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Datasheet for the decision of 12 June 2015

Case Number: T 1958/13 - 3.5.05

Application Number: 07002223.1

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Language of the proceedings: EN

Title of invention:
Terminal and method for entering command in the terminal

Applicant:
LG Electronics Inc.

Headword:
Single-drag gesture/LG

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - (no): alternative gesture definition

Decisions cited:
T 0643/00, T 0482/02, T 1284/04, T 1567/05, T 1841/06, T 1900/09, T 1192/10, T 0407/11

Catchword:

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Case Number: T 1958/13 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 12 June 2015

Appellant: (Applicant)	LG Electronics Inc. 20, Yeouido-dong Yeongdeungpo-gu Seoul 150-721 (KR)
Representative:	Katérle, Axel Wuesthoff & Wuesthoff Patentanwälte PartG mbB Schweigerstraße 2 81541 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 26 April 2013 refusing European patent application No. 07002223.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	K. Bengi-Akyuerek
	G. Weiss

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse the present European patent application on the ground of lack of inventive step (Article 56 EPC), having regard to the disclosure of

D2: US-A-2004/0174399,

and on the ground of lack of support by the description (Article 84 EPC), with respect to the claims of a main request and an auxiliary request.

II. With the statement setting out the grounds of appeal, the appellant requested that the decision of the examining division be set aside and that a patent be granted on the basis of the main request underlying the appealed decision as its sole claim request.

III. In an annex to the summons to oral proceedings pursuant to Article 15(1) RPBA, the board gave its preliminary opinion on the appeal. In particular, it raised objections under Article 56 EPC 1973, having regard to D2 combined with the skilled person's common general knowledge, as exemplified by

D3: WO-A-2005/057391.

Prior-art document D3, cited in the European search report as an "X" document, was introduced into the appeal proceedings by the board under Article 114(1) EPC 1973 due to its relevance for the assessment of inventive step of the underlying subject-matter.

IV. With its letter of reply, the appellant submitted additional sets of claims according to three auxiliary

requests, alongside counter-arguments on the objections raised in the board's communication under Article 15(1) RPBA.

V. Oral proceedings were held on 12 June 2015, during which all the claim requests on file were admitted into the appeal proceedings and were discussed.

The appellant's final request was that the decision under appeal be set aside and that a patent be granted on the basis of the main request filed with letter dated 6 February 2013 or, in the alternative, of the first, second or third auxiliary requests filed with letter dated 12 May 2015.

At the end of the oral proceedings, the decision of the board was announced.

VI. Claim 1 of the **main request** reads as follows:

"A terminal, comprising:
a touch-screen display configured to be touched by a user, and
a controller configured to determine a portion of the touch-screen display that is touched during a dragging motion by the user,
characterized in that the controller is configured
- to recognize the dragging motion in which the user touch-drags from a first position to a second position on the touch-screen display,
- to determine a direction of the dragging motion on the touch-screen display, and
- to perform a delete or cut operation based on the direction of the dragging motion on the touch-screen display in order to delete or cut the text data between the first and second positions."

Claim 1 of the **first auxiliary request** comprises all the features of claim 1 of the main request and adds the following phrase:

> "wherein when the user touch-drags in a first direction, the controller is configured to determine the user is cutting the text data defined within an area between the first and second positions to be later pasted at another position on the touch-screen display, and when the user touch-drags in a second direction different than the first direction, the controller is configured to determine the user is deleting the text data defined within the area between the first and second positions."

Claim 1 of the **second auxiliary request** reads as follows:

"A terminal, comprising:
a touch-screen display configured to be touched by a user and to display text, and
a controller configured to
- recognize a dragging motion by the user in which the user touch-drags from a first position to a second position on the touch-screen display,
- determine a direction of the dragging motion on the touch-screen display,
- determine a portion of text displayed on the touch-screen display that is touched during the dragging motion, and
- perform a delete or cut operation based on the direction of the dragging motion on the touch-screen display in order to delete or cut the portion of text displayed between the first and second position."

Claim 1 of the **third auxiliary request** reads as follows (amendments vis-à-vis the second auxiliary request underlined by the board):

"A terminal, comprising:
a touch-screen display configured to be touched by a user and to display text, and
a controller configured to
- recognize a dragging motion by the user in which the user touch-drags from a first position to a second position on the touch-screen display along a portion of the text displayed on the touch-screen display,
- determine a direction of the dragging motion on the touch-screen display,
- determine the portion of the text displayed on the touch-screen display that is touched during the dragging motion, and
- perform a delete or cut operation based on the direction of the dragging motion on the touch-screen display in order to delete or cut the portion of text displayed between the first and second position."

