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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:
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Catchword:
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                     It can be changed at any time and without notice.

Case Number: T 0875/09 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 7 November 2012

Appellant: Research In Motion Limited
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Representative: Reichl, Wolfgang
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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.

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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:

        Claims: 1-25 filed with letter dated 4 April 2007

        Description:
        pages 1, la 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