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Datasheet for the decision of 22 March 2019

Case Number: T 1127/14 - 3.5.07

Application Number: 04739370.7

Publication Number: 1634196

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:
Data processing method and system for combining of database tables

Applicant:
SAP SE

Headword:
Combining database tables/SAP

Relevant legal provisions:
EPC Art. 54, 84, 123(2)
EPC R. 103(1)(a)

Keyword:
Amendments - added subject-matter (no)
Claims - clarity after amendment (yes)
Novelty - (yes)
Reimbursement of appeal fee - (no)

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Beschwerdekammern

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Case Number: T 1127/14 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 22 March 2019

Appellant: (Applicant)	SAP SE Dietmar-Hopp-Allee 16 69190 Walldorf (DE)
Representative:	Richardt Patentanwälte PartG mbB Wilhelmstraße 7 65185 Wiesbaden (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 28 November 2013 refusing European patent application No. 04739370.7 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	R. Moufang
Members:	M. Jaedicke
	P. San-Bento Furtado

Summary of Facts and Submissions

I. The applicant (appellant) appealed against the decision of the Examining Division refusing European patent application No. 04739370.7, filed as international application PCT/EP2004/005669 and published as WO 2004/107204. The application claims an earliest priority date of 28 May 2003.

II. In the course of the appeal proceedings, the appellant changed its name to SAP SE.

III. The Examining Division decided that the subject-matter of independent claim 1 of the main request and of the then pending auxiliary request lacked novelty over the prior art disclosed in the following document.

D1: US 5,842,209, published on 24 November 1998

IV. In its statement of grounds of appeal, the appellant requested that the decision be set aside and that a patent be granted on the basis of the main request considered in the contested decision and resubmitted with the grounds of appeal or on the basis of an auxiliary request submitted with the grounds of appeal. As a further auxiliary request, remittal of the case was requested. Moreover, reimbursement of the appeal fee in view of an alleged procedural violation was requested.

V. In a communication under Article 15(1) RPBA accompanying the summons to oral proceedings, the Board expressed its provisional opinion that the subject-matter of claim 1 of the sole request was new over document D1 but lacked clarity and extended beyond the content of the application as originally filed.

Moreover, the Board had doubts that the claimed subject-matter involved an inventive step in view of document D1. Finally, the Board indicated that it was not convinced that there was a procedural violation with respect to the appellant's requests for the arrangement of a videoconference.

VI. By letter of 14 December 2018, the appellant submitted a new sole request and submitted further arguments.

VII. Oral proceedings were held as scheduled, and the appellant was heard on the issues of novelty, clarity and added subject-matter. During the oral proceedings, the appellant replaced its sole request with a new set of claims. It stated that reimbursement of the appeal fee was no longer a point of discussion. It requested that the case be remitted to the department of first instance. At the end of the oral proceedings, the chairman pronounced the Board's decision.

VIII. The appellant requested that the decision under appeal be set aside and that the case be remitted to the department of first instance for further prosecution on the basis of the sole request filed in the oral proceedings before the Board.

IX. Claim 1 of the sole request reads as follows:

"A data processing system comprising:

- a data warehouse (100) having stored therein a set of database tables (104, 106, 108,..) including first and second database tables,
- a plurality of application programs (122),
- a user interface (124) for selection of an application program from the plurality of application programs, and from which a manual selection from a user is received of a combination

of the first and second database tables of the set of database tables and from which a manual selection from a user is received of particular combinations of first entries of a first entity type from the first database table with second entries of a second entity type from the second database table,

- means (124) for generating a combination database table (120, ...) for storing the combinations of the selected first and second entries, the combination database table including a first column of the first entity type and a second column of the second entity type, the combination database table storing the combination entries based on the manual selection,
- means (118) for storing the combination database table,

wherein the selected application program is operable to access the means for storing in order to perform a read access on the combination database table for processing the combination database table;

- a mapping table which is stored in the data processing system for each of the application programs that specifies which ones of the database tables can be combined for the purpose of processing the resultant combination table by the respective application program,

the user interface being operable to read the mapping table assigned to the selected application program in order to determine allowed database table combinations for the selected application program once the application program has been selected by the user, and wherein the user interface is further operable to only display such database table combinations for selection of data elements therefrom which have been previously determined to be allowed database table combinations

for the selected application program."