Reasons for the Decision

1. Since the present first auxiliary request is more limited in scope than the main request and the other auxiliary requests on file, the board finds it appropriate to discuss that request first.

2. FIRST AUXILIARY REQUEST

This request was filed in response to the objections raised under Article 56 EPC 1973 in the board's communication pursuant to Article 15(1) RPBA, and

further limits the subject-matter claimed. Therefore, the board admitted it into the appeal proceedings.

Claim 1 of this auxiliary request differs from the auxiliary request underlying the appealed decision merely in that it now includes the term "text data" rather than only "data". This amendment is supported e.g. by Fig. 7 of the application as filed and thus complies with Article 123(2) EPC.

2.1 Article 84 EPC 1973: support by the description

2.1.1 The examining division held that the claims were not supported by the description, since the breadth of the term "direction" was unjustified in view of the allegedly unclear description of detecting the "up or down direction" according to paragraph [0046] of the application as filed (cf. appealed decision, sections 4 and 11).

2.1.2 The board, however, holds that this objection is unfounded because the term "direction", although broad, is not found to be unsupported or unclear in view of the corresponding teaching of the application as filed (cf. [0046]: *"... the user can delete data by dragging the pointer in a left to right direction, and cut and paste data by dragging the pointer in a right to left direction. An up or down direction, etc. may also be used ..."*).

2.2 Article 52(1) EPC: novelty and inventive step

The board judges that claim 1 lacks an inventive step, for the following reasons:

2.2.1 Claim 1 is directed to a terminal made up of a touch-screen display and a controller configured for detecting gestures on that device. More particularly, the gesture-based functionality (i.e. the gesture-to-function mapping) underlying the touch-screen system of claim 1 can be illustrated as follows (assuming that P_1 = first touch position; P_2 = second touch position; D = drag direction):

user input (gesture)	processing at terminal	output (function)
touching + dragging in a right/left or up/down direction	detecting P_1, P_2 and D	deleting/cutting text between P_1 and P_2

2.2.2 The board concurs with the finding of the decision under appeal (cf. sections 3.1 and 10) that document D2 discloses the following limiting features of claim 1 (missing features struck out by the board):

A terminal ("computer 10") comprising a touch-screen display ("touch screen 11") configured to be touched by a user and a controller (see Figs. 1 and 2) configured

A) to determine a portion of the touch-screen display (e.g. "marked area 50") that is touched during a dragging motion ("stroke 60") by the user (see e.g. Fig. 4);

B) to recognise the dragging motion ("subsequent stroke") in which the user touch-drags from a first position (i.e. end location of the text "friends") to a second position (i.e. end location of subsequent stroke) on the touch-screen display (see e.g. [0033]: *"... after the user marks the*

text 'friends', the user moves a subsequent stroke downwards to perform the 'cut' operation ..." in conjunction with Fig. 9);

C) to determine a direction ("upwards"; "downwards") of the dragging motion on the touch-screen display (see e.g. [0007]: *"... if a subsequent stroke is downwards, the 'cut' operation is performed; if the subsequent stroke is upwards, the 'copy' operation is performed"*);

D) to perform a delete/cut operation (e.g. "cut operation 308") based on the direction of the dragging motion on the touch-screen display in order to delete/cut text data ~~between the first and second positions~~ (see e.g. [0033]: *"... the user moves a subsequent stroke downwards to perform the 'cut' operation ..."* in conjunction with Figs. 9 and 10);

E) when the user touch-drags in a first direction ("downwards"), to determine [that] the user is cutting the text data defined ~~within an area between the first and second positions~~ to be later pasted at another position on the touch-screen display (see e.g. Fig. 3, steps 308, 311 and 307; Fig. 9);

F) when the user touch-drags in a second direction ("upwards") different from the first direction, to determine [that] the user is copying ~~deleting~~ the text data defined ~~within the area between the first and second positions~~ (see e.g. Fig. 3, step 306; Fig. 6).

2.2.3 Document D2 teaches that the text data between the start point and the end location (corresponding to the "first position" as claimed) of the *initial* stroke ("stroke 60"), rather than the *subsequent* stroke, is supposed to be copied or cut (see D2,[0029] and [0033]

in conjunction with Figs. 6 and 9). Therefore, the board agrees with the examining division and the appellant that D2 fails to disclose that

i) the text data within an area between the first and the second position of the dragging motion is cut or deleted based on the direction of the dragging motion.

Hence, the subject-matter of claim 1 is considered to be novel vis-à-vis D2 (Article 54 EPC 1973).

