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**Datasheet for the decision
of 9 September 2013**

Case Number: T 2178/08 - 3.5.05

Application Number: 03026808.0

Publication Number: 1422603

IPC: G06F 3/033

Language of the proceedings: EN

Title of invention:

Pointing device and electronic apparatus provided with the pointing device

Applicant:

NEC Corporation
NTT DOCOMO, INC.

Headword:

Pointing Device/NEC CORPORATION

Relevant legal provisions:

EPC Art. 123(2), 52(1)

Relevant legal provisions (EPC 1973):

EPC Art. 56, 84

Keyword:

"Clarity and support by the description - yes"
"Extension of subject-matter - no"
"Inventive step - yes"

Decisions cited:

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Catchword:

-



Case Number: T 2178/08 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 9 September 2013

Appellant: NEC CORPORATION
(Applicant 1) 7-1, Shiba 5-chome
Minato-ku
Tokyo 108-8001 (JP)

Appellant: NTT DOCOMO, INC.
(Applicant 2) 11-1, Nagatacho 2-chome
Chiyoda-ku
Tokyo 100-6150 (JP)

Representative: Glawe, Delfs, Moll
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 17 June 2008
refusing European patent application
No. 03026808.0 pursuant to Article 97(2) EPC.

Composition of the Board:

Chair: A. Ritzka
Members: P. Corcoran
G. Weiss

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division to refuse the European patent application no. 03 026 808.0, publication no. EP 1 422 603. The decision was announced during oral proceedings on 6 May 2008 with written reasons being dispatched on 17 June 2008.
- II. The decision under appeal is based on a request comprising a set of claims 1 to 9 filed with the letter of 4 April 2008 and cites, *inter alia*, the following prior art documents:
- D1: WO 01/65329 A.
 - D3: EP 1 223 541 A.
 - D4: US 6 067 077 B.
- III. According to the decision, the subject-matter of claim 1 of the aforementioned request lacked an inventive step in the light of D3 in combination with general knowledge as exemplified by D1 and the teaching of D4 (cf. Grounds for the Decision, item 2.6).
- IV. Notice of appeal was received at the EPO on 18 August 2008 with the appropriate fee being paid on the same date. A statement setting out the grounds of appeal was received at the EPO on 16 October 2008. With the statement setting out the grounds of appeal the appellant filed a main request and two auxiliary requests. The claims of the main request corresponded to the claims on which the decision under appeal was based (cf. item II above).

- V. In a communication dated 10 May 2012, the board expressed reservations as to whether claim 1 of the main request defined the matter for which protection was sought in a manner which complied with the requirements of Article 84 EPC 1973. The board further noted that its preliminary study of the appeal indicated that, subject to appropriate amendment which complied with Article 123(2) EPC, the appellant's main request appeared to provide a potential basis for satisfying the requirements of the EPC, in particular the inventive step requirement thereof.
- VI. With a letter of reply dated 7 September 2012, the appellant filed an amended main request comprising claims 1 to 9 and amendments to pages 5 and 13 of the description. In addition thereto, pages 6 to 12 of the description were cancelled. The previous requests on file were maintained as auxiliary requests.
- VII. With a further communication dated 21 November 2012, the board drew the appellant's attention to an apparent typographical error in the text of claim 1 of the amended main request and invited the appellant to amend said claim in the light of its observations. The board further advised the appellant that insofar as it arrived at an opinion that the appeal could be allowed on the basis of a corrected version of the main request, it did not intend to summon to oral proceedings but rather intended to issue a written decision directly.
- VIII. With a letter of reply dated 4 December 2012 the appellant submitted an amended version of the main request and stated that its request for oral

proceedings was only maintained in the case that neither the main request nor the first auxiliary request were regarded as allowable.

IX. The appellant has requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims and description according to the main request filed with the letter dated 4 December 2012, or subsidiarily on the basis of one of the auxiliary requests on file. The appellant has also made a precautionary request for oral proceedings (cf. item VIII above).