Claims 2 to 6 are dependent on claim 1.

Claim 7 reads as follows:
"A data processing method in a data processing system comprising
- a data warehouse (100) having stored therein a set of database tables (104, 106, 108,..) including first and second database tables,
- a plurality of application programs (122),
- a user interface (124) for selection of an application program from the plurality of application programs,
- a mapping table which is stored in the data processing system for each of the application programs that specifies which ones of the database tables can be combined for the purpose of processing a resultant combination table by the respective application program,

the method comprising:
- providing the set of database tables and the user interface,
- receiving on the user interface (124) a manual selection from a user of a combination of the first and second database tables of the set of database tables,
- receiving on the user interface (124) a manual selection from a user of particular combinations of first entries of a first entity type from the first database table with second entries of a second entity type from the second database table,
- generating a combination database table (120, ...) for storing the combinations of the selected first and second entries, the combination database table including a first column of the first entity type

and a second column of the second entity type, the combination database table storing the combination entries based on the manual selection,

- storing the combination database table in a storing means,

wherein the selected application program is operable to access the storing means in order to perform a read access on the combination database table for processing the combination database table;
wherein the user interface is reading the mapping table assigned to the selected application program in order to determine allowed database table combinations for the selected application program once the application program has been selected by the user, and
wherein the user interface is further only displaying such database table combinations for selection of data elements therefrom which have been previously determined to be allowed database table combinations for the selected application program."

X. The appellant's arguments where relevant to the decision are discussed in detail below.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

The invention

2. The application relates to data processing systems and more particularly to data warehouses (description of the application as published, page 1, lines 4 and 5). The term "data warehouse" is used in the application to

describe large amounts of related data that are stored together. Different types of data, relational and object, are being stored in data warehouses. With the increased amount of data that is stored, there has been an increasing complexity in using, retrieving, sorting and organising data (page 2, lines 10 to 14).

2.1 The invention provides a data processing system and method which enables a user to enter a combination of at least first and second database tables of a set of database tables stored in a data warehouse. The combination of the first and second database tables is stored in a combination database table for access by an application program. The application program is adapted to process the database tables of the data warehouse and the combination database table. This has the advantage that a user can conveniently enter information regarding a combination of entries in the database tables of the data warehouse (page 2, line 30, to page 3, line 6).

2.2 In accordance with a preferred embodiment of the invention, the user selects one of the application programs of the data processing system by means of the user interface. In response, the user interface reads a mapping table that is assigned to the selected one of the application programs in order to determine the allowed table combinations (page 4, lines 28 to 32).

A mapping table is stored in the data processing system for each application program to specify which ones of the database tables can be combined for the purpose of processing the resultant combination table by the respective application program. A user can only select database tables for combination for the purpose of processing by a selected application program if the

mapping table of the selected application program allows the combination of the user selected tables. After a user's selection of an allowable database table combination, the user selects one item from each database table of the selected table combination in order to specify an entry into the combination database table that combines entries from the selected database tables (page 4, lines 14 to 24).

The application discloses embodiments of graphical user interfaces for entering the combination of database table entries in Figures 4 and 5 (page 8, line 11, to page 9, line 24).

Sole request

3. *Admission*

System claim 1 of the sole request submitted during the oral proceedings before the Board differs from claim 1 of the main request considered by the Examining Division and initially maintained in appeal only by minor clarifications, which were made in response to objections under Articles 84 and 123(2) EPC raised for the first time by the Board in its communication. Independent claim 7 corresponds to claim 1 in terms of method. Hence, the Board admits the appellant's sole request into the proceedings under Article 13(1) RPBA.

4. The appellant's request

4.1 Claim 1 relates to a "data processing system" comprising the following features (itemised by the Board, with reference signs removed).

