the tree, the values associated with these lower branches are not based on an inspected person's intentions or a subjective worth that a patient attributes to the events. Rather, the branch values are based on certainty or success factors and weighted values related to the hierarchical position of a particular branch in the tree.

In view of the above discussion, it is our view that, since all of the limitations of the appealed claims are not taught or suggested by the applied prior art Ulvila and Dormond references, the Examiner has not established a prima facie case of

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obviousness. Accordingly, the 35 U.S.C. § 103(a) rejection of independent claims 1, 9, and 18, as well as claims 2-8, 10-17, and 19-26, is not sustained.

In conclusion, we have not sustained the Examiner's 35 U.S.C. § 103(a) rejection of any of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-26 is reversed.

REVERSED

JOSEPH F. RUGGIERO)
Administrative Patent Judge))
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LANCE LEONARD BARRY) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
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