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**Datasheet for the decision
of 27 April 2022**

Case Number: T 2082/18 - 3.5.07

Application Number: 11760635.0

Publication Number: 2614451

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:

MANAGING DATA SELECTION BASED ON ATTRIBUTES

Applicant:

Ab Initio Technology LLC

Headword:

DATA SELECTION BASED ON ATTRIBUTES/AB INITIO TECHNOLOGY LLC

Relevant legal provisions:

EPC Art. 111(1)
RPBA 2020 Art. 11

Keyword:

Remittal - fundamental deficiency in first-instance proceedings (yes)

Decisions cited:

T 1641/11, T 0475/88, T 0939/92, T 1541/10



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Case Number: T 2082/18 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 27 April 2022

Appellant: Ab Initio Technology LLC
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Representative: Appelt, Christian W.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 6 February 2018
refusing European patent application No.
11760635.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair J. Geschwind
Members: C. Barel-Faucheux
P. San-Bento Furtado

Summary of Facts and Submissions

- I. The appellant (applicant) filed an appeal against the examining division's decision refusing European patent application No. 11760635.0 filed as international application PCT/US2011/051243 and published as WO 2012/034128 A1.
- II. The documents cited in the contested decision included:
D1: US 2010/0153409 A1, published on 17 June 2010
- III. The examining division refused the application for the following reasons: the subject-matter of the independent claims of the main request and auxiliary requests 1 to 3 was not inventive having regard to Article 56 EPC and the subject-matter of the independent claims of the auxiliary request 3 did not comply with Article 84 EPC. Auxiliary requests 4 and 5 were not considered to comply with Article 84 EPC and were not admitted into the procedure.
- IV. With the statement of grounds of appeal, the appellant resubmitted the main request, auxiliary request 1 and auxiliary request 2 as, respectively, the main request, auxiliary request 2 and auxiliary request 5, and filed new auxiliary requests 1 and 3, a "supplementary" auxiliary request 3, and new auxiliary requests 4 and 6. The appellant argued in particular that most features of the claim were not disclosed in document D1. It complained that the reasoning of the decision under appeal was based on a wrong interpretation of the claims and lacked substantiation in some points and that no evidence had been provided of the existence of the alleged common general knowledge.

V. In a communication, the board informed the appellant that it was of the opinion that the inventive-step reasoning of the examining division showed fundamental deficiencies and that document D1 was not an appropriate starting point for assessing whether the claimed subject-matter involved an inventive step. The board announced that it intended to remit the case to the examining division for further prosecution. The appellant was invited to inform the board whether it withdrew the request for oral proceedings before the board in case of remittal of the case for further prosecution.

VI. In a first letter of reply, the appellant stated that should the board decide to set aside the decision under appeal and remit the case to the examining division for further prosecution, it would withdraw the request for oral proceedings.

In addition, the appellant requested at least partial refund of the appeal fee for the following reasons:

- It referred to section 6.4 of the board's communication stating that the inventive step reasoning of the examining division showed "fundamental deficiencies" as the reason for the remittal. According to the appellant, this was in accordance with Rule 103(1)(a) EPC and Rule 103(6), second sentence, EPC.

- It also argued that the grant proceedings before the EPO so far had already taken almost nine years and that the appellant had had to invest a lot of time and effort to arrive "at the current stage". According to the appellant, this was in accordance with Rule 103(1)(a) EPC and Rule 103(6), second sentence, EPC.

- The oral proceedings before the board would likely not take place. According to the appellant, this was in accordance with Rule 103(4)(c) and Rule 103(6), second sentence, EPC.

VII. In a further communication, the board informed the appellant that it saw no reasons to grant the request for reimbursement based on Rule 103(1)(a) EPC.

The appellant was invited to inform the board if it nevertheless requested that oral proceedings be maintained to further discuss the question of reimbursement by reason of a substantial procedural violation in advance of the board's final decision on the appellant's request for reimbursement under Rule 103(1)(a) EPC.

The board confirmed that the appellant was entitled to a reimbursement of 25% of the appeal fee on the basis of Rule 103(4)(c) EPC should the oral proceedings not take place.

