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**Datasheet for the decision
of 11 December 2020**

Case Number: T 2500/17 - 3.5.05

Application Number: 07123111.2

Publication Number: 1933226

IPC: G06F3/01

Language of the proceedings: EN

Title of invention:

Information input device and method and medium for inputting
information in 3D space

Applicant:

Samsung Electronics Co., Ltd.

Headword:

Inputting information in 3D space / Samsung

Relevant legal provisions:

EPC Art. 54, 56, 123(2)
RPBA 2020 Art. 15(8)

Keyword:

Abridged reasons for decision - agreement with finding of
deparment of first instance

Amendments - disclosure in drawings - added subject-matter
(yes)

Novelty - (no)

Inventive step - auxiliary request (no)



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Case Number: T 2500/17 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 11 December 2020

Appellant: Samsung Electronics Co., Ltd.
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Yeongtong-gu
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Representative: van Someren, Petronella F. H. M.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 7 July 2017
refusing European patent application No.
07123111.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: N. H. Uhlmann
F. Blumer

Summary of Facts and Submissions

The appeal lies from the decision of the examining division to refuse European patent application No. 07123111.2.

I. The examining division made reference to the following documents:

D1 US 2006/028446

D2 US 5 825 350

and decided that the main request and the first auxiliary request did not satisfy the requirements of Article 54 EPC and that the second and third auxiliary requests did not meet the requirements of Article 56 EPC.

II. In its statement setting out the grounds of appeal, the appellant maintained all the requests and submitted a further, fourth auxiliary request. As a further auxiliary measure, it requested that oral proceedings be held.

III. In a communication in preparation for the oral proceedings pursuant to Article 15(1) RPBA 2020, the board set out its provisional view of the case. It considered that none of the requests on file met the requirements of the EPC.

IV. The appellant informed the board that it would not appear as summoned at the oral proceedings and requested that a decision be taken on the state of the file.

V. The proceedings were continued in writing.

VI. 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 the first, second or third auxiliary request, all unchanged since the impugned decision, or the fourth auxiliary request filed with the statement setting out the grounds of appeal.

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

"An information input device for inputting information in three-dimensional space, comprising:

a movement signal input unit to receive a user movement signal of the information input device in a three-dimensional (3D) space under control of a user;

a movement extent calculator to calculate an extent of movement of the information input device by analyzing the received movement signal;

a movement identifier to identify a type of movement to be a button click operation type of movement when the calculated extent of the movement is smaller than a predetermined threshold, said button click operation type of movement corresponding to a movement of said information input device when a user clicks a button on the information input device, a signal processor to process the received movement signal so that an instruction corresponding to the identified type of movement is performed;

wherein, when the type of movement of the information input device is the button click operation type of movement, the signal processor does not output the value of the received movement signal for a predetermined amount of time starting from an instant of time when the user performs the button click operation; and

wherein the movement identifier identifies the type of movement to be a drag operation type of movement when

the calculated extent of the movement is greater than the predetermined threshold, the signal processor outputting the value of the received movement signal."

VIII. Claim 1 of the first auxiliary request is based on claim 1 of the main request with the following amendments:

- The movement signal input unit is replaced by "a motion detector to detect a movement of the information input device in a three-dimensional (3D) space and to generate a corresponding movement signal when a button is clicked".
- The wording "analyzing the received movement signal" is replaced by "analyzing the movement signal".

IX. Claim 1 of the second auxiliary request is based on claim 1 of the first auxiliary request. The following wording is added to the definition of the movement extent calculator:

"according to the formula $S = \max\{\text{var}(W_{bx}), \text{var}(W_{by})\}$, wherein max denotes a maximum value, W_{bx} denotes an x-axis signal, W_{by} denotes a y-axis signal, and var denotes a variance".

X. Claim 1 of the third auxiliary request is based on claim 1 of the first auxiliary request. The following wording is added at the end of the claim:

"wherein a user may set or change the predetermined threshold".

XI. Claim 1 of the fourth auxiliary request is based on claim 1 of the first auxiliary request. The wording "corresponding movement signal when a button is clicked" is replaced by

"corresponding movement signal between a moment when a

button is clicked and a moment when the clicking of a button is cancelled".

Reasons for the Decision

1. The application in suit pertains to a 3D information input device. When users click on a button, they may inadvertently move the device. The application discloses techniques for distinguishing between a single click and a drag operation.
2. Document D2 describes a 3D pointing apparatus and functions for dealing with inadvertent movements when a double click is performed.

Main request

3. Patentability

The board endorses the mapping of the claimed features onto the disclosure of document D2 set out in section 13 of the appealed decision (Article 15(8) RPBA 2020).

