Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 4 November 2021

Case Number: T 0841/18 - 3.5.03

Application Number: 08827312.3

Publication Number: 2190172

IPC: H04M1/247, G06F3/023, G06F3/041, H03M11/04, H03M11/10, H03M11/12

Language of the proceedings: EN

Title of invention:
Portable terminal

Applicant:
Kyocera Corporation

Headword:
Feedback-based character switching/KYOCERA

Relevant legal provisions:
EPC Art. 56, 84, 123(2)
RPBA 2020 Art. 13(1)

Keyword:

Inventive step - main request and auxiliary request 1 (no)
Admittance - auxiliary requests 2 and 3 (no): giving rise to further objections
Clarity - auxiliary request 4 (no)
Added subject-matter - auxiliary requests 5 to 9 (yes)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0841/18 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 4 November 2021

Appellant: (Applicant)	Kyocera Corporation 6, Takedatobadono-cho Fushimi-ku Kyoto-shi Kyoto 612-8501 (JP)
Representative:	SSM Sandmair Patentanwälte Rechtsanwalt Partnerschaft mbB Joseph-Wild-Straße 20 81829 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 23 October 2017 refusing European patent application No. 08827312.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	K. Schenkel
	O. Loizou

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing the present European patent application for added subject-matter (Article 123(2) EPC) with respect to the claims of a main request and auxiliary requests 1 and 2. By way of an *obiter dictum* under the heading "additional remarks", the decision under appeal also addressed the issue of inventive step (Article 56 EPC) in view of prior-art document

D2: WO 2007/016704 A2.

II. With the board's preliminary opinion issued under Article 15(1) RPBA 2020, the following prior-art document was introduced under Article 114(1) EPC in response to new claim requests filed by the appellant with the statement of grounds of appeal:

D4: US 4 202 038 A.

III. Oral proceedings before the board were held on 4 November 2021.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of a **main request** or **auxiliary request 1**, both requests filed with the statement of grounds of appeal, or one of **auxiliary requests 2 to 9**, as filed with letter dated 19 October 2021 in response to the board's communication.

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

IV. Claim 1 of the **main request** reads as follows (labelling by the board):

"A mobile terminal (100) comprising:
(a) a touch panel (1) for accepting an input by a user;
(b) a display unit (2) for displaying a numeric keypad having a plurality of keys and a plurality of characters assigned to a key in the plurality of keys;
(c) a vibration unit (6); and
(d) a control unit (4) for iterating through the plurality of characters assigned to the key while the key is being pressed,
(e) wherein the control unit (4) proceeds to the next character in the plurality of characters if the key remains pressed for a predetermined period of time and controls the vibration unit (6) to vibrate the touch panel (1) when it proceeds to the next character."

V. Claim 1 of **auxiliary request 1** differs from claim 1 of the main request in that the following feature has been added at the end:

(f) "wherein the control unit (4) selects the current character if the key is released".

VI. Claim 1 of **auxiliary request 2** reads as follows (labelling and indication of amendments with respect to claim 1 of the main request by the board):

"A mobile terminal (100) comprising:
(a) a touch panel (1) for accepting an input by a user;
(b) a display unit (2) for displaying a numeric keypad having a plurality of keys and a plurality of

characters assigned to a key in the plurality of keys;

(c) a vibration unit (6);

(g) an input character buffer (7) for storing a character string;

(h) a conversion candidate indication unit (8);

(i) a memory unit (9) storing candidate character strings; and

(d1) a control unit (4) for, in response to the key in the plurality of keys being pressed, writing the first character in the plurality of characters assigned to the key into the input character buffer (7) as the last character of the character string and for iterating through the plurality of characters assigned to the key while the key is being pressed, wherein the control unit (4) proceeds to the next character in the plurality of characters if the key remains pressed for a predetermined period of time and updates the last character of the character string in the input character buffer (7);

(h) wherein the conversion candidate indication unit (8) determines whether or not a candidate corresponding to the character string is stored in the memory unit (9) and

(d2) the control unit (4) controls the vibration unit (6) to vibrate with a first strength if this is the case and with a second strength weaker than the first strength if this is not the case."

VII. Claim 1 of **auxiliary request 3** differs from claim 1 of auxiliary request 2 in that the following features have been amended (labelling and indication of amendments by the board):

(g) "an input character buffer (7) ~~for storing a character string~~;"

(d1')"a control unit (4) for~~, in response to the key in the plurality of keys being pressed, writing~~ appending ~~the first character in the plurality of characters assigned to the~~ the first character corresponding to the pressed key into the input character buffer (7) ~~as the last character of the~~ to form a character string and for iterating through the plurality of characters assigned to the key while the key is being pressed, wherein the control unit (4) proceeds to the next character in the plurality of characters if the key remains pressed for a predetermined period of time and updates the last character of the character string in the input character buffer (7);".

VIII. Claim 1 of **auxiliary request 4** differs from claim 1 of auxiliary request 3 in that feature (d1') now includes the following phrase (board's emphasis)

(d1') "a control unit (4) for writing a character corresponding to the pressed key ...".