VIII. In a second letter of reply, the appellant stated that there was no need to have oral proceedings to further discuss the question of reimbursement by reason of a substantial procedural violation.

IX. The board cancelled the oral proceedings.

X. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or one of auxiliary requests 1 to 6. It further requests reimbursement of the appeal fee under Rule 103(1)(a) and (6) EPC by reason of a substantial procedural violation or partial reimbursement of the appeal fee under Rule 103(4)(c) and (6) EPC.

XI. Claim 1 of the main request reads as follows (the itemisation in brackets is added by the board and corresponds to the itemisation proposed by the appellant in the statement of grounds, pages 9 and 10):

- [1.1] "A method for providing a graphical user interface (700, 800) on a computing device (106, 302) for a user to interact with multi-dimensional data (104) stored in a data repository (102), the method including:
- [1.2] storing on the computing device (106, 302) an organizational data structure;
- [1.3] processing data (104) in the data repository to store information in the organizational data structure (108, 118) used to present the graphical user interface on the computing device (106, 302), the processing including:
- [1.4] determining at least a first attribute of a plurality of attributes (202, 904A) of data elements (104) stored in the data repository,
- [1.5] determining multiple attribute values (706) of the first attribute that appear within the data elements,
- [1.6] presenting the graphical user interface on the computing device, the graphical user interface including a graphical element in form of a first strip (110, 910A) corresponding to the first

- attribute, the first strip including multiple sections (113, 115, 906A),
- [1.7] in which each section represents a subset of the data elements having at least one common attribute value that is one of the determined multiple attribute values (706) of the first attribute and different sections of the first strip represent subsets of the data elements having different attribute values of the determined multiple attribute values (706) of the first attribute,
- [1.8] for each particular attribute value of the multiple attribute values, determining a subset of the data elements that is represented by a particular one of the multiple sections (113, 115, 410, 412, 906A-C, 908A-C) of the first strip, wherein each data element of the subset includes the same particular attribute value, and determining the number of data elements (104) in a respective subset of data elements that include the same particular attribute value,
- [1.9] assigning, to each of a plurality of nodes of a first hierarchy level of the organizational data structure corresponding to the first attribute, at least one of the determined attribute values of the first attribute, and respective ones of the determined attribute values assigned to one or more nodes of preceding hierarchy levels, according to an order of a hierarchy of the organizational data structure, for corresponding attributes,
- [1.10] storing in the organizational data structure numeric information based on the determined numbers of data elements in association with information identifying the first attribute,

- [1.11] receiving a user-initiated input (314, 904B) that includes a selection of one or more of the multiple sections (113, 115, 410, 412, 906A-C, 908A-C) of the first strip (110, 408, 910A, 902B-C), and
- [1.12] generating a query (910B) in response to receiving the input (314, 904B) that includes the selection of the one or more of the multiple sections (113, 115, 410, 412, 906A-C, 908A-C) of the first strip (110, 408, 910A, 902B-C), the query specifying an expression for retrieving the respective subset of data elements represented by the selected one or more of the multiple sections (113, 115, 410, 412, 906A-C, 908A-C) of the first strip (110, 408, 910A, 902B-C)."

- XII. The text of the other claims of the main and auxiliary requests is not relevant for this decision.
- XIII. The appellant's arguments, where relevant to the decision, are discussed in detail below.

Reasons for the Decision

The application

1. The application relates to querying, via a graphical user interface on a computing device, a data repository comprising multi-dimensional data (see page 1, lines 13 and 14 and Figure 1 of the international publication). In the graphical user interface, the data is represented by strips, each strip representing one data attribute and including sections corresponding to groupings of the data based on values of the attribute that exist within the elements. For example, the data may include information about a consumer product, such

as shirts with attributes sleeve length and colour. The data about shirts may be represented in the graphical user interface by the attribute sleeve length (with sections such as "short" and "long") in a first strip of the graphic representation and the attribute colour of the shirt (with sections such as "blue", "green" and "red") in a second strip of the graphic representation. In another example, a user may desire to filter jobs according to the "run status" attribute of each job (such as "unstarted", "running" or "completed") and the process country of each job (such as "Mexico", "United States" or "Canada") (pages 6 and 7, Figure 1).