A a data warehouse having stored therein a set of database tables including first and second database tables

B a plurality of application programs

C a user interface:

C1 for selecting an application program from the plurality of application programs

C2 from which a manual selection from a user is received of a combination of the first and second database tables of the set of database tables and

C3 from which a manual selection from a user is received of particular combinations of first entries of a first entity type from the first database table with second entries of a second entity type from the second database table

D means for generating a combination database table for storing the combinations of the selected first and second entries, the combination database table including a first column of the first entity type and a second column of the second entity type, the combination database table storing the combination entries based on the manual selection

E means for storing the combination database table

F wherein the selected application program is operable to access the means for storing in order to perform a read access on the combination database table for processing the combination database table

G a mapping table which is stored in the data processing system for each of the application programs that specifies which ones of the database tables can be combined for the purpose of processing the resultant combination table by the respective application program

C4 the user interface being operable to read the mapping table assigned to the selected application program in order to determine allowed database table combinations for the selected application program once the application program has been selected by the user

C5 wherein the user interface is further operable to only display such database table combinations for selection of data elements therefrom which have been previously determined to be allowed database table combinations for the selected application program

5. Added subject-matter

5.1 Claim 1 was amended during the proceedings based on the originally filed application. Feature A is based on originally filed claim 1 and the description, page 2, line 30, to page 3, line 3. Feature B is based on the description, page 4, lines 14 to 17 and 28 to 30. Feature C has a basis in original claim 1. Feature C1 is based on the description, page 4, lines 28 to 30. Feature C2 is based on original claim 1 and the description, page 4, lines 17 to 24. Feature C3 is based on the description, page 4, lines 17 to 24, page 5, lines 1 to 9 (disclosing the selection of entries), and page 6, lines 19 to 29 (disclosing entity types). Feature C4 is based on the description, page 4, lines 28 to 32, where "respective table" refers to a mapping table, and page 5, lines 17 to 20. Feature C5 is based on the description, page 5, lines 1 to 5, in combination with page 4, lines 14 to 20. Feature D is based on original claim 1 and the description, page 7, lines 5 to 8 and 26 to 31. Feature E is based on claim 1 as originally filed. Feature F is based on claim 1 as

originally filed and page 5, lines 9 to 12. Feature G is based on page 4, lines 14 to 17.

In the present case, the skilled person would have directly and unambiguously derived from the original application that the claimed features were disclosed in combination as the various passages cited above relate to the general teaching of the invention and its detailed example.

Claims 2 to 6 correspond to claims 2 to 6 as originally filed. Independent method claim 7 is based on original independent method claim 7 and corresponds to claim 1 in terms of method.

5.2 The Board is therefore satisfied that the claims of the sole request comply with the requirements of Article 123(2) EPC.

6. Clarity

In its communication, the Board objected to the clarity of claim 1. In view of the appellant's amendments to claim 1, the Board's clarity objection is no longer valid, and the Board accepts that claim 1 meets the requirements of Article 84 EPC. The same holds with respect to independent claim 7.

7. Novelty

7.1 Document D1 (the only relevant document according to the international search report) relates to methods of accessing information stored in a database management system (DBMS), and in particular to a method for visually depicting join relationships in a database management system (D1, column 1, lines 20 to 24).

Figure 3A presents a diagram of an example embodiment of the graphical user interface of the system of D1 for creating or modifying database queries. It shows a list of the database tables the user has currently selected for use. First, the user must indicate whether a new SQL (structured query language) statement is being created or whether the user wishes to edit an existing SQL statement by selecting from radio buttons. The user can then remove the tables selected in the selected tables box by pressing the remove button, or add tables by pressing the add button. The user can select a non-SQL table, but then the user interface indicates that a join operation cannot be performed with the selected non-SQL table (D1, column 3, lines 44 to 67).

