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Datasheet for the decision
of 17 February 2020

Case Number: T 1505/17 - 3.5.07
Application Number: 12742291.3
Publication Number: 2645271
IPC: G06F17/24
Language of the proceedings: EN

Title of invention:
Method and device for graphical management of form

Applicant:
Huawei Technologies Co., Ltd.

Headword:
Transposition gestures/HUAWEI TECHNOLOGIES

Relevant legal provisions:
EPC Art. 56, 84

Keyword:
Inventive step - main request and auxiliary request 2 (no)
Claims - clarity - auxiliary requests 1 and 3 (no)
Case Number: T 1505/17 - 3.5.07

DECISION
of Technical Board of Appeal 3.5.07
of 17 February 2020

Appellant: Huawei Technologies Co., Ltd.
Huawei Administration Building
Bantian
Longgang District
Shenzhen, Guangdong 518129 (CN)

(Applicant)

Representative: Pfenning, Meinig & Partner mbB
Patent- und Rechtsanwälte
Theresienhöhe 11a
80339 München (DE)

Decision under appeal: Decision of the Examining Division of the European Patent Office posted on 22 February 2017 refusing European patent application No. 12742291.3 pursuant to Article 97(2) EPC

Composition of the Board:
Chairman R. Moufang
Members: R. de Man
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. 12742291.3, which was filed as international application PCT/CN2012/074369 on 19 April 2012 without a priority claim and published, under Article 153(4) EPC, as EP 2 645 271 A2.

II. The decision cited, *inter alia*, the following documents:

D1: US 2006/0184889 A1, published on 17 August 2006;

The Examining Division decided that the subject-matter of claims 1 and 5 of the main request and claim 1 of auxiliary requests 1 and 2 lacked inventive step over document D1 in combination with notorious knowledge as evidenced by document D4.

III. In its statement of grounds of appeal, the appellant maintained the main request and auxiliary requests 1 and 2 and filed an auxiliary request 3. It submitted copies of the claims of all requests.

IV. In a communication accompanying the summons to oral proceedings, the Board raised clarity objections against claims 1 and 2 of the main request and expressed the preliminary opinion that the subject-matter of claim 1 of all requests lacked inventive step over document D1.
V. In a letter dated 13 January 2020, the appellant commented on the Board's communication.

VI. Oral proceedings were held on 17 February 2020 and were attended by the appellant. At the end of the oral proceedings, the chairman pronounced the Board's decision.

VII. The appellant requested 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, in the alternative, one of auxiliary requests 1 to 3.

VIII. Claim 1 of the main request reads as follows:

"A table graphics management method, comprising:

Displaying (51) a table on a display apparatus, wherein the table has multiple rows and multiple columns, each of the rows comprises multiple frames that are sequentially arranged along a first dimension, each of the column [sic] comprises multiple frames that are sequentially arranged along a second dimension, and the second dimension is vertical to the first dimension, wherein the frames of the rows and the columns are filled with information;

detecting (52) a control track for the table input by an input device;

determining (53) a moving direction of the control track according to the detected control track; and along the moving direction of the control track, transposing original information in the frames of the row that are sequentially arranged along the first dimension into the frames of the column that are sequentially arranged along the second dimension, and transposing original information in the frames of the column that are sequentially arranged along the second
dimension into the frames of the row that are sequentially arranged along the first dimension, so as to acquire a transposed table; and
displaying (54) the transposed table on the display apparatus."

IX. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the following text has been added at the end of the claim:

"wherein the control track input by the input device comprises:
with any one point of the rows of the table where the rows does [sic] not intersect the columns of the table as a starting point, drawing through a location where the rows containing the starting point intersects [sic] the columns and extending to any one point of the columns where the columns does [sic] not intersect the rows containing the starting point; or
with any one point of the columns of the table where the columns does [sic] not intersect the rows of the table as a starting point, drawing through a location where the columns containing the starting point intersects [sic] the rows and extending to any one point of the rows where the rows does [sic] not intersect the columns containing the starting point."

X. Claim 1 of auxiliary requests 2 and 3 differs from claim 1 of the main request and auxiliary request 1, respectively, in that the following text has been added at the end of the claim:

"wherein the input device is a touch input apparatus; and
the detecting the control track for the table input by the input device comprises:"
detecting a touch track on the touch input apparatus for the table, wherein the touch track is used as the control track for the table."

XI. 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.

2. The application

2.1 The application relates to allowing a user to instruct a computer to transpose a displayed table such that the columns become rows and the rows become columns.

