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D E C I S I O N
of 20 April 1994

Case Number: T 0059/93 - 3.5.1

Application Number: 86100112.1

Publication Number: 0192022

IPC: G06F 15/62

Language of the proceedings: EN

Title of invention:

Method for interactive rotation of displayed graphic objects

Applicant:

International Business Machines Corporation

Opponent:

-

Headword:

-

Relevant legal norms:

EPC Art. 52(1), (2)(a),(b),(c),(d), (3)

Keyword:

"Patentable invention (yes) - mental acts as such (no) -
mathematical method as such (no) - doing business as such (no)
- computer program as such (no) - information presentation as
such (no)"

"Inventive step (yes) - not obvious from assumed prior art or
common knowledge"

Decisions cited:

T 0208/84, T 0038/86, T 0065/86, T 0790/92

Catchword:

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Case Number: T 0059/93 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 20 April 1994

Appellant: International Business Machines
Corporation
Old Orchard Road
Armonk, NY 10504 (US)

Representative: Schuffenecker, Thierry
Compagnie IBM France
Département de Propriété Intellectuelle
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Decision under appeal: Decision of the Examining Division of the European
Patent Office dated 5 May 1992 refusing European
patent application No. 86 100 112.1 pursuant to
Article 97(1) EPC.

Composition of the Board:

Chairman: P.K.J van den Berg
Members: W.B. Oettinger
G. Davies

Summary of Facts and Submissions

- I. The appeal contests the Examining Division's decision to refuse the European patent application No. 86 100 112.1 filed, claiming a priority of 19 February 1985, on 7 January 1986 (publication No. 0 192 022).

The reason given for the refusal was that the subject-matter of Claim 1 filed on 25 October 1991 and of alternative Claim 1 filed on 29 October 1991 fell within the exclusions from patentability defined by Article 52(2) EPC. More particularly, in the Examining Division's view, the steps of the claimed method carried out by an operator would involve only mental acts excluded from patentability by Article 52(2)(c) EPC. The characterising steps would rather be user instructions than technical functions of an apparatus.

- II. The decision was issued on 5 May 1992.

The appeal was lodged on 9 June 1992 with a request that the decision be reversed.

The prescribed fee was paid on the same day.

On 9 September 1992, the Appellant filed a Statement of Grounds.

- III. In the Statement of Grounds, the Appellant requested, by implication, that a patent be granted on the basis of Claims 1 to 7 filed on 9 September 1992.

IV. In response to a communication pursuant to Article 11(2) Rules of Procedure of the Boards of Appeal expressing doubts about the admissibility under Article 123(2) EPC and (if the admissibility problem were resolved) about the allowability under Article 52(2)(c)/(d) and (3) EPC of Claim 1, the Appellant filed an "Alternative" Claim 1.

V. In oral proceedings, held on 20 April 1994, the Appellant replaced the claims of his main request and filed a new description.

He requested that the grant of a patent be based on Claims 1 to 7 filed on 20 April 1994 (main request) or on "Alternative" Claim 1 filed on 25 March 1994 and Claims 2 to 7 filed on 9 September 1992 (auxiliary request).

Claim 1 of the main request reads as follows:

"Method for entering a rotation angle value into an interactive draw graphic system having an operator positionable cursor to rotate from a first position to a second position a graphic object that includes a center point and that is defined by a plurality of line segments, said method comprising the steps of:

- (a) displaying said object from said first position to said operator,
- (b) monitoring the position of said cursor on said display in response to an operator request for a rotate action on one object,

- (c) determining if the current cursor position is close enough to a graphic object in response to an operator request for a selection of an object, and
- (d) if the cursor is close to one object, highlighting said object to set it apart from the other objects and to let the operator see which object has been selected, said object remaining selected until the completion of the rotation,
- (e) calculating the coordinates of said center point of the selected object and the location of the cursor at which the operator selected the object in order to determine the equation of the baseline between the center of the object and the point of selection of the object,
- (f) initializing a counting process (RUNNING_COUNT) for storing the running count of the total number of degrees that the object will be rotated,
- (g) monitoring the position of said cursor in order to determine the equation of the current line (NEW_LINE) between the current position of said cursor and the center of said selected object,
- (h) comparing the equation of the current line with respect to the equation of the baseline for determining the value of the angle between both lines,
- (i) updating said counting process with said determined value of the angle, and

(j) displaying the selected object with the value of the rotation stored by said counting process."

