

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM R. COUSINS, FRANZ BADIAS and WILLIAM S. MEANS

Appeal No. 2002-0814
Application No. 09/112,261

ON BRIEF

Before FLEMING, GROSS, and BARRY, ***Administrative Patent Judges.***
FLEMING, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-20, all the claims pending in the instant application.

Invention

The invention relates generally to a method and apparatus that evaluates an expression based upon results obtained from a database. See page 1 of Appellants' specification. Existing databases already determine whether the syntax of a database query is valid, determine whether records of the database satisfy the criteria of the database query, and generate a database result table that includes each record of the database which

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satisfies the criteria of the database query. Since much of the processing of a database query by a database is akin to the processing required to resolve a Boolean expression to a truth value, what is needed is a method and apparatus that evaluate an arbitrary Boolean expression by off loading a portion of the processing burden to a database, and resolving the Boolean expression based upon results obtained from the database. See page 2 of Appellants' specification. It is the object of Appellants' invention to provide a method and apparatus that evaluates an arbitrary Boolean expression in a manner that does not require evaluation of the Boolean expression and to off-load a portion of the processing of a Boolean expression to a database. See page 4 of Appellants' specification.

As illustrated in Figure 2, the management system 10 includes an event log 20, an event log monitor 22, a user interface 23, a database 24, and a rules processor 26. See page 6 of Appellants' specification. The user interface 23 provides a graphical interface that enables a user to define rules, and associate an action or a group of actions to each defined rule. See page 6 of Appellants' specification. The user interface 23 limits a user to defining a rule as either a series of conditions that are joined by a logical AND operator, or a series of

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conditions that are joined by a logical OR operator. See page 7 of Appellants' specification. The user interface 23 and the event log monitor 22 cooperate to insure that if a condition of a user defined rule is satisfied, then the condition is satisfied by information contained in a single database row of the database 24. See page 7 of Appellants' specification. The database 24 stores event information and user defined rule information used by the management system 10 in response to database commands received from the event log monitor 22 and the user interface 23. Moreover, the database 24 receives database queries that request information stored in the database 24, and generates database result tables that include the requested information in response to processing the received database queries. See page 8 of Appellants specification. As shown in Figure 4, rule evaluation method 100 is used by the management system 10 to determine whether a defined rule has been satisfied. In particular, the management system 10 executes the detection method 100 upon any change to the information stored in the database 24, and/or a predetermined periodic interval. The management system 10 in step 102 queries the database 2 to obtain a rule list that contains the rules that have been defined in the management system 10. See page 12 of Appellants' specification. Then, the

management system 10 in step 104 selects a rule from the rule list. After selecting a rule, the management system 10 in step 106 generates a database query which represents a Boolean expression that evaluates to true if and only if the conditions defined by the selected rule have been satisfied. See page 13 of Appellants' specification. For example, a sample rule 200 is shown in Figure 5. The sample rule 200 includes conditions 202 that must be satisfied before associated actions 204 are executed. The sample rule 200 is expressed as a Boolean expression 206 that includes sub-expressions 208. The management system 10 constructs a database query 210 that requests all rows of information stored in the database 24 that satisfy the Boolean expression 206. See page 13 of Appellants' specification. After constructing the database query, the management system 10 generates in step 108 a database result table including each row of information of the database 24 that satisfies the criteria of the database query. See page 14 of Appellants' specification.

Figure 6 illustrates the contents of a sample database 220 and the contents of a sample database result table 230. The sample database 220 includes database rows 222 in which are stored information, and the sample database result table 230 includes result rows 232. See page 14 of Appellants'

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specification. The result rows 232 contain information of the sample database 220 that satisfy the conditions of the sample database query 210 and respectively correspond to the database rows 222 of the sample database 220. The management system 10 in step 112 analyzes the database result table generated in step 110 to determine whether the selected rule has been satisfied. See page 15 of Appellants' specification.

Appellants' claim 1 is representative of the claimed invention and is reproduced as follows:

1. A method of determining the Boolean truth value of an expression that incorporates an arbitrary reference to an external database, comprising the steps of:

generating a database query that correlates to the expression;

processing said database query in whole to obtain database result information from the external database; and

resolving said expression into a Boolean truth value by analyzing said database result information.

Reference

The reference relied on by the Examiner is as follows:

Hendricks et al. (Hendricks)	5,893,088	Apr. 6, 1999 (filed Sep. 19, 1996)
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Rejection at Issue

Claims 1-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hendricks.

Throughout our opinion, we make reference to the briefs¹ and the answer.

OPINION

With full consideration being given the subject matter on appeal, the Examiner's rejection and the arguments of Appellants and the Examiner, for the reasons stated *infra*, we reverse the Examiner's rejection of claims 1-20 under 35 U.S.C. § 103.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. *In re*

¹ Appellants filed an appeal brief on April 26, 2001. Appellants filed a reply brief on October 1, 2001. On December 4, 2001, the Examiner mailed an Office communication stating the reply brief has been considered. We note that the reply brief has been entered into the record.

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Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants.

Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all the evidence and arguments." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

Appellants argue that Hendricks does not teach or suggest resolving the expression into a Boolean truth-value by analyzing the database result information as recited in Appellants' claim 1. See page 7 of the brief and page 5 of Appellants' reply brief.

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We note that Appellants make the same argument for the other independent claims 7 and 15. See pages 9-12 of Appellants' brief and page 5 of the reply brief.

Upon our review of Hendricks, we find that Hendricks does teach using a logical expression to identify entries in a database. See column 3 and 4 of Hendricks. In particular, Hendricks teaches evaluating a logical expression disclosed in column 3, lines 60-65. However, the evaluation of this expression results in a set of entries but does not result in resolving the expression into a Boolean truth-value by analyzing the database result information as recited in Appellants' claims.

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In view of the foregoing, we have not sustained the Examiner's rejection of claims 1-20 as being unpatentable over Hendricks.

REVERSED

MICHAEL R. FLEMING)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ANITA PELLMAN GROSS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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