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

"A pointing device comprising:

an operation key located approximately at the center of an opening section; and

a calculating section for calculating a slid distance and a slid direction of the operation key, and for generating a control signal according to the detected slid distance and the slid direction,

wherein the calculating section is configured to:

define an original point as a point where a slid distance of the operation key is zero, and

define a maximum value and a minimum value as max_max and min_max, respectively, the maximum value and the minimum value being a maximum slid distance and a minimum slid distance from the original point to the rim of the opening section,

wherein the calculating section is further configured to generate the control signal corresponding to the slid distance of the operation key by:

determining a strength of the control signal zero in the case where the operation key is located within a

circular area whose center is located at the original point and whose radius is n/N of the max_max , where n and N are arbitrary positive integers, and $n < N$;

determining a strength of the control signal corresponding to the slid distance of the operation key on the basis of a predetermined rule of operation in the case where the operation key is located within a toric area whose distance from the original point is larger than n/N of the max_max and smaller than the min_max ; or

determining a strength of the operation signal corresponding to a strength obtained when a slid distance of the operation key is the min_max in the case where the operation key is located within an area whose distance from the original point is larger than the min_max ."

- XI. Having considered the appellant's written submissions, in particular the amendments to the main request, the board came to the conclusion that a decision could be issued in the present case without holding oral proceedings.

Reasons for the Decision

1. The appeal is admissible (cf. Facts and Submissions, item IV. above).
2. For the reasons set forth below, the board has no objections concerning the patentability of the subject-matter claimed in the main request. As the appeal is judged to be allowable, there is no obligation to grant the appellant's precautionary request for oral

proceedings (cf. Facts and Submissions, items VIII and IX above) and a written decision may be issued directly.

Main request

3. *Preliminary observations*

3.1 Claim 1 is directed towards a pointing device in accordance with the "first embodiment" of the invention as illustrated in Figs. 1 to 4 of the published application.

3.2 The pointing device comprises an operation key ("slide key") which is located at the centre of an opening section when it is in a resting position. The resting position of the operation key (the so-called "original point") may not correspond to the true geometrical centre of the opening section. This misalignment between the "original point" and the true geometrical centre of the opening section leads to an inequality (or "deviation") between \min_max and \max_max , i.e. the respective minimum and maximum slid distances from the original point to the rim of the opening section (cf. published application: [0048], last sentence).

3.3 To deal with such a situation, a so-called "limiting area" is defined as illustrated in Fig. 2 (cf. published application: [0063]). As shown in Fig. 2, the limiting area is a crescent-shaped ("C-shaped") area such that $\min_max < r < \max_max$ where r is the distance from the original point. When the slide key is located within this area, the strength of a control signal is determined based on taking the slid distance of the slide key as \min_max . The value \min_max thus represents

- a saturation level which is applied in cases where the slid distance exceeds this value.
- 3.4 The provision of the "limiting area" makes it possible to generate a fixed maximum value of a control signal regardless of a slid direction of the slide key (cf. published application: [0073], last sentence). As may be inferred from Fig. 2 of the application, defining such a limiting area compensates for any lack of symmetry in the response of the pointing device arising from misalignment between the "original point" and the true geometrical centre of the opening section.
4. *Article 84 and 123(2) EPC*
- 4.1 Claim 1 of the main request is supported by the passages of the description relating to the first embodiment of the invention, in particular p.16 l.4 - p.25 l.21 of the application as originally filed. On this basis, the board is satisfied that claim 1 defines the essential technical features of the invention in a manner which complies with the requirements of Article 84 EPC 1973.
- 4.2 The board is likewise satisfied that claims 2 to 9 of the request are clear and are supported by the originally filed description.
- 4.3 As the claims of the main request find support in the originally filed description, no objection arises under Article 123(2) EPC.