2.2 The description of the application is mainly concerned with the transposition illustrated by Figure 1A (the original table) and Figure 1B (the transposed table):

This transposition essentially mirrors the table in its main diagonal (from the top-left corner to the bottom-right corner). Paragraph [0028] of the published application refers to it as "90-degree anticlockwise transposing along an anticlockwise direction" or "270-
degree clockwise transposing along a clockwise direction).

2.3 Paragraph [0029] refers to the (reverse) transposition transforming the table of Figure 1B back into the table of Figure 1A as "90-degree clockwise transposing along the clockwise direction" or "270-degree anticlockwise transposing along the anticlockwise direction". The Board notes, however, that this reverse transposition again mirrors the table in its main diagonal and is therefore effectively identical to the transposition transforming the table of Figure 1A into the table of Figure 1B.

2.4 Paragraph [0030] describes a further transposition, which transforms the table of Figure 1A into the table of Figure 1C:

![Table Image]

This transposition is again referred to as "90-degree clockwise transposing along the clockwise direction" or "270-degree anticlockwise transposing along the anticlockwise direction". But this time it rotates the table by 90 degrees instead of mirroring it in one of the table's two diagonals.

At the oral proceedings, the appellant suggested that Figure 1C was erroneous and should instead have shown the result of mirroring the table of Figure 1A in the antidiagonal (from the top-right corner to the bottom-left corner).
Main request

3. The invention as defined by claim 1

3.1 Claim 1 is directed to a "table graphics management method".

3.2 The method first displays a table on a display apparatus. The table has multiple rows and columns. The claim refers to the cells of the table as "frames": each row contains frames sequentially arranged along a first dimension, and each column contains frames sequentially arranged along a second dimension. The frames are "filled with information".

3.3 When a "control track for the table" input by an input device is detected, a "moving direction" of the detected control track is determined.

In view of dependent claim 3, the "control track" may be a "touch track" entered via a touch input apparatus. The Board therefore understands the step "detecting a control track" as meaning that an input command in the form of a gesture is detected.

3.4 The claim then states:

"along the moving direction of the control track, transposing original information in the frames of the row that are sequentially arranged along the first dimension into the frames of the column that are sequentially arranged along the second dimension, and transposing original information in the frames of the column that are sequentially arranged along the second dimension into the frames of the row that are
sequentially arranged along the first dimension, so as to acquire a transposed table".

Although this refers to a single row and column and to "transposing" information from the frames of the row into the frames of the column and vice versa, from the phrase "so as to acquire a transposed table" and the examples given in the description (see point 2 above), it is clear that what is meant is that the table as a whole is transposed, resulting in the rows of the table being converted into columns and the columns into rows.

3.5 Claim 1 does not specify what is meant by transposing "along the moving direction of the control track".

3.5.1 Figures 7A and 7B give examples of control tracks starting in frame 11 and ending in frame 13 of the table of Figure 1A. Both control tracks lead to the transposition of the table into the table shown in Figure 1B (see paragraphs [0096] to [0098] of the published application). Hence, the user can specify a transposition that transposes corner frame 11 in Figure 1A into corner frame 14 in Figure 1B by inputting a gesture that starts in frame 11 and moves in the general direction of frame 13 (of Figure 1A), i.e. perpendicular to the diagonal in which the table is mirrored.

However, the expression "transposing along the moving direction" is imprecise and could also be understood as referring to the transposition that mirrors the table in the diagonal indicated by the "moving direction".

At the oral proceedings, the appellant agreed that both interpretations were possible.
3.5.2 As explained in points 2.3 and 2.4 above, the application is in addition not precise about what other table transformations qualify as "transpositions" that could be specified by means of a gesture/control track.

3.5.3 The Board will, for the purpose of assessing inventive step, interpret claim 1 as meaning that the user has the choice between the two transpositions that correspond to mirroring the table in one of its diagonals, with the control track's "moving direction" somehow distinguishing between the two transpositions.

3.6 The claim further specifies that the transposed table is displayed on the display apparatus.

4. Inventive step

4.1 Document D1 discloses, in Figures 2, 3 and 4 and paragraphs [0038] and [0039], a user interface that allows the user to select one or more rows in a displayed table by means of the checkboxes 260, and to rearrange the table by means of the control icon 212. In the rearranged table, which is shown in Figure 4, the selected rows have become columns and the non-selected rows have been filtered out.

Paragraph [0040] discloses that, in another embodiment, table transposition can occur without filtering.

4.2 Hence, this non-filtering embodiment discloses a method comprising a step of displaying a table having multiple rows and multiple columns, the cells (or "frames") of the table being filled with information, a step of receiving from an input device a control input for the table in the form of a selection by the user of a button in the form of a control icon, a step of
transposing the table, and a step of displaying the transposed table. The transposition mirrors the table in the diagonal from the top-left corner to the bottom-right corner.