- 3.1 The board agrees with the appellant that the problem addressed in document D2, in particular in columns 12 and 13, is to avoid that a double click is mistaken for a drag action.

- 3.2 The appellant argued that the release of a button is not mentioned anywhere in D2 as a possible trigger or even a notable event.

The board agrees but notes that the independent claims at issue do not refer to the release of a button either.

- 3.3 The appellant submitted that "the explicit and stated aim of the system of D2 is to make sure double clicks

occur even if there are minute movements of a pointing apparatus between the first and second click".

The board is not convinced. As also stated by the appellant, D2 aims at avoiding that a double click is mistaken for a drag action. It is generally known and partly described in D2, column 12, lines 32 to 34, that a drag action comprises pushing down a button, holding it while moving the pointing apparatus and releasing it, whereby, for instance, an icon is moved according to the movement of the pointing apparatus between the pushing down and the releasing of the button.

Thus, minute movements of the pointing apparatus between the pushing down and the releasing of the button have to be considered. Indeed, movements between the two clicks of a double click are of no relevance for a drag action.

- 3.4 In view of the above explanations, it is clear that D2 does not treat a click as an instantaneous event. To prevent the unwanted recognition of a drag action, D2 considers specifically the movement during the time period which is crucial for a drag operation: between the pushing down and the releasing of the button.
- 3.5 While D2 primarily deals with the recognition of double clicks, it is apparent that each of the two clicks has to be recognised and not mistaken for a drag action.
- 3.6 For these reasons, the arguments of the appellant are not convincing, and the subject-matter of claim 1 is not novel.

First auxiliary request

4. The subject-matter of claim 1 is not novel for the reasons given in the decision under appeal, section 14,

and the comments by the board set out in section 3. above.

The appellant did not provide any further arguments.

Second auxiliary request

5. The board agrees with the reasoning set out in section 15 of the decision under appeal that the claimed subject-matter does not involve an inventive step having regard to the disclosure of document D2 (Article 15(8) RPBA 2020).

The arguments of the appellant are not convincing for the following reasons.

The appellant submitted that "such momentary, sharp movements will not greatly affect the variance". The board agrees that in general the calculation of the variance has a smoothing effect. However, such effect greatly depends on the number of measurements considered for the calculation and their distribution over time. These aspects are not specified in the application. Moreover, the description of the application in suit does not disclose any effects caused by the use of the variance.

Furthermore, D2 discloses that the values of the gyroscopes are filtered by a low pass filter (Figure 18, items 920 and 1802). Hence, the general idea of smoothing the values is known from document D2.

Moreover, document D1 (lines 5 to 11 of paragraph 51) discloses the use of variance for a similar purpose.

Third auxiliary request

6. The board holds that the arguments of the appellant are not convincing.

It is correct that the field of computer systems is broader than the field of input devices for inputting information in three-dimensional space.

However, document D2 teaches that a threshold value of four mickeys is a typical example (column 12, lines 43 to 45). A mickey is defined as "the smallest x or y movement reported to the computer" (page 10, lines 25 and 26). Given that different 3D input devices have different sensitivities, it is clear that different threshold values may be needed. In this situation, it is obvious to allow a user to set the threshold value.

For these reasons, the subject-matter of claim 1 does not involve any inventive step.

Fourth auxiliary request

7. Amendments

Claim 1 specifies additionally that movement is detected and a corresponding movement signal is generated "between a moment when a button is clicked and a moment when the clicking of a button is cancelled".

The appellant submitted that this amendment was based on Figures 4A and 4B and the associated description, i.e. page 11, line 24, to page 12, line 23.

The board holds that these passages do not provide a basis for the added limitation. Figure 4B clearly shows that a movement signal (item 420) is generated independently of the clicking of the button. For example, a non-zero signal is generated after both the first click (around 0.75s) and the second click (around 2.6s).

Hence, claim 1 of the fourth auxiliary request violates the provisions of Article 123(2) EPC.

8. Patentability

For the sake of completeness, the board notes that, according to Figure 18 and column 14, line 56, to column 15, line 3, in document D2 the counter 1824 and the window comparator 1823 are only connected to the output of the integrator 1812 via the switch 1825 while one of the select buttons 160 and 140 is depressed. Additionally, the counter 1824 is reset upon depressing one of the select buttons. Hence, document D2 discloses the features added to claim 1 of the fourth auxiliary request.

9. Consequently, none of the requests on file is allowable and the appeal has to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



A. Chavinier-Tomsic

A. Ritzka

Decision electronically authenticated