Figure 3C of document D1 shows the join tab window, which displays all of the database tables selected by the user using the tables tab window described with reference to Figure 3A. A join button enables the user to create a join based on two prior selected fields in different tables. Once selected fields have been joined, this is indicated by a join line on the display (D1, column 4, lines 20 to 43). Further windows allow the user to define relational operations and conditions (D1, Figures 3D and 3E; column 4, line 44, to column 5, line 29). In summary, document D1 discloses a graphical user interface for interactively constructing SQL queries for the database tables.

7.2 *The contested decision*

In the contested decision, the Examining Division considered that document D1 disclosed all features of the subject-matter of the then pending claim 1.

7.3 *The appellant's arguments*

In its statement of grounds of appeal, the appellant argued essentially that the subject-matter of claim 1 was new over document D1 as D1 failed to disclose at least features corresponding to features C4 and C5 and part of feature F of present claim 1 (statement of grounds of appeal, section IV.2 on page 6).

7.4 The Board agrees with the appellant that the reasoning of the contested decision is flawed. The Examining Division seems to have misconstrued document D1, i.e. it failed to correctly determine how this document would have been understood by the skilled person.

Even though the wording of the claim considered by the Examining Division differs from the wording of the present claim 1, the subject-matter of these two claims corresponds in substance. Hence, the Board considers it appropriate, for the following review of the contested decision, to refer to the itemised features of present claim 1.

7.4.1 The appellant has not contested that document D1 discloses features A, B, C, C2 and E of claim 1.

7.4.2 The Examining Division argued that document D1 disclosed features C1, C2 and C3 in column 3, lines 44 to 50, describing Figure 3A. The Examining Division did not further explain its mapping of these features in its decision.

The cited passage merely describes the graphical user interface for the selection of tables (see feature C2 of claim 1). It does not disclose any user selection of an application from the existing applications. The

creation of a database query (an SQL select statement) in a graphical user interface is also not something similar to the selection of a particular application. Hence, the Examining Division's reasoning concerning feature C1 is flawed. The Board is also not aware of any other passage of document D1 which discloses this feature.

As to feature C3, the Board fails to see how the cited passage could disclose this feature. While the selection of tables for the construction of a join query has the purpose of generating a query which joins, i.e. combines, database tables, the cited passage does not disclose that such a join query is performed. Nor does it disclose receiving a user's manual selection of particular combinations of entries of two database tables as specified by feature C3. Indeed, the claimed user interface allows manually selecting combinations of individual entries of the database tables to define particular combinations of such entries. By contrast, an SQL join query expresses logical conditions which need to be fulfilled by the entries in the query result. There is no manual selection of entries of database tables or of particular combinations of such selected entries when join conditions are entered via the graphical user interface in D1. Consequently, the Examining Division's novelty analysis was wrong with respect to feature C3.

7.4.3 The Examining Division considered that document D1 disclosed feature D in column 4, lines 20 to 22, and Figure 3C. However, the Board is not convinced that this passage discloses a means for generating a combination table of manually selected entries as D1 fails to disclose a manual selection of such combinations and the cited passage concerns only the

selection of a join condition by selecting different fields of different tables.

7.4.4 The contested decision argued that D1 disclosed features E and F in column 4, lines 29 and 30. Moreover, it argued that "in order for a join to be made between tables, there must be means for storing a combination database table".

The cited passage merely discloses the selection of fields of different tables for creating a join condition in the graphical user interface of D1. The contested decision did not provide any further arguments as to why the cited passage demonstrates that feature F is disclosed in document D1, and the Board does not see that the cited passage could be relevant in this respect. Moreover, as D1 fails to disclose the selection of an application and does not disclose any processing of any table resulting from joining database tables by a selected application, D1 fails to disclose feature F.

7.4.5 With respect to features C4 and C5, the contested decision referred to document D1, column 4, lines 45 to 47 and Figures 3A and 3D. The Examining Division argued that "only valid tables could be entered into the user interface of Figure 3A".