Claims 2 to 7 refer, either directly or indirectly, back to Claim 1.

VI. In support of his main request, the Appellant argued essentially as follows:

The Examining Division's objections (cf. point I) have effectively been met by the amendments made to Claim 1.

The prior art coming nearest to the claimed invention is the undocumented method acknowledged in the description in column 2, lines 9 to 35 and in which the problems indicated in lines 36 to 47 are encountered. In essence, that method requires, after the selection of a graphic object at a point of its circumference, the mouse to be moved perpendicularly to the direction from that point to the centre of the object for rotating it. Other movements are not allowed or, at least, it is not disclosed how the system would react to movements in other directions.

The claimed method differs from this prior art particularly by the features that deselection is prevented as long as required (cf. feature (d)) and the radial line connecting the cursor with the object centre is continuously calculated for determining directly the angle against its position at the selection of the object (cf. features (e) to (i)).

In contrast to the prior art, this method enables the user to move the cursor, by moving the mouse (or an

equivalent means) on any curve whatsoever, to a position much more distant from the centre of the object, without "losing" the latter.

The effects of this method are of a technical nature in that

- the accuracy of rotation of the object does not depend upon the size of the object but only on the length of the "newline" from the object centre to the cursor,
- the system correctly responds to any movement, on whatever curve, of the cursor to its new position on the "newline", the user being allowed to choose the area, e.g. a blank area, where to move the cursor (and possibly, according to Claim 2, where to display the total running count representing the value of the rotation angle).

The objective problem solved by the claimed method is, thus, also of a technical nature, namely, how to effect adaptable control of the accuracy of a rotation value to be entered into the system by way of a cursor means used for selecting the object to be rotated, regardless of its size. By the user being allowed to move the mouse away from the point of selection of the object, he is thus enabled to improve the accuracy of the rotation process.

Reasons for the Decision

1. The appeal (cf. paragraph II) is admissible.

2. *Amendments - main request*

2.1 Claim 1 is based on the flow chart as described in column 5 and illustrated in Figure 7.

2.2 Claims 2 to 7 are based on the original dependent Claims 2 (or 6), 3, 4, 6, 7 and 8, respectively.

2.3 The amendments made to column 2 and the deletion of column 8 are intended to, and do, comply with the requirements of the Convention (Rule 27; Article 84, Rule 34(1)(c) EPC).

3. *Non-exclusion from patentability - main request Claim 1*

3.1 Method Claim 1 (cf. point V) is to be understood as defining, by the steps it comprises, the functional features, in operation, of an interactive draw graphic system, normally implemented by a program-controlled computer, its operator being the user.

It goes without saying that these features, or steps (a) through (j), can no longer be regarded as a method for performing, or involving (as user instructions), mental acts.

Therefore, it needs only to be considered whether Claim 1 would be excluded from patentability by other provisions of Article 52(2) EPC.

3.2 In steps (e), (g) and (h), mathematical methods are implied for calculating coordinates, lines and an angle.

Mathematical methods **as such** would be excluded from patentability by Article 52(2)(a) in conjunction with (3) EPC. However, clearly, the claim does not relate to a mathematical method **as such**; it does not define any formula according to which the calculations should be performed. Rather, the calculating steps mentioned are only means, or tools, used within the overall method claimed, for entering a rotation angle value into a draw graphic system.

- 3.3 The graphic objects to be rotated are not restricted, by their meaning or information content, to business graphics such as pie charts, bar graphs, etc. (mentioned in column 1, lines 53 to 55).

No objection, therefore, could be raised under Article 52(2)(c) in conjunction with (3) EPC that the claimed method would be doing business **as such**.

- 3.4 As already indicated above (point 3.1), the functions defined by steps (a) through (j) will normally be implemented by computer programs. Programs for computers are also, **as such**, excluded from patentability by Article 52(2)(c) in conjunction with (3) EPC.

