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**Datasheet for the decision
of 23 March 2016**

Case Number: T 1116/12 - 3.5.05

Application Number: 08155509.6

Publication Number: 2040149

IPC: G06F3/033, G06F3/023, G06F3/048

Language of the proceedings: EN

Title of invention:
Input apparatus with multi-mode switching function

Applicant:
Acer Incorporated

Headword:
Input apparatus with multi-mode switching function/ACER

Relevant legal provisions:
EPC Art. 56, 84
RPBA Art. 13(1)

Keyword:
Inventive step - (no)
Claims - clarity (no)
Late-filed request - submitted during oral proceedings -
request clearly allowable (no)

Decisions cited:

Catchword:



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Case Number: T 1116/12 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 23 March 2016

Appellant:
(Applicant)

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted on 30 December
2011 refusing European patent application No.
08155509.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: M. Höhn
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 30 December 2011, refusing European patent application No. 08155509.6 on the grounds of Article 123(2) EPC, lack of clarity (Article 84 EPC) and lack of inventive step (Article 56 EPC) having regard to

D1: US 2007/002016 A1.

II. This decision makes reference to the following prior-art publications:

D3: DE 100 65 621 A1 and

D5: US 2006/0197750 A1.

III. The notice of appeal was received on 28 February 2012. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 26 April 2012. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the main request or the auxiliary request, both filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.

IV. With a communication dated 15 December 2015 the board summoned the appellant to oral proceedings on 23 March 2016. Publication D5 was introduced by the board of its own motion under Article 114(1) EPC in reaction to the amendments made by the appellant to the independent claims in the appeal proceedings. In an annex to the summons the board expressed its preliminary opinion that both requests lacked inventive step (Article 56 EPC). Furthermore, it appeared that

the main request lacked clarity (Article 84 EPC) and the auxiliary request did not fulfil the requirements of Article 123(2) EPC.

- V. By letter dated 19 February 2016 the appellant submitted two sets of claims according to an amended main request and an amended auxiliary request, supported by arguments in favour of an antecedent basis, clarity and inventive step.
- VI. Oral proceedings were held on 23 March 2016. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, subsidiarily, on the basis of the first auxiliary request (filed as main request and auxiliary request with letter dated 19 February 2016), or on the basis of the second auxiliary request as filed during the oral proceedings before the Board.
- VII. Independent claim 1 according to the main request reads as follows:

"1. An input apparatus with multi-mode switching function, comprising:
a body (11, 31) for holding;
an arc surface touching module (12), arranged on surface of said body (11, 31), capable of detecting two-dimensional position data via at least one contact;
and
a control module (13, 32, 53), coupled to said body (11, 31), capable of switching said input apparatus to a first input mode based on first two-dimensional position data detected by said arc surface touching module (12), wherein said first input mode is one of a plurality of input modes corresponding to a holding pattern of a user's hand based on said two-dimensional

position data, wherein the first input mode is determined on the basis of relative relationship of multiple touching areas and the positions thereof and independent of the origin position of said arc surface touching module (12), and subsequently generating a control signal based on said first input mode and further two-dimensional position data subsequently detected by said arc surface touching module (12), wherein said body (11, 31) is configured to have a geometric shape of one of a cylinder, a cone, a sphere, a pipe-shaped object with cylindrical surface and a shape with circular symmetric surface with respect to a longitudinal center line of said body, wherein said input apparatus (1, 3, 5) is capable of controlling an electronic apparatus (19), which is separate from said input apparatus (1, 3, 5)."

Claim 1 according to the first auxiliary request comprises the following additional feature:

"wherein the two-dimensional position data subsequently detected by the arc surface touching module (12) indicates a gripping movement starting from said holding pattern, wherein said gripping movement includes one of bending a finger of said hand to touch twice".

Claim 1 according to the second auxiliary request comprises the following additional feature in comparison to claim 1 according to the main request:

"wherein the first input mode is selected from one of a drawing mode, a browsing mode, and a multimedia broadcasting mode".

VIII. After due consideration of the appellant's arguments the chair announced the decision.

Reasons for the Decision

Admissibility of the appeal

1. The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point III above). It is therefore admissible.

Main request

2. Article 123(2) EPC

The objections under Article 123(2) EPC in the decision under appeal have been overcome.

3. Article 84 EPC

The objections under Article 84 EPC in the decision under appeal have been overcome.

4. Article 56 EPC - Inventive step

In the board's view D5 is the closest prior art, since it has most features in common with the claimed subject-matter. D5 discloses an input apparatus with multi-mode switching function comprising a body with a surface touching module arranged on the surface of said body (see e.g. figure 16 and [0105] onwards) and capable of detecting two-dimensional position data (see figures 17A-D and [0074]). In particular, an input mode is determined on the basis of a relative relationship of multiple touching areas and the positions thereof and independent, of the origin position of the surface

touching module (see figures 17A-D with disclosure in [0105] and [0106]; "determine how the user is holding the device ... signals may be grouped together to form a hand signal that represents how the user is holding the device" and "difference between a current hand signal and a last hand signal may indicate the user's desire to implement a button function"; "Changes between contact patch areas may further indicate the particular button function"). Hence, a control signal is subsequently generated based on the input mode and further two-dimensional position data subsequently detected (see the description of the "relative mapping" mode in D5, e.g. in [0107] - "In relative mapping, the difference at each particular contact patch area is compared relative to the other particular contact patch areas"; see also figure 23). The device is capable of controlling an electronic apparatus by the control signal, whereby the electronic apparatus can be separate from the input (see e.g. figure 24; D5 discloses that the input device can be a remote control without a display, see e.g. [0018] "The remote control 10D typically includes an input device 14 such as a keypad and may or may not have a character display 12" and [0129] last sentence).

