Datasheet for the decision of 7 November 2012

Case Number: T 0875/09 – 3.5.05
Application Number: 04010212.1
Publication Number: 1591874
IPC: G06F 3/023
Language of the proceedings: EN
Title of invention:
Reduced keyboard letter selection system and method
Applicant:
Research In Motion Limited
Headword:
Reduced-key keyboard operation/RIM
Relevant legal provisions:
EPC Art. 56
Keyword:
"Inventive step (yes)"
Decisions cited:
-
Catchword:
-
Case Number: T 0875/09 - 3.5.05

DECISION
of the Technical Board of Appeal 3.5.05
of 7 November 2012

Appellant: Research In Motion Limited
(Applicant)
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Decision under appeal: Decision of the Examining Division of the European Patent Office posted 22 October 2008 refusing European patent application No. 04010212.1 pursuant to Article 97(2) EPC.

Composition of the Board:
Chair: A. Ritzka
Members: P. Cretaine
F. Blumer
Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 04010212.1, published as EP 1 591 874. The decision was announced in oral proceedings held on 24 September 2008 and written reasons were dispatched on 22 October 2008.

II. The application was refused for lack of inventive step (Article 56 EPC) of the claims of a main request and a third auxiliary request, having regard to the disclosure of prior-art document D1: WO 01/31788,

and because the claims of the first and second auxiliary requests did not meet the requirements of Article 123(2) EPC.

III. The notice of appeal was received on 9 December 2008 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 23 February 2009. The appellant requested that the decision of the examining division be set aside and that a patent be granted based on the main request on file (claims 1 to 25), a first auxiliary request filed with the statement setting out the grounds of appeal (claims 1 to 25), a second auxiliary request filed with the statement setting out the grounds of appeal (claims 1 to 25), or the third auxiliary request on file (claims 1 to 12). In addition, oral proceedings were requested as an auxiliary measure.
IV. A summons to oral proceedings scheduled for 7 November 2012 was issued on 24 July 2012. In an annex to this summons pursuant to Article 15(1) RPBA, the board expressed its preliminary opinion that the first and second auxiliary requests met the requirements of Article 123(2) EPC, but that the claims of the four requests did not meet the requirements of Article 56 EPC, having regard to the disclosure of D2: WO 03/056784.

Document D2, cited in the search report and in the first communication of the examining division, was introduced by the board into the appeal proceedings.

V. With a letter of reply dated 8 October 2012, the appellant informed the board that it would be attending the scheduled oral proceedings. The appellant did not submit any comments on the substance of the board's communication under Article 15(1) RPBA.

VI. Oral proceedings were held as scheduled on 7 November 2012, during which the first, second and third auxiliary requests were withdrawn. 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 as sole request. At the end of the oral proceedings, the decision of the board was announced.

VII. Independent claim 1 of the sole request reads as follows:

"A method of selecting a letter for display in a communication device (100) having a display (122) and a
reduced-key keyboard (132), the method comprising the steps of:
selecting one of the plurality of keys on the reduced-key keyboard (132) by the user of the communication device (100) and displaying a default letter associated with the selected key;
selecting a backspace key (306) by the user of the communication device (100) and displaying a cursor in the position of the default letter on the display; and
selecting the one of the plurality of keys again by the user of the communication device (100) and displaying an alternate letter associated with the selected key."

The further independent claim 13 of the sole request is directed to a corresponding mobile communication device.

Reasons for the Decision

1. Admissibility of the appeal

The appeal complies with the provisions of Articles 106 to 108 EPC (cf. point III above) and is therefore admissible.