A user may retrieve desired data by selecting one or more sections of a strip in the graphical user interface. A query is then generated which specifies an expression for retrieving the respective subset of data elements represented by the selected sections (page 7, lines 14 to 23, Figure 3 and page 14, lines 6 to 27, Figure 9B).

The multi-dimensional data in the data repository is processed to store information in an organisational data structure used for presenting the graphical user interface. The organisational data structure includes hierarchy levels that each correspond to one attribute, with an order of the hierarchy levels corresponding to the indicated order for the attributes. Each hierarchy level includes nodes, each node corresponding to one or more data values of the respective attribute. In some examples, each of the plurality of nodes of the second hierarchy level are also assigned respective ones of the determined attribute values assigned to one or more nodes of preceding hierarchy levels (page 2, lines 9 to 26 and page 19, line 8, to page 20, line 2).

Document D1 as the starting point

2. Document D1 was considered by the examining division as the closest prior art. D1 discloses that a number of data applications naturally lend themselves to hierarchical organisation. For example, a geography may be hierarchically broken down from continent to country to state to city, or a corporation may be hierarchically viewed from an entire company level, which contains a country level, which breaks down into members of a region level (paragraph [0002]).

Document D1 describes a computer-implemented environment for providing paginated search results from a multi-table database that stores hierarchically arranged data. In one example, a hierarchical data organisation having a time series and a statistical model associated with each node of the hierarchy is stored in a multi-table data store. The time series data may represent a wide variety of information measured over time such as investment account value, inventory levels, reservoir water levels, etc. (abstract, paragraphs [0028] to [0030] and Figure 3).

3. A memory optimised database engine receives query data entered by a user and provides it to a records filter. This records filter accesses the multi-table data store and filters the data store according to constraints contained in the query data to create a view. The view is received by a filter optimiser. This filter optimiser may remove from the view one or more columns that are not needed to identify a record or a level on which a record resides in the hierarchically arranged multi-table database. It thus generates a condensed view. The condensed view may be provided to a monitoring attribute retriever, which accesses the

monitoring attributes identified by the query data from the multi-table data store for the records identified in the condensed view. The monitoring attribute retriever uses the retrieved data to generate a paginated output view, such as a chart or table on a computer monitor or other user-viewable medium (paragraphs [0028], [0031] to [0033] and [0036] together with Figure 5).

4. Thus, compared with claim 1, this document discloses a method for providing a user interface (albeit not a graphical one) on a computing device and for displaying multi-dimensional data stored in a data repository, the method including:
 - storing an organisational data structure on the computing device;
 - processing data in the data repository to store information in the organisational data structure used to present the multi-dimensional data on the display of the computing device" (this corresponds to part of features 1.1, 1.2 and to part of feature 1.3);
 - "receiving a user-initiated input" (part of feature 1.11) together with "generating a query" (part of feature 1.12).

5. The board is of the opinion that the inventive-step reasoning of the examining division shows fundamental deficiencies and that document D1 is not an appropriate starting point for assessing whether the claimed subject-matter involves an inventive step for the reasons that follow.

6. In the decision under appeal, the examining division considered that features 1.1 and 1.6 describing the invention's graphical user interface to interact with

the multidimensional data were disclosed at least implicitly in paragraphs [0028], [0035] and [0036] and in Figure 2 of D1. These passages describe the "paginated output view", such as a chart or a table, used to display search results in the system of D1. D1 discloses that, upon receipt of query data, the memory optimised database engine accesses the one or more multi-table data stores to produce a "paginated output view".

A chart or a table displayed on a computer monitor as a paginated output view, as in document D1, is a graphical representation. However, document D1 does not describe the paginated output view as including graphical elements of a graphical user interface with which the user can interact to query the database.

The term "graphical user interface" (GUI) has a generally accepted meaning of designating a form of user interface of a system in which the user directly interacts with the computer graphic display through graphical elements, instead of merely entering text as in text-based user interfaces.

In D1, the user searches the multi-table database by entering filtering attributes, together with ordering and monitoring attributes. Filtering attributes are attributes used in determining which records are to be included in the results data set (paragraphs [0031] and [0033] to [0035]). However, these attributes can be entered as text using a keyboard. The mere fact that GUIs were widely used at the date of publication of document D1 does not mean that the paginated output view of D1 is an interactive element of a GUI, as argued by the examining division.