5. *Observations re D4*

5.1 D4 which relates to an interface device comprising a manipulandum such as a joystick handle (cf. col.6 1.14-29) discloses the provision of "saturation zones" at the limits to the manipulandum range (cf. col.22 1.59 *et seq.*). These saturation zones are intended to provide a constant position at the ends of manipulandum travel so that any deviations in the sensor readings are normalized. According to D4, such deviations may be due to compliance in the transmission system or due to imperfections in sensors which may cause different readings from the sensor when the device is returned to the same position (cf. col.22 1.66 - col.23 1.2).

5.2 In the preferred embodiment illustrated in Figs. 10 and 10a of D4, minimum and maximum limits to the normalized sensor range are defined as True-Min and True-Max respectively. Any value that would be normalized to a value above True-Max is adjusted to the level of True-Max and any value that would be normalized to a value below True-Min is adjusted to the level of True-Min. True-Max and True-Min thus represent "saturation levels" (D4: col.23 1.45-49).

5.3 In summary, D4 discloses the provision of a first saturation zone at the upper end of the range of motion defined by a first saturation level (True_Max) and the provision of a second saturation zone at the lower end of the range of motion defined by a second saturation level (True_Min).

6. *Article 52(1) EPC*

- 6.1 In the decision under appeal, the examining division considered D3 as the closest prior art document. The subject-matter of claim 1 was held to differ from the teaching of D3 inter alia in that the control signal reported by the pointing device is set to a predetermined constant value when the operation key is within a saturation zone which is between a circle centred on the original point having a radius equal to min-max (i.e. the minimum slid distance from the original point to the rim of the opening section) and the rim of the opening section.
- 6.2 In said decision, it was further held that the skilled person would not require the exercise of inventive skill to apply the teaching of D4 concerning saturation zones to the pointing device of D3 in order to provide a circular saturation zone centred on the original point (at least if the original point coincides with the geometrical centre of the opening section) and that when the original point was redefined (e.g. due to a new calibration), the skilled person would aim at maintaining the symmetry of the profile, and would re-define the saturation zone accordingly.
- 6.3 The board agrees with the assessment of D3 as the most relevant prior document and with the finding that the subject-matter of claim 1 is novel over said document. However, the board does not concur with the findings in the decision under appeal relating to the teaching of D4 for the reasons which follow.

6.4 In the board's judgement, the disclosure of D4 relating to "saturation zones" relies on the use of two distinct saturation levels (cf. 5.3 above). D4 neither anticipates nor suggests the provision of a crescent-shaped limiting area defined by a single saturation level (i.e. min_max) as disclosed in the present application (cf. 3.3 above).

6.5 It is further noted in this regard that the disclosure of D4 refers to deviations due to compliance in the transmission system or due to imperfections in sensors (cf. 5.1 above) but it does not consider the problem of a misalignment between an "original point" corresponding to the resting position of an operation key and the true geometrical centre of the opening section. Consequently, there is no indication or suggestion in D4 which would lead the skilled person to attempt to compensate for such misalignment.

6.6 D1 recognises the problem of misalignment referred to above. However, it discloses the use of an offset as the conventional solution to this problem (cf. D1: p.16 l.35 et seq., in particular references to "center position offset" on p.17 l.26 et seq.).

6.7 Thus, although the underlying problem, i.e. the need to compensate for misalignment, may be considered as known in the light of D1, the solution taught by the present application is clearly different from that disclosed in D1 and cannot, in the board's judgement, be derived in an obvious manner from said document.

7. In view of the foregoing, the board concludes that a combination of D3 with D4 and/or D1 would not lead the

skilled person to the subject-matter of claim 1 in an obvious manner. Consequently, said claim is judged to involve an inventive step over the available prior art.

8. Having regard to the board's findings concerning the main request (cf. 7. above) it is not necessary to give consideration to the appellant's auxiliary requests.

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 with the order to grant a patent on the basis of the claims and description submitted as a main request with the letter dated 4 December 2012 along with any further adaptation of the description and drawings which may be required.

The Registrar:

The Chair:

K. Götz

A. Ritzka