However, the operation of the system, in its use under control of such programs brings about a number of effects which are to be regarded as technical and, thereby, solve a problem which is to be regarded as involving technical considerations. Reference is made, in this respect, to the Appellant's submissions mentioned above (point VI, last but one and last paragraphs) which the Board fully agrees with. Enabling

the user, by said effects, to perform a finer control of the rotate action fulfils, in the Board's view, the requirement of the invention being of a technical nature.

In accordance with the Board's case law, such methods comprising excluded features but nevertheless solving a technical problem and bringing about technical effects are to be considered as making a technical contribution to the art. They are not, consequently, excluded from patentability.

- 3.5 In features (a) and (j), presentations of information are implied. Information presentation **as such** is excluded from patentability by Article 52(2)(d) in conjunction with (3) EPC.

However, clearly, as in the case of features (e), (g) and (h) (cf. point 3.2), the excluded subject-matter is not claimed **as such**, but only to be seen as a means, or tool, for implementing one or two steps of the method claimed as a whole.

- 3.6 In particular for the reason mentioned before (cf. point 3.4), the fact that excluded matters are involved, or implied, does not render the entirety of the claimed method an activity or subject-matter excluded from patentability under Article 52(2) and (3) EPC.

On the contrary, that method is, for these reasons, to be regarded as an invention within the meaning of Article 52(1) EPC.

4. *Novelty and inventive step - main request*

4.1 Novelty of the subject-matter claimed was never in dispute, and the Examining Division did not raise a lack of inventive step objection either, although it identified, in paragraph 2 of the reasons for the decision under appeal, prior art coming near to the invention as disclosed and being therefore suitable for serving as a starting point.

Whether or not this means that the first instance department considered the subject-matter claimed, given that it is an invention within the meaning of Article 52(1) EPC, to involve an inventive step, the Board finds it appropriate, once the nearest prior art and the differences of the claimed subject-matter therefrom have been identified, to consider also the question of inventive step.

4.2 From the statements in the description (column 2) explaining the acknowledged prior art coming nearest to the claimed method, nothing can be derived which could be regarded as pointing to any other possible method, or partial method, than the one directly described in that very prior art.

The specific differences of the invention as claimed with regard to the said prior art, as explained by the Appellant (point VI, third and fourth paragraphs) could not, therefore, be regarded as rendered obvious by that assumed prior art, even if the latter had been documented.

4.3 The statements in the description (column 1) referring to other prior art are also not of such a kind that it could be assumed that such other prior art would render the claimed method obvious.

4.4 The only document cited in the Search Report, which had been published before the priority date of the present application, was neither cited by the Examining Division nor considered by the Board to be relevant enough to give rise to an obviousness objection.

4.5 General considerations based on common knowledge of the person skilled in the art of computer graphics have also not been found to be sufficient for concluding that it would be obvious to replace the method assumed to be known (column 2 of the description), or part of it, by the particular method, or method steps, respectively, defined in Claim 1.

4.6 It is therefore concluded that the claimed method involves an inventive step.

5. *Main request - other documents*

5.1 Claims 2 to 7 are dependent claims apparently concerning particular embodiments of the method of the independent Claim 1.

Their allowability derives from that of Claim 1.

5.2 No objection arises in respect of the amended description.

Even though it contains an illustration (column 5, line 64 to column 6, line 57) of, and a pseudo code (column 6, line 59 to column 7, line 66) for a computer program, under the circumstances of the present case this cannot be regarded as a "statement or other matter (which would be) obviously irrelevant or unnecessary" and thus prohibited (Rule 34(1)(c) EPC).

6. *Conclusions*

The Appellant's main request is to be allowed.

It is not, therefore, necessary to consider whether the auxiliary request, in particular the alternative Claim 1, which is apparently based on the aforementioned illustration of a program (cf. point 5.2) usable for implementing the object rotation (cf. column 5, lines 64 to 67), would be admissible and allowable.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent on the basis of the following application documents:

Description: three pages (columns 1 to 7) filed on
20 April 1994;

Claims: 1 to 7 filed on 20 April 1994;

Drawings: five sheets (Figures 1 to 7) as
published.

The Registrar:

The Chairman:

M. Kiehl

P.K.J. van den Berg