Document D1 does not disclose a mapping table as specified in feature G or any restriction with respect to the database tables that can be selected when creating queries in the graphical user interface of D1. The passage cited by the Examining Division concerns the selection of join options such as using inner or left/right outer join operations. It is not relevant with respect to features C4 and C5. As already

mentioned, D1 discloses, in column 3, lines 61 to 67, that the system hinders the user from performing joins across non-SQL tables, which are tables not stored by the DBMS. However, as these tables are not database tables as meant by the claim and as no mapping table is used to specify allowed database table combinations, document D1 does not disclose features C4, C5 or G.

7.4.6 As document D1 fails to disclose most features of claim 1, the subject-matter of this claim is new over D1 (Article 54 EPC). The same holds with respect to independent method claim 7 as it corresponds to claim 1 in terms of method.

8. *Conclusion*

In view of the above, claims 1 and 7 meet the requirements of Articles 84 and 123(2) EPC and their subject-matter is new over document D1 (Article 54(1) and (2) EPC). Hence, the contested decision is to be set aside.

Remittal

9. In its decision, the Examining Division did not discuss inventive step with respect to document D1 or any of the further prior art documents cited in the European search report.

As a full examination of inventive step of the present application has not yet taken place and the flawed novelty analysis of the decision under appeal does not serve as a basis for the Board to consider inventive step, the case should be remitted to the department of first instance for examination of inventive step, as requested by the appellant. The case is therefore

remitted to the Examining Division for further prosecution on the basis of the appellant's sole request (Article 111(1) EPC).

For the avoidance of doubt, the Examining Division also needs to examine whether the dependent claims meet the requirements of Article 84 EPC.

Reimbursement of the appeal fee

10. In its statement of grounds of appeal, page 3, second paragraph, the appellant requested that the appeal fee be reimbursed because it "had to set up an ISDN video conference system on very short notice which was a significant burden for the Applicant" and because "the repeated disregard of the Applicant's requests to hold the video conference using the IP connection type disadvantaged the Applicant". This constituted a procedural violation. During the oral proceedings before the Board, the appellant submitted that its request for reimbursement of the appeal fee was no longer a point of discussion.

Although the appellant did consequently not include this request in its final request at the end of the oral proceedings, the Board examines *ex officio* in the following whether the reimbursement of the appeal fee is equitable by reason of a substantial procedural violation (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, IV.E.8.2.1 and the decisions cited therein).

11. Reimbursement of the appeal fee under Rule 103(1)(a) EPC is subject to three conditions.

(i) The Board considers the appeal to be allowable.

(ii) There was a substantial procedural violation during the proceedings before the department of first instance.

(iii) Reimbursement is equitable.

11.2 The appellant had requested that oral proceedings be conducted via videoconference based on the information published in the OJ EPO, 2006, 585. However, there it is explicitly stated that EPO videoconference studios employ ISDN technology (point 3). In the summons to oral proceedings before the Examining Division (EPO Form 2008), this information was repeated, and the appellant was requested to supply the EPO with information concerning the appellant's videoconference studio as soon as possible. The appellant replied by letter dated 18 October 2013, the oral proceedings being scheduled for the 24 October 2013. In its letter, it indicated IP for the connection type, but there was no request to confirm that a connection with EPO videoconference studios was technically possible. Furthermore, there is no other such request on file.

11.3 In the Board's opinion, the appellant was not forced to set up an ISDN videoconference at short notice but was informed about the technical constraints for videoconferences even before it requested the videoconference. Rather, the appellant intended to use non-ISDN videoconference equipment and supplied the EPO with the relevant technical information only at a very late stage. Given the circumstances of the present case, there was no procedural violation by the EPO with respect to the setting up of a videoconference.

11.4 As to the Examining Division's clear mistakes in the assessment of novelty, it is established case law that errors of judgement on substantive issues do not

constitute a procedural violation (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, IV.E.8.4.1 a) and 8.4.5 and the decisions cited therein).

11.5 Finally, there is no evidence of any other procedural violation during the proceedings before the Examining Division, so condition (ii) is not satisfied. The conditions for a reimbursement of the appeal fee are thus not met.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of the sole request filed in the oral proceedings before the Board.

The Registrar: The Chairman:

I. Aperribay R. Moufang

Decision electronically authenticated