2. Inventive step - Article 56 EPC

2.1 Prior art

2.1.1 D1 discloses a reduced-key keyboard for a mobile communication device, each key of the keyboard being assigned to several groups of characters or symbols, for instance a sub-group of letters, one number and a
sub-group of commands as shown in Figure 14B. The keyboard is equipped with a finger recognition system and a voice recognition system. The finger recognition system is user-specific and adapted to determine which finger the user has used to press a key, and to select in response one of the groups of characters or symbols assigned to the pressed key. The voice recognition device is used to determine which letter or command a user is saying while pressing a key. The procedure for selecting a letter on the reduced-key keyboard of D1 is thus the following: the user has to press with a specific finger the key associated with the desired letter while pronouncing the letter. In response, the keyboard selects the desired letter and the device displays it (see in particular page 8, lines 14 to 19; page 24, lines 7 to 14; page 35, lines 7 to 14; page 36, lines 14 to 26). An embodiment of D1, described on page 37, lines 3 to 16, provides a correction mechanism in case the voice recognition device fails to detect the spelled letter correctly and the device displays the wrong letter: the user may select the backspace key and the device then displays an alternative selection from among the sub-group of letters which may or may not correspond to the originally intended selection, from which the user may again select the backspace key and so forth. Alternatively the backspace key may simply remove the previous (wrong) selection without providing an alternative selection. The keyboard however remembers the previous selection so that the same error will not be repeated. D1 is however silent in that case about how the user may again select a letter associated with the previously actuated key. It does not disclose whether the user has for instance to press the previously actuated key again with the
appropriate finger and say the letter again or if he only has to say the letter again, or if some other procedure is foreseen.

2.1.2 D2, which was the other document cited in the search report, discloses a handheld electronic device with a reduced-key keyboard. When a key to which multiple alphabetic values are assigned is depressed, a keyboard interpreter is employed to determine the intended alphabetic value. The keyboard interpreter may use a so-called "tap method", which was well known in the art at the priority date of D2 and wherein a key is depressed once to provide the first alphabetic value assigned to that key, twice to indicate that the second alphabetic value is assigned to that key, and so on (see [0054] of D2). The so-called "tap method" corresponds to the selection technique for reduced-key keyboards which is acknowledged as prior art by the appellant in the description (see [0002] of the published application) and is a technique commonly used in mobile phones having a reduced-key keyboard.

2.1.3 Closest prior art

The appellant argued that D1 disclosed a device wherein the letter selection is based on complex finger and voice recognition techniques, whereas the claimed invention was directed to a device wherein letter selection was based on actuation of keys only, using a finger or stylus. In particular, the keyboard of D1 needed means to recognise different fingers of the user, whereas the user in the claimed invention could use any finger. The appellant further identified differences between the device of D1 and the claimed invention.
First, D1 did not teach displaying a default letter associated with the selected key, since the user had to pronounce a letter after selecting a key. Then, D1 did not teach displaying a cursor in the position of the default letter on the display. In addition, the passage in page 37, lines 3 to 16 of D1 did not explicitly disclose selecting the key again after the backspace key had been selected, for the reason that in that case the voice input had been misinterpreted and not the key input. For these reasons, the appellant argued that D1 did not represent the closest prior art.

The board agrees with the above list of technical differences and concurs with the appellant that D1 does not represent the closest prior art, considering the technical disclosure of D1 in its entirety.

In that respect, the board further notes that the use of a finger recognition system is referred to throughout the description of D1 and represents an essential feature of the device, in particular with respect to security concerns (see page 7, lines 15 to 18). Moreover, the combination of the finger recognition system with a voice recognition system is also an essential feature of D1 (see page 8, lines 14 to 19), in particular with respect to the specific embodiment described in page 37, lines 3 to 16, using a correction mechanism. The claimed invention however is based on using solely actuations of keys by any finger of the user to achieve selection of a desired letter. Therefore a development of the device of D1 in the direction of the claimed invention would require the removal of the finger/voice recognition systems, which would imply significant structural and functional
modifications of the device and indeed, as the appellant argued, destroy the teaching of D1.

Document D2, on the other hand, discloses a reduced-key keyboard device responsive to key actuation only and which would thus require much fewer structural and functional modifications than D1 to arrive at the claimed invention. For these reasons the board considers that D2 represents the closest prior art and most appropriate starting point for assessing the inventive step of the claimed invention.

2.2 D2 discloses a mobile device with a reduced-key keyboard (see paragraph [0012]). For keys to which multiple letters are assigned, a keyboard interpreter using the so-called "tap method" may be used for selecting a letter (see paragraph [0054], lines 10 to 13). The differences between the subject-matter of claim 1 and the disclosure of D2 are thus that, instead of depressing a key a certain number of times until the desired letter associated with the key is displayed, the user selects the key once to display a default letter, then selects the backspace key to position a cursor in the position of the default letter and then presses the key again to display an alternative letter associated with the key.