The board agrees with the appellant that the "paginated output view" of document D1 does not provide graphical means, especially not strips and sections as described in claim 1, for the user to enter a query on the multi-dimensional data as described in the claim. In fact, in the method of D1, there is no user-initiated input including a selection of one or more of the multiple sections of a (first) strip (see features 1.6, 1.7 and 1.11).

Moreover, the appellant is correct in stating that the paginated output view does not exist at the time of generation of the query since it is generated "upon receipt of query data". The board also concurs with the appellant that the filter/condensed views and the "joining" process of D1 correspond to internal processing performed within the memory optimised database engine of document D1.

7. The examining division also has interpreted a first "strip" to mean a "representation of the collection of attributes" (see point 11.1., pages 2 and 3 of the appealed decision). However, the board concurs with the appellant that it is unreasonable to interpret a "strip" as a mere (representation of the) collection of attributes (statement of grounds, page 13). The strip recited in the claim is more than a representation. It is clear from features 1.11 and 1.12 that a strip in the claimed method is an interactive graphical element with multiple sections, where each section can be selected by the user in order to select the respective subset of data elements of the database. As explained above, D1 does not disclose any interactive graphical elements.

8. Therefore, the board does not agree with the examining division's argument that, according to the wording of the claim, there was only one graphical element, nor the conclusion that it would be impossible to select only a section of the strip by the single graphical element representing the strip as a whole if the graphical element was interpreted as being a selectable graphical element (see page 11 of the decision under appeal).

The board concurs with the appellant that it is in line with the application as originally filed that a graphical element as claimed may have multiple sections which can be individually selected (see for example page 14, lines 6 to 27 and Figure 9B of the application as originally filed).

Remittal to the examining division

9. In view of the above, the board is of the opinion that the skilled person starting from the disclosure of document D1 would not arrive at the claimed invention. Consequently, the board remits the case to the examining division for further prosecution for analysis of inventive step on the basis of an appropriate starting point as the closest prior art (Article 111(1) EPC, Article 11 RPBA 2020). Thus, a proper assessment can be performed in two instances of whether the claims of (one of) the requests establishes an inventive step over the prior art.

Substantial procedural violation

10. In the statement of grounds of appeal, the appellant did not argue that there had been a substantial procedural violation and did not request any reimbursement of the appeal fee with either the notice

of appeal or the grounds of appeal. In its communication under Article 15(1) RPBA, the board identified fundamental deficiencies in the use of D1 as the starting point for the assessment of inventive step but did not conclude that there had been a substantial procedural violation. The board also noted that the appellant did not provide further substantiation on why it would be equitable to reimburse the appeal fee under Rule 103(1) (a) EPC.

11. The appellant argued that the examining division substantiated neither why it considered feature 1.7 (corresponding to distinguishing feature F1 in the impugned decision) to be part of the common general knowledge nor which circumstances would have led the skilled person to select this feature (statement of grounds, pages 26 and 27). The appellant cited the following decisions: T 1641/11, Reasons 3.6; T 475/88; T 939/92, Reasons 2.3 and 4.2; and T 1541/10, Reasons 7.4.

12. The passage cited from T 1641/11 states that common general knowledge is represented by basic handbooks and textbooks on the subject in question and does not normally include patent literature and scientific articles (Reasons 3.6).

In T 475/88, the board stated that on the basis of the contents of a plurality of technical books, the board assumed that some "matters of facts" (Sachverhalte) were part of the common general knowledge on the priority date of the patent in suit (Reasons 3.2).

In T 939/92, it was stated that relevant common general knowledge might or might not be in writing, i.e. in textbooks or the like, or simply be a part of the

unwritten "mental furniture" of the notional "person skilled in the art". However, in any dispute on the extent of the relevant common general knowledge, this had to be proven, e.g. by documentary or oral evidence (Reasons 2.3). Also, common general knowledge, when cited by a department of the EPO, had to be established by it, if in dispute (Reasons 4.2).