4.3 The subject-matter of claim 1 differs from this embodiment in that the control input is a "control track" instead of a button click and in that the table is transposed "along the moving direction of the control track", allowing the user to specify one of two possible transpositions (see point 3.5.3 above).

4.4 In the Board's judgment, the idea of allowing the user to specify one of the two possible table transpositions is non-technical, reflecting the user's subjective wish to choose how to transform the table. Indeed, transposing a displayed table, for example in the context of a word processor and for editorial reasons, is itself non-technical. This non-technical idea may thus be included in the formulation of the objective technical problem.

Hence, the objective technical problem to be solved may be formulated as modifying the method of document D1 to allow the user to input commands for the two possible table transpositions.

4.5 The appellant argued that the skilled person, faced with this problem, would provide, in addition to the control icon 212, a second control icon to allow the user to input a selection of the second table transposition. The skilled person would therefore not have arrived at the claimed subject-matter.

The Board agrees that providing a second control icon was an obvious solution, but that does not mean that
the skilled person would not have considered other options.

4.6 In view of the prevalence of smartphones and tablets at the filing date of the present application, i.e. in April 2012, inputting user interactions by means of gestures, e.g. gestures made by moving a mouse or by moving a stylus or finger over a touch pad or touch screen along a "control track", was well known in the art. To implement two different control options, one would have had to provide two distinguishable gestures. Distinguishing the two gestures on the basis of their control track's "moving direction" would have been an obvious possibility, just like a scroll-down gesture was commonly distinguished from a scroll-up gesture by the gesture's direction.

The skilled person, starting from document D1 and faced with the stated problem, would have provided two control input options for the two transposition operations, for example in the form of separate buttons/control icons or, as an equivalent solution, in the form of two gestures distinguished by "moving direction". The skilled person would thus have arrived at the claimed subject-matter without the exercise of inventive skill.

4.7 In its statement of grounds of appeal, the appellant argued that the use of gestures had several advantages, such as replacing a multitude of clicks and requiring fewer icons to be displayed. The problem to be solved had to be formulated as "modifying the method of document D1 for increasing usability on smaller displays and/or touch screens".
However, the mentioned advantages are among the known and expected advantages of the use of gestures (and indeed are not mentioned in the application as filed) and therefore cannot support an inventive step.

4.8 The appellant also argued that the claimed gestures were particularly intuitive.

Given the lack of precision in the definition of the claimed gestures (see point 3.5.1 above), the Board is not convinced that the claim encompasses only the use of "intuitive" gestures. In any event, whether or not a particular input gesture or other kind of input mechanism is intuitive to the user is normally a subjective and not a technical matter.

4.9 In sum, the subject-matter of claim 1 lacks inventive step (Article 56 EPC).

Auxiliary request 1

5. Clarity

5.1 According to claim 1 of auxiliary request 1, the control track input by the input device comprises one of:

- "with any one point of the rows of the table where the rows [do] not intersect the columns of the table as a starting point, drawing through a location where the rows containing the starting point [intersect] the columns and extending to any one point of the columns where the columns [do] not intersect the rows containing the starting point"; and
5.2 Each frame of the table of Figure 1A is the intersection of the column and the row containing that frame. At the oral proceedings, the appellant confirmed that the "rows" of the table included the header row (consisting of the "Title 1" and "Title 2" cells). Hence, the table has no "points" where "the rows do not intersect the columns of the table" or where "the columns do not intersect the rows of the table". The features added to claim 1 therefore cannot be understood and are thus unclear.

5.3 The appellant argued that the skilled person would understand that the control track's starting and end points were within frames and not on the borders between frames. However, any point within a frame is still a point where the row and the column containing that frame intersect.

5.4 Hence, claim 1 does not meet the requirements of Article 84 EPC.

Auxiliary request 2

6. Inventive step

6.1 Claim 1 of auxiliary request 2 adds to claim 1 of the main request that the input device is a touch input
apparatus and that the "control track" is a touch track detected on the touch input apparatus.

6.2 Since the use of touch input devices such as touch pads and touch screens was well known in April 2012, the amendments made in auxiliary request 2 do not overcome the objection of lack of inventive step (Article 56 EPC).

Auxiliary request 3

7. Claim 1 of auxiliary request 3 includes the features of auxiliary request 1 objected to for lack of clarity in point 5 above. It is therefore also unclear (Article 84 EPC).

Conclusion

8. Since none of the requests on file is allowable, the appeal is to be dismissed.
Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: S. Lichtenvort

The Chairman: R. Moufang

Decision electronically authenticated