2.3 The original application is, however, silent as to the technical effects resulting from the above distinguishing features. Nevertheless, it was common ground during the oral proceedings that, with respect to the tap method used in D2, the lapse of time between actuations of the same key is crucial to determine which letter associated with the key the user intends
to select. Taking the example of the "2" key used in paragraph [0002] of the published application, taking too long a time between two successive actuations of the "2" key (put into the alphabetic mode) would not lead to the desired "B" display but to the display of "AA". The user would thus have to delete the two letters "AA" by selecting twice a backspace key on the keyboard (see paragraph [0039] of D2) and try again with the tap method selection of "B". The user will then succeed in selecting a "B" only if he actuates the key twice within the time delay programmed in the keyboard. It may well even be that some users never succeed in getting the intended letter displayed. On the other hand, a user desiring to select two consecutive "As" may inadvertently select "B" if his successive actuations of the key are within the programmed time delay. The method defined in claim 1 does not however present these drawbacks since the user is not subject to any time delay for actuating the same key a second time in order to display the intended letter among the letters associated with that key.

Consequently, the objective problem to be solved by claim 1 is regarded as being how to improve the letter selection on the reduced-key keyboard of D2 in order to reduce the number of false selections.

2.4 Starting from the teaching of D2, the skilled person would be aware of the fact that the time delay is the cause of most false selections. When confronted with the above objective technical problem, the skilled person in the field of mobile-device keyboards would thus address the timing issue. The straightforward solutions that the skilled person would consider in
order to eliminate the problems due to the programmed time delay would be either to change the value of the programmed time delay to a smaller or greater value, depending on the kind of false selection it is intended to address (see point 2.3 above), or to give the user himself the possibility to program or adjust the time delay on the mobile device. In contrast, the solution proposed in claim 1 does not rely on the determination of the time duration between successive actuations of the same key and therefore does not need any programming of a time delay and any time measurement procedure. The skilled person would thus not be incited by the disclosure of D2 alone to modify the tap method in the direction of the claimed method.

The skilled person would also not consider a combination of D2 with the teaching of D1 since D1 relates to a much more complex letter selection method using finger and voice recognition in addition to the actuation of keys (see point 2.1.1 above). In particular, the main passage referred to in the decision under appeal, in page 37, lines 3 to 16 of D1, relates to the correction of a wrong letter selection due to a dysfunction of the voice recognition system. This would prevent the skilled person from trying to combine the teaching of said passage of D1 with the prior art of D2.

Furthermore, even if the skilled person attempted to combine the teaching of D1 in page 37, lines 3 to 16 with respect to the use of the backspace key for correction of letter selection, he would not arrive at the claimed solution. Indeed, D1 discloses that actuation of the backspace key leads, in one embodiment,
to the display of an alternative letter selection, without the user having to actuate the multiple letter key again. In contrast, claim 1 necessitates a second actuation of the multiple letter key after actuation of the backspace key to display an alternative letter selection. This provides the advantage that the user is given the choice to continue with the letter selection associated with the previously actuated multiple letter key or to move to letter selection associated with a different multiple letter key. In a further embodiment disclosed in D1, page 37, lines 3 to 16, the backspace key removes the previous selection without providing an alternative selection. In that case there is no enabling disclosure for the skilled person as to how the user should proceed with the selection of a letter associated with the previously actuated multiple letter key.

2.5 For these reasons the board judges that the subject-matter of claim 1 and of corresponding independent system claim 13 involves an inventive step, having regard to the disclosure of the two prior-art documents on file (Article 56 EPC).
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examination division with the order to grant a patent on the basis of the following documents:


   Description:
   pages 1, 1a as filed with letter dated 4 April 2007
   pages 2-9 as originally filed

   Drawings: sheets 1/3 – 3/3 as originally filed.

The Registrar: The Chair:

K. Götz A. Ritzka