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**Datasheet for the decision
of 27 September 2021**

Case Number: T 0888/19 - 3.5.05

Application Number: 09785229.7

Publication Number: 2307945

IPC: G06F3/033, G06F1/32

Language of the proceedings: EN

Title of invention:

TRACKBALL

Applicant:

Cursor Controls Limited

Headword:

TRACKBALL / Cursor Controls

Relevant legal provisions:

EPC Art. 123(2), 84, 56

Keyword:

Claims - clarity - main request (no)
Amendments - added subject-matter (no)
Inventive step - non-obvious solution



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0888/19 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 27 September 2021

Appellant: Cursor Controls Limited
(Applicant) Conroi House
Brunei Drive
Newark
Nottinghamshire NG24 2EG (GB)

Representative: CSY Herts
Helios Court
1 Bishop Square
Hatfield, Hertfordshire AL10 9NE (GB)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 7 November 2018
refusing European patent application No.
09785229.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair E. Konak
Members: N. H. Uhlmann
W. Sekretaruk

Summary of Facts and Submissions

- I. The appellant appealed against the decision of the examining division refusing European patent application No. 09785229.7, which was filed on 4 June 2009.
- II. The examining division decided that the subject-matter of the claims of the main request and of the auxiliary request did not involve an inventive step.
- III. The examining division made reference to the following documents *inter alia*:

D1 US 2005/228320
D2 JP 9114589
D2a machine translation of D2, sent to the appellant on 18 October 2013
D3 EP 1 109 127
D4 US 2007/132733.
- IV. In its statement setting out the grounds of appeal, the appellant maintained the main request underlying the contested decision as the sole request and submitted arguments.
- V. The board summoned the appellant to oral proceedings.
- VI. In a communication pursuant to Article 15(1) RPBA 2020, the board set out its provisional view of the case.
- VII. In a letter dated 27 July 2021, the appellant submitted an amended main request, an amended auxiliary request 1 and comments on the provisional view of the board.
- VIII. On 17 August 2021 the registrar of the board informed the appellant that the board was minded to allow the application based on auxiliary request 1.

- IX. The appellant stated in writing on 20 August 2021 that it would withdraw its request for oral proceedings on the condition that the application be allowed based on auxiliary request 1.
- X. The board cancelled the oral proceedings.
- XI. The appellant's final request was that the decision under appeal be set aside and a patent be granted on the basis of the main request or, alternatively, of auxiliary request 1, both of which were submitted with the letter dated 27 July 2021.
- XII. Claim 1 of the main request reads:
- "A pointing device including ;
- a ball comprising an electrically conductive material and a non-electrically conductive outer layer wherein physical movement of the ball translates to physical movement of a cursor on an interface;
- a capacitive proximity sensor arranged to measure a value of capacitance, representative of the proximity of a sensed object to the ball, the value of capacitance comprising a capacitance between the sensed object and the electrically conductive material of the ball, and a capacitance between the electrically conductive material of the ball and the capacitive proximity sensor;
- a switch actuatable in response to the proximity of the sensed object to the ball, such that the switch is in an activated state when the sensed object is in contact with or is in close proximity to the ball, and the switch is in a deactivated state when the sensed object is not in contact with or in close proximity to the ball subject to an exception; and

a controller for communicating data representative of physical movement of the ball to the said interface, said controller further detecting the speed of rotation of the ball;

wherein, when the switch is in an activated state, the controller communicates the data representative of physical movement of the ball to the said interface, and when the switch is in a deactivated state, the controller does not communicate the data representative of physical movement of the ball to the said interface; and

wherein the exception to the switch being in a deactivated state when the sensed object is not in contact with or in close proximity to the ball is that, after the sensed object is no longer in contact with or in close proximity to the ball, the switch remains in an activated state until the speed of rotation of the ball falls below a predetermined threshold."

Claim 2 of the main request reads:

"A pointing device as claimed in claim 1 wherein the switch being in a deactivated state when the sensed object is not in contact with or in close proximity to the ball is subject to a second exception; and

wherein the second exception is that, after the sensed object is no longer in contact with or close proximity to the ball, the switch remains in an activated state for a predetermined time period."

XIII. Claim 1 of auxiliary request 1 is identical to claim 1 of the main request. Claim 2 of the main request has been deleted in auxiliary request 1.

Reasons for the Decision

1. The application pertains to a pointing device with a track ball. Using a capacitive proximity sensor, the pointing device activates/deactivates the transmission of movement signals to a display. Even when no object, e.g. finger, is touching the track ball, signals are transmitted when the ball is moving due to inertia, until the speed of movement falls below a threshold.
2. Document D1 discloses a pointing device with a similar proximity sensor. Even when no object, e.g. finger, is touching the track ball, signals are transmitted for a period of time.