4.1 The subject-matter of claim 1 therefore differs from the disclosure of D5 in that

the touching module has an arc surface and the body is configured to have a geometric shape of one of a cylinder, a cone, a sphere, a pipe-shaped object with a cylindrical surface, and a shape with a circular symmetric surface with respect to a longitudinal centre line of said body.

- 4.2 The objective technical problem underlying this distinguishing feature is considered to be to provide an alternative geometric shape for the input device.
- 4.3 The skilled person seeking to solve that problem already finds a pointer in D5, which suggests that the size and shape of the housing 102 of the input device may widely vary, but is typically configured for hand-held use (see D5, [0069]). D5 goes on to suggest that the input device may be "sized and shaped for comfortable placement into the user's hand" (see [0084] of D5). The skilled person would therefore look into the prior art for possible alternative shapes which are ergonomically advantageous.
- 4.4 The skilled person would also consider D3, which also discloses an electronic input device. One shape that is disclosed in D3 for such an input device is a stylus (see D3, figure 3 and [0023] onwards). The skilled person would therefore be made aware that electronic input devices can also take different shape including an arc-shaped surface like a cylindrical surface according to claim 1.

Since D5 discloses that the input device can be a remote control without a display (see e.g. [0018] "The remote control 10D typically includes an input device 14 such as a keypad and may or may not have a character display 12" and [0129] last sentence), the skilled person would also consider providing such a device in D5 having a touch-sensitive surface with sensing points (see figures 17A-D and [0105] of D5) with a stylus like cylindrical shape.

In contrast to the appellant's argument, the board does not consider the teachings of D5 and D3 are

incompatible, because all the geometric shapes disclosed in D5 have edges. The skilled person would not consider this to be a technical hurdle to be overcome, since it can be seen from figure 7C of the present application that even the claimed invention comprises embodiments with shapes having edges (here a hexagon pipe structure), i.e. only narrowed to an arc-like shape. The skilled person would realise that the teaching of D3 can be applied to devices in D5 not including a display and that such input devices can control external apparatuses by using a wireless connection (see e.g. D3, column 4, line 32 with reference to IR or RF interfaces).

4.5 But even if the objective technical problem were considered to be improving the input apparatus in order to be more simple and more reliable, as argued by the appellant during oral proceedings, the skilled person would still combine D5 with D3, since this problem is explicitly addressed in D3 (see [0004] and [0005]).

4.6 The skilled person starting from D5 hence finds the claimed solution according to the distinguishing feature in D3 without the need for inventive skills.

The subject-matter of claim 1 is therefore obvious from a combination of the teachings of D5 and D3 (Article 56 EPC).

First auxiliary request

5. Claim 1 according to the first auxiliary request comprises the following additional feature:

"wherein the two-dimensional position data subsequently detected by the arc surface touching module (12)

indicates a gripping movement starting from said holding pattern, wherein said gripping movement includes one of bending a finger of said hand to touch twice".

6. Article 84 EPC

The additional feature tries to narrow down the claimed subject-matter by referring to a position and a movement of the finger which, however, is not part of the claimed input apparatus. It is therefore unclear and the skilled reader is left in doubt as to how the input apparatus can recognize that it is a finger that generates the input signal, and even more unclear how it can detect that the finger is bending.

7. Article 56 EPC

But even interpreting the additional feature according to its technical substance, like detecting that a dedicated touch area is touched twice, this does not involve an inventive step in view of D5 disclosing that "the signals are monitored by a control system (not shown) that converts the number, combination and frequency of the signals into control information" (see [0102]). The skilled person starting from D5 therefore already knows that the number of touches can be used to generate control information.

The additional feature therefore does not involve an inventive step.

Second auxiliary request

8. Claim 1 according to the second auxiliary request comprises the following additional feature in comparison to claim 1 according to the main request:

"wherein the first input mode is selected from one of a drawing mode, a browsing mode, and a multimedia broadcasting mode".

9. This request was presented at a late stage of the oral proceedings and has therefore to be regarded as late-filed. Furthermore, the added feature was not part of the dependent claims, but was taken from the description. The board therefore cannot be sure that this feature has been searched.

In addition, in the board's view the added feature does not contribute to inventive step of the input apparatus, since it specifies a property of the electronic apparatus to be controlled which is not part of claim 1 and therefore cannot limit the scope of protection of the input apparatus according to claim 1. The added feature therefore *prima facie* does not overcome the objection of lack of inventive step as reasoned with regard to claim 1 according to the main request.

Exercising its discretion under Article 13(1) RPBA the board therefore decided not to admit this request into the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



L. Malécot-Grob

A. Ritzka

Decision electronically authenticated