In T 1541/10, the reasoning of the appealed decision was based on the assertion that the skilled person would have considered the solution as merely one of several straightforward possibilities from which to select "depending on the circumstances", without exercising inventive skill, to solve the problem posed. But the board pointed out that this reasoning did not explain which "circumstances" would have led the skilled person to apply the teaching of a second document to a first document to arrive at the claimed subject-matter (Reasons 7.4).

13. In point 11.2 of the decision under appeal, after having identified feature F1 (corresponding to feature 1.7) as the only distinguishing feature, the examining division stated that "it [was] a mere choice for the person skilled in the art to select a common attribute value of interest which would be done in accordance with the circumstances and without any special technical effect". It then concluded in point 11.3 that the claimed method was not inventive.
14. The board notes that during the oral proceedings before the examining division, the examining division argued that the section mentioned in feature F1 merely referred to a subset of desired data to be used to create a further query. The examining division concluded that no documentary proof was required for a

skilled person being able to select desired data from available data for a further query (minutes of the oral proceedings, point 45). Also, the examining division considered that the skilled person would display the results they were interested in, and hence would select the required query data to achieve the desired display (minutes, point 47).

15. Thus, it appears that the examining division's justification for the absence of a proof of common general knowledge resided in the fact that the argument was based on what a skilled person could and would select according to their interests.
16. The board interprets the examining division's argument, including the statement that there was no "special technical effect", to have been that the sole identified distinguishing feature 1.7 was not technical. The term "special technical effect" is ambiguous in this context. Besides, the board does not agree that feature 1.7 is the only distinguishing feature nor that the individually selectable sections of the strip defined in feature 1.7 have no technical effect in the context of the claimed method (in view of their function described in point 7. above). However, the board considers that these deficiencies constitute a matter of inappropriate drafting and wrong judgement rather than a substantial procedural violation within the meaning of Rule 103(1)(a) EPC.
17. The same applies to the issues discussed above with regard to the inventive-step reasoning based on document D1. Even though the board disagrees with this reasoning of the decision under appeal, it does not consider that its deficiencies amount to a substantial procedural violation under Rule 103(1)(a) EPC.

18. In the decision under appeal, auxiliary requests 4 and 5 then on file, which were submitted during the oral proceedings before the examining division, were not admitted into the proceedings. Objections under Article 84 EPC were raised against those two requests. However, neither the minutes of the oral proceedings nor the written decision mention the legal basis for not admitting the two requests. Article 84 EPC alone cannot serve as a basis for not admitting a request, and no other provisions of the EPC were mentioned with regard to these two requests. The board notes, however, that the appellant did not contest this and thus seems to have understood what the legal basis was. Furthermore, the two requests were not considered allowable. In view of this, the board finds that this deficiency does not correspond to a substantial procedural violation either.
19. As to the length of the procedure, the board having assessed the file history is of the opinion that none of the steps in the proceedings was unreasonably long. The examining division took each step in a timely manner and did not take unnecessary steps. A request for accelerated search and examination was received on 26 October 2015. The first communication of the examining division was sent on 22 February 2016, thus within the six months announced in the response of 30 October 2015 from the examining division to the request for acceleration. The appellant has also not reasoned why any of the delays constituted a substantial procedural violation and justified reimbursement under Rule 103(1) (a) EPC.

The board does not see any procedural steps that would have been unduly delayed by the examining division.

Therefore, the length of the procedure in the current case does not constitute a substantial procedural violation either (Rule 103(1)a) EPC).

Concluding remarks

20. It follows from the above that the case is to be remitted for further prosecution and that the request for reimbursement of the appeal fee under Rule 103(1) (a) EPC is rejected. Since the request for oral proceedings was withdrawn within one month of notification of the communication and no oral proceedings took place, the appellant is entitled under Rule 103(4) (c) EPC to a reimbursement of the appeal fee at 25%.

21. The board draws the attention of the examining division to the need to expeditiously deal with the case in view of the request for accelerated prosecution of the patent application submitted on 26 October 2015.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.
3. The appeal fee shall be reimbursed at 25% in accordance with Rule 103(4) (c) EPC.

The Registrar:

The Chair:



S. Lichtenvort

J. Geschwind

Decision electronically authenticated