2.2.4 From distinguishing feature i) it follows that the drag gesture according to claim 1, i.e. dragging from the beginning of the text to be removed until the end of it in a certain direction, is made up of a *single* stroke. By contrast, the drag operation according to D2, i.e. *first* dragging from the beginning of the respective text to the end of it in a certain direction (i.e. to the right) and *then* dragging from the end of that text in a different direction (i.e. upwards or downwards), relies essentially on *two* strokes.

2.2.5 The appellant argued at the oral proceedings before the board that the so-called "single-drag gesture" according to feature i) had the effect of making text editing more convenient or simpler for the user and thus better compared to the solution of D2.

However, the board does not consider the alleged effects attributed to distinguishing feature i) like simplifying the user's operation (see also appealed decision, page 5, fourth paragraph), improving the user experience or providing more user-convenient text editing functions (see also statement setting out the grounds of appeal, page 3, penultimate paragraph) to be

persuasive. Although the board deems those effects, in principle, to be *technical* effects, since in the end they aim at providing tools which serve or assist user activities (see e.g. T 643/00 of 16 October 2003, point 16), in the present case the question whether they are actually achieved depends exclusively on subjective user skills or preferences. Therefore, the board is not satisfied that they may be regarded as objectively *credible* technical effects for the purpose of formulating the objective problem to be solved (cf. T 1567/05 of 30 April 2008, point 3.6; T 1841/06 of 21 January 2011, point 5, third paragraph; T 407/11 of 10 April 2014, point 2.1.4). For example, one user would prefer to delete or cut a certain text as fast as possible, without worrying about a possible error in selecting the text to be removed and thus an unintended deletion. For this user the single-drag gesture would be appropriate. Another user would however be more concerned with the precise selection of the text *before* actually removing that text. Such a user would rather opt for a two-stroke drag operation in order to be able to check beforehand whether the text to be removed has been correctly selected.

2.2.6 Furthermore, it is apparent to the board that feature i) constitutes a direct consequence of the definition of the gesture/function mapping as illustrated in point 2.2.1 above. The view of the appellant that the new gesture itself improved the system of D2 (cf. appellant's letter dated 12 May 2015, page 3, third paragraph) does not convince the board. The board rather holds that, unless the type of graphical user interface (GUI) technology and its application scenarios used are decisive for the definition of specific gestures, gestures are primarily aimed at a user familiar with the basic computer

interaction concepts. Consequently, they are typically defined based on experimental or empirical studies on test users with the aim of reducing the user's cognitive load, or provide for intuitive gesture/ function mappings, rather than being directed to purely implementational improvements of a touch-screen device relating e.g. to its processing load, its gesture recognition speed or the like. Also in the present case, there is no solid indication that the single-drag gesture claimed is actually devised for achieving device-specific and/or performance-oriented improvements at the implementation level of a touch-screen device, nor are there any details derivable from claim 1 or the present description with regard to the implementation of its recognition (as opposed e.g. to the cases underlying T 1900/09 of 15 March 2013 and T 1192/10 of 7 April 2014).

In view of the above, the board regards such gesture definition - whether deemed to be technical or non-technical - as a preliminarily obtained *precondition*, i.e. a user-specific fact, to be taken into account in the user interface design as belonging to the conception or motivation phase normally preceding an invention (see e.g. T 482/02 of 13 December 2005, point 5.3; T 1284/04 of 7 March 2007, point 3.1, second paragraph). However, the board agrees with the appellant that, in the present case, incorporating the very specific gesture type of the claimed invention into the objective problem would include a clear pointer to the solution and inevitably amount to an ex-post-facto analysis.

Based on the foregoing observations and considering D2 as closest prior art, the board formulates the objective problem to be solved by claim 1 as "how to

implement an alternative direction-sensitive gesture for removing text on the touch-screen system of D2".

2.2.7 Starting from D2 the board holds that, for the skilled person in the field of touch-screen devices, the task of selecting and implementing alternative gestures for the same or a similar function (i.e. deleting or cutting text here) constitutes a problem with which the touch-screen expert may realistically be faced. Confronted with that objective problem, the skilled person would seek viable alternatives for invoking that function. In the present case, implementing either (1) a single stroke as claimed or (2) two strokes as taught in D2 or (3) even more strokes to remove a certain text is merely subject to considerations of implementation complexity and user needs (see point 2.2.6 above) or simply whether a certain gesture has already been assigned to another function. Thus, the board concurs with the examining division that the choice of a suitable drag gesture is typically the result of a trade-off as regards user expectations, with e.g. a "one-stroke dragging" to be preferred for a *faster* user operation and a "two-stroke dragging" to be selected for a more *error-tolerant* user operation (see also appealed decision, page 5, fifth paragraph). This is even more so, since the respective directions to be detected and used as function criteria have to be regarded as equally likely alternatives, as in this case (see e.g. [0046], second and third sentences of the application as filed: *"... An up or down direction, etc. may also be used* ..."). The skilled person would moreover know that the alternate gesture according to option (1) could readily be implemented by detecting an initial touch (starting point of the dragging), a continued touch (capturing the dragging and its direction) and a discontinued touch (via applying a

so-called retention period), in view of the fact that those detection steps *per se* are already disclosed in D2 (see e.g. [0019] to [0033]).