Main request

3. Clarity

Dependent claim 2 has been amended to refer to a "second exception" based on a time period. The two exceptions (based on speed in claim 1 and time period in claim 2) apply at the same time, and it is not clear whether their conditions are connected using a logical "and" (data transmitted as long as the time period has not expired and the speed of rotation of the ball remains above the threshold) or a logical "or" (data transmitted as long as the time period has not expired or as long as the speed of rotation of the ball remains above the threshold).

For this reason, claim 2 does not meet the requirements of Article 84 EPC. Consequently, the main request is not allowable.

Auxiliary request 1

4. Amendments

4.1 Claim 1 as amended meets the requirements of Article 123(2) EPC and overcomes the objections set out in points 8.1 to 8.3 of the preliminary opinion of the board.

4.2 In particular, the "exception" feature is based on page 10, line 21 to page 11, line 14 and more specifically on the "alternative embodiment" described on page 11, lines 9 to 14.

The "activated" and "deactivated" states of the switch are based on original claim 2.

Similarly, the "speed of rotation" is based on page 11, lines 9 to 14.

4.3 Claim 3 of the previous sole request has been deleted.

4.4 Consequently, the board holds that auxiliary request 1 meets the requirements of Article 123(2) EPC.

5. Clarity

Claims 2, 3 and 9 have been deleted. Thus, the objections in point 9 of the preliminary opinion are overcome and the requirements of Article 84 EPC are satisfied.

6. Patentability

6.1 With regard to claim 1, the board agrees with the appellant and the decision under appeal that document D1 constitutes a suitable starting point for an inventive-step assessment.

6.2 The board agrees with the appellant that D1 does not disclose

"after the sensed object is no longer in contact with or in close proximity to the ball, the switch remains in an activated state until the speed of rotation of the ball falls below a predetermined threshold."

6.3 Instead, document D1 discloses that the pointing device remains activated for a period of time (see claim 3 and paragraph 23).

6.4 Claim 1 and document D1 both teach that, in general, the pointing device is deactivated when a sensed object, e.g. a finger, is no longer in contact with or in close proximity to the ball. Detection of unintentional movements is thus avoided. Therefore, the objective technical problem as formulated by the appellant in the statement setting out the grounds of appeal, namely "providing a pointing device wherein unintentional movement of the ball is not communicated to a said interface", cannot be used, since D1 already solves this problem.

6.5 The distinguishing feature is actually related to an exception to this general principle.

In D1, the exception is that the pointing device remains active for a period of time. Any motion of the ball during this period of time, be it intentional (ball continues to rotate due to inertia) or unintentional (due to shock or vibration), is transmitted to a monitor.

However, in claim 1 the exception is that the motion of the ball is transmitted until the speed of rotation of the ball falls below a threshold.

The technical effect achieved by this exception is to avoid the pointing device being deactivated too quickly or too frequently.

- 6.6 The objective technical problem as formulated in the decision under appeal (section 1.3 on page 4), i.e. "how to provide an alternative means of preventing unwanted/unintended motion of the track ball being transmitted to an interface or monitor", is therefore also not correct, since it cannot be derived from this technical effect. Instead, the objective technical problem is to provide an alternative to the exception in D1 in order to avoid the pointing device being deactivated too quickly or too frequently.
- 6.7 Document D1 does not teach that the speed of rotation of the ball is evaluated for any purpose. Consequently, the subject-matter of claim 1 involves an inventive step over the disclosure of document D1.
- 6.8 None of the further documents on file discloses or suggests the distinguishing features (point 6.2 above).
- 6.9 The examining division argued in the impugned decision that the subject-matter of claim 1 does not involve an inventive step "not only in view of the common general knowledge of the skilled person of the characteristics of trackballs but also in view of the straightforward adaptation of D1 to implement this".

The board agrees that the physical characteristics of a track ball and its inertial rotation are in general known to the person skilled in the art of input devices. However, comparing the speed of rotation with a threshold and stopping the transfer once the speed is below the threshold do not belong to common general knowledge of this sort.

- 6.10 Likewise, although document D2/D2a teaches the same general principle (see point 6.4 above) as claim 1 and D1, it is silent on any exception to this general principle.
- 6.11 It is arguably correct that adapting the teaching of D1 to implement the distinguishing features does not pose significant difficulties for the skilled person. However, this confirms merely that the skilled person could come up with, and implement, the solution as claimed. It does not confirm that they would do so.
- 6.12 In summary: the subject-matter of claim 1 involves an inventive step in view of the prior art on file and hence the requirements of Article 56 EPC are satisfied.
7. Conclusion
- The claims of auxiliary request 1 meet the requirements of the EPC.

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 with the order to grant a patent on the basis of auxiliary request 1 filed on 27 July 2021 and the description and drawings to be adapted.

The Registrar:

The Chair:



K. Götz-Wein

E. Konak

Decision electronically authenticated