IX. Claim 1 of **auxiliary requests 5 to 9** includes *inter alia* feature (b) in the following amended form (amendments indicated by the board):

(b') "a display unit (2) for displaying a numeric keypad having a plurality of keys and a ~~plurality of~~ characters~~s~~ assigned to a pressed key ~~in the plurality of keys~~;".

Reasons for the Decision

1. Background of the invention

The present application relates to a mobile terminal with a virtual keyboard and addresses the challenge of entering different symbols by means of a limited set of input keys. In the present case, a character out of a set of different characters can be entered by means of a single numeric key through pressing the key and keeping the key pressed. While the key remains pressed, a control unit iterates through the set of available characters. Each time the control unit switches to the next character, a vibration signal is outputted. According to the underlying description, thereby the user of the terminal can input characters "without watching the mobile terminal" (see e.g. paragraphs [0005] and [0098] of the original application).

2. Main request - inventive step (Article 56 EPC)

2.1 Prior-art document **D2** is considered to be the most suitable starting point for assessing the question of inventive step and discloses a mobile terminal with a control unit (CPU), a touch panel and a display unit for entering characters by means of numeric keys (page 19, lines 5 to 13; Fig. 4). Upon pressing a specific key, the control unit iterates through a sequence of characters which are assigned to this key, the newly selected key being displayed (page 18, lines 21 to 29). Switching from one character to the next is triggered by increasing the force exerted on the key (*ibid.*).

2.2 The terminal of present claim 1 differs from the terminal of **D2** in that proceeding to the next character

assigned to a key is effected according to **feature (e)**. Hence, the control of switching from one character to the next one is *time-based* instead of *force-based* and the feedback is provided to the user by *vibration*.

2.3 Starting from the mobile terminal of D2 and on the basis of the above distinguishing features, the objective technical problem is twofold and may be seen in "how to implement an easier way of enabling the user to switch between multiple characters on the mobile terminal of D2 without, at the same time, having to look at the terminal's display". The underlying application as published expressly indicates the corresponding advantages in paragraph [0098].

2.3.1 Faced with the above problem, the skilled person in the field of user interfaces for mobile terminals would have consulted document **D4**, since it also relates to the multiple use of data entry keys (abstract). Each key of a keyboard is a *multifunction* key (column 2, lines 31 to 34). In order to select a specific symbol out of a set of symbols assigned to a specific key, a sequence of the set of symbols is passed through as long as the key is pressed (column 2, lines 34 to 53). In particular, the changes from one symbol to the next one occur *after* the lapse of a predetermined amount of time and are signalled with an *optical* and an *acoustic* feedback (*ibid.*). Generally, optic, acoustic or touch-perceptive feedback can be provided to the user upon each switch to the next symbol (claim 6). The document further discloses the provision of a feedback by vibration (column 6, lines 53 to 59). Hence, document D4 discloses a *time-based* control for switching from one character to the next one within the plurality of characters assigned to a key and the provision of a *vibration-based* feedback upon each switch.

2.4 Hence, the skilled person, faced with the aforementioned technical problem, would have been aware that a timer-based key switching, as applied in document D4, constitutes an equally likely alternative to a *force-based* key switching, as applied in D2, with its known benefits and drawbacks concerning hardware costs and complexity, and that a vibration-based feedback scheme can well be used for such a timer-based key switching. It would have been immediately clear to the skilled person that, by doing so, the user of the terminal could evidently dispense with continuously looking at the terminal's display while switching between the characters. As a consequence, by applying the time-based character selection method of **D4** and its vibration-based feedback scheme to the mobile terminal of **D2**, the skilled person would have readily arrived at a terminal with all the features of claim 1 without exercising inventive skills.

2.5 The appellant argued that the definition of this twofold problem was artificial. The board however sees no reason to deviate from the formulation of that objective problem, since the control of the *switching* from one character to the next one within the plurality of characters assigned to a key is entirely independent of how the *feedback* about each switching is actually provided to the user, as are the advantages provided by them. In other words, the time-based control could have been combined as well with an acoustic or an optical feedback.

2.6 The board therefore concludes that claim 1 of the main request is not inventive in the light of D2 and D4 and that the main request is not allowable under Article 56 EPC.

3. Auxiliary request 1 - inventive step (Article 56 EPC)

3.1 Claim 1 of **auxiliary request 1** adds to claim 1 of the main request the feature that

(f) the control unit selects the current character if the key is released.

3.2 However, feature (f) is already known from **D4** (see e.g. column 2, lines 50 to 52) and therefore cannot contribute to inventive step.

3.3 The board therefore concludes that claim 1 of auxiliary request 1 is not inventive and that auxiliary request 1 is not allowable under Article 56 EPC either.

4. Auxiliary requests 2 and 3 - admittance (Article 13(1) RPBA 2020)

4.1 In accordance with Article 13(1) RPBA 2020, "[the] Board shall exercise its discretion in view of, inter alia, the current state of the proceedings, the suitability of the amendment to resolve the issues which were ... raised by the Board, whether the amendment is detrimental to procedural economy, and, in the case of an amendment to a patent application or patent, whether the party has demonstrated that any such amendment, prima facie, overcomes the issues raised by ... the Board and **does not give rise to new objections**" (board's emphasis).

4.2 Claim 1 of **auxiliary request 2** includes the feature that the control unit is