Furthermore, the use of a single-drag gesture for deleting text is also commonly known, as exemplified by D3. More specifically, D3 teaches editing a character string (i.e. web address) via an indicator means (pen or finger) on a touch-screen device such that, according to one of its embodiments, characters are deleted from the character string by gliding the indicator means in one go along the character string (see e.g. D3, page 4, lines 4-7 and page 7, lines 6-7 in conjunction with Figure 3c).

Concerning the mapping of the function "delete" to the drag gesture according to feature F) of claim 1, the board agrees with the finding of the decision under appeal (see section 10.1) that this represents a straightforward alternative to the "copy" operation based on the detected stroke direction, as taught in D2 (see e.g. [0029] and [0033] in conjunction with Figs. 6 and 9) to properly implement the given gesture definition.

2.2.8 As regards the teaching of D2, the appellant submitted in the written and oral proceedings that D2, according to its paragraphs [0007] and [0008], in fact relied upon a three-step drag process, consisting of a first drag operation (for text selection) followed by a retention period (during which the touch is continued) and a second drag operation (for indicating the corresponding function), and thus was even more remote from a single-drag gesture as claimed. Furthermore, the skilled person would not give up such an approach based on the well-established "windowing approach" using

"menu options" according to which the second drag operation would correspond to the desired menu option after the user had selected the text. Moreover, the skilled person would not arrive at the solution of claim 1 by combining D2 with D3, since D3 was concerned only with the "delete" function associated with a single gesture direction rather than with a direction-sensitive gesture mapping in terms of two functions according to features E) and F).

As to the question whether D2 indeed relies upon a three-step drag process and the "windowing approach", the board notes that, on the one hand, the retention period (i.e. the touch continuation time) applied in D2 is the immediate consequence of the need for a proper discrimination between the two subsequent strokes. On the other hand, the present invention - as conceded by the appellant at the oral proceedings before the board - is completely silent on the implementation details of the gesture recognition, i.e. whether or not a retention period for triggering a delete/cut function is used, after reaching the second position. Moreover, the board takes the view that the skilled reader would understand that the underlying gesture recognition process of the present invention must be able to distinguish between the user's wish to only select a text and to delete or cut that text, e.g. by the very use of a retention period.

Hence, in the present circumstances, applying a retention period in D2 for triggering a "delete" function does not lead the skilled person away from using a single-drag gesture, whether or not D2 relies on a two-step or three-step approach. In summary, the pure definition of a gesture such as the present "single-drag gesture" at a conceptual level only,

without addressing implementation details as to its recognition, cannot contribute to an inventive step.

As to D3, the board notes that, firstly, D3 is solely taken as exemplary evidence of the skilled person's common general knowledge rather than aimed at fully complementing the teaching of D2 and, secondly, that it manifestly demonstrates the implementation of a "delete" function based on a single-drag gesture for a speedy deletion operation (see e.g. D3, [0015]). Thus, applying two operations (e.g. text selection and text deletion) with one stroke on a touch-screen device was well within the reach of the skilled person at the application's priority date.

2.2.9 Accordingly, the subject-matter of claim 1 of this auxiliary request does not involve an inventive step having regard to D2 combined with the skilled person's common general knowledge, as exemplified by D3.

2.3 In conclusion, the first auxiliary request is not allowable under Article 56 EPC 1973.

3. MAIN REQUEST, SECOND and THIRD AUXILIARY REQUESTS

Claim 1 of those requests does not include features E) and F), whilst claim 1 of the second and third auxiliary requests merely comprises minor re-wordings (cf. point VI above) in order to clarify, as the appellant submitted at the oral proceedings before the board, that a "portion of text" is actually processed rather than any arbitrary portion of the touch-screen display.

3.1 Article 52(1) EPC: Novelty and inventive step

As the main request and the second and third auxiliary requests are broader in scope than the first auxiliary request (cf. point VI above), the board concludes that the subject-matter of claim 1 of those requests *a fortiori* lacks an inventive step based on the reasoning set out in point 2.2 above, except for the observations and arguments relating to features E) and F).

3.2 In conclusion, the main request as well as the second and third auxiliary requests are likewise not allowable under Article 56 EPC 1973.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated