

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VENUGOPAL P. REDDY and
HARMINDAR S. MATHARU

Appeal No. 2002-2318
Application 09/652,520

ON BRIEF

Before KRASS, JERRY SMITH, and BLANKENSHIP, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-18 which constitute all the claims in the application.

The disclosed invention pertains to optimizing data storage and retrieval in multidimensional database systems with data organized in hierarchical levels. In particular, the invention determines which intersections are precomputed and whether certain data is prestored at an intersection. To this end, a predetermined threshold level is set for a selected level of the database. If a member of the selected

level has more descendants than the threshold value, a data measure is aggregated for all descendants of the member and stored with the member.

Representative claim 1 is reproduced as follows:

1. In a multidimensional database in which data is provided in hierarchical levels, a method comprising the steps of:

setting a threshold value for a selected level of the multidimensional database;

for each member of the selected level that has more descendants than the level threshold value, aggregating a data measure for all descendants of the member, and storing the aggregated value with the member.

The examiner relies on the following references:

Pirolli et al. (Pirolli)	5,835,905	Nov. 10, 1998
Pouschine et al. (Pouschine)	5,918,232	Jun. 29, 1999

Claims 1-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Pouschine in view of Pirolli.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

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

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taken into consideration, in reaching our decision, the appellants' 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 does not support the examiner's rejection. 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. 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 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). If that burden is met, the burden shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived by appellants [see 37 CFR § 1.192(a)].

With respect to the independent claims, the examiner notes that Pouschine discloses aggregating a data measure for descendants of a member of a selected member in a multidimensional database, and storing the aggregate value with the member [final rejection, pages 4 and 5]. However, the examiner admits that Pouschine does not teach or suggest performing the aggregating and storing steps for each member of the selected level having more descendants than a predetermined threshold value [id.]. The examiner then

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relies on Pirolli to show that "it is well known in the art to use a threshold value in decision making." Based on Pirolli's teaching, the examiner concludes it would have been obvious to utilize a descendant threshold value as a predetermined reference in Pouschine to limit the pre-computation of data cells [final rejection, page 5; answer, page 4].

Appellants first contend that Pirolli is non-analogous art [brief, page 4]. According to appellants, because Pirolli's threshold value is used to predict relevant documents in a web-based application, it has nothing to do with a multidimensional database or the selective aggregation of members in a multidimensional data set [id.; reply brief, page 2]. In response, the examiner argues Pirolli is analogous because it teaches querying a database to enable a user to traverse a collection of linked documents [answer, page 3].

Appellants also argue that even if Pirolli is analogous art, the examiner's combination of Pouschine and Pirolli does not teach the limitations of claim 1 [brief, page 5]. Appellants note that Pirolli's "activation threshold" is used for determining the most visited web pages as part of a web-page prediction process and does not teach or suggest determining the number of descendants of a member in a multidimensional database to determine whether an aggregated data measure should be determined and stored [id.].

The examiner contends that because Pouschine teaches that not all data cells need to be pre-computed, combining Pirolli with Pouschine to include a descendant threshold value as a reference would "limit the pre-computation of data cells in Pouschine" [answer, page 4].

Lastly, Appellants argue that there is no motivation or suggestion to combine Pirolli with Pouschine [brief, pages 5 and 6]. Appellants contend that neither the prior art nor the knowledge generally available to the skilled artisan teaches or suggests combining the references. Moreover, appellants assert that the examiner's stated motivation to combine the references in order to save storage and processing resources is speculative [id.].

In response, the examiner notes that because Pouschine teaches that not all data cells require pre-calculation, the skilled artisan "would certainly look into a well known technique of setting a threshold as taught by Pirolli when investigating techniques for deciding what to pre-calculate" [answer, page 5].

We will not sustain the examiner's rejections for essentially the same reasons argued by appellants in the briefs. We agree with appellants that Pirolli is non-analogous art because it is directed to a web page analysis and prediction system - not a multidimensional database involving selective aggregation of descendant members. Although Pirolli's system is not limited to web pages or

documents and can include other linked entities [Pirolli, col. 3, lines 31-35], Pirolli simply has nothing to do with selective aggregation of particular members of multidimensional data in a database to improve run time response. Instead, Pirolli deals with the analysis and design of linked document collections and predicting documents relevant to a given document [Pirolli, col. 1, lines 15-20]. Therefore, Pirolli is in a separate field of endeavor and its teachings are not reasonably pertinent to the problem appellants are trying to solve - namely whether and when to aggregate and store data measures in a multidimensional database to optimize data storage and retrieval.

We further conclude that, on the record before us, there is absolutely no reason why one of ordinary skill in the art would be motivated to include a threshold value as a basis for comparing the number of descendants of a selected level in Pouschine, let alone suggest including Pirolli's "activation threshold," or any threshold, in Pouschine. Not only is Pirolli's activation threshold used for a completely different purpose (determining the most visited web pages), we find no adequate rationale for applying such a disparate teaching to Pouschine.

Furthermore, we do not agree that Pouschine's teaching of not requiring all data cells to be pre-calculated provides the requisite suggestion or motivation to combine

Pirolli with Pouschine. On Page 5 of the answer, the examiner suggests that Pouschine's teaching essentially invites one of ordinary skill in the art to "investigat[e] techniques for deciding what to pre-calculate." Thus, the examiner seems to suggest that it would have been obvious to try various techniques in the system of Pouschine so that one of ordinary skill in the art could decide what to pre-compute [answer, page 5]. However, it is well settled that the "obvious to try" standard does not constitute obviousness. In re Deuel, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1216 (Fed. Cir. 1995) ("A general incentive does not make obvious a particular result, nor does the existence of techniques by which those efforts can be carried out."). Merely because Pouschine's modeling system does not require pre-calculation of all data cells is hardly an adequate reason why the skilled artisan would rely on Pirolli's teaching of using a threshold to determine the most visited web pages. We are compelled to find that the only motivation for combining Pirolli with Pouschine stems from impermissible hindsight by reconstructing the invention using the claims as a template.

We recognize that "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning." Ex parte Rodgers, 27 USPQ2d 1738, 1748 (Bd. Pat. App. & Int'f 1992). However, such a reconstruction must not include knowledge gleaned solely from appellants'

disclosure. Id. Rather, the obviousness determination must take into account only knowledge that was within the level of ordinary skill at the time the invention was made. Id. But here, for the reasons noted previously, there is nothing on the record before us to suggest that the examiner's combination of Pirolli with Pouschine was based on anything other than knowledge gleaned solely from appellants' disclosure.

Moreover, even if Pirolli were properly combinable with Pouschine, all recited limitations of the independent claims would still not be met essentially for the reasons advanced by appellants. We agree that Pirolli's "activation threshold" is used for determining the most visited web pages as part of a web-page relevance prediction process. The reference simply does not teach or suggest determining the number of descendants of a member in a multidimensional database to determine whether an aggregated data measure should be determined and stored. Thus, even if the references were combined, the rejection would not teach or suggest all limitations recited in the independent claims. For this reason alone, the rejection is improper and must be reversed.

Furthermore, because the examiner's rejection of the dependent claims is based upon the improper combination of Pouschine and Pirolli, the rejection of the dependent claims is likewise improper for the same reasons noted above.

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Therefore, we will not sustain the examiner's rejection of any of the claims on appeal.

In summary, we have not sustained the examiner's rejection of the claims on appeal because: (1) Pirolli is neither analogous art nor reasonably pertinent to the problem appellants are trying to solve; (2) there is insufficient motivation for one of ordinary skill in the art to combine Pirolli with Pouschine; and (3) all limitations recited in the independent claims would not be met even if the combination were proper. Accordingly, the decision of the examiner rejecting claims 1-18 is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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HOWARD B. BLANKENSHIP)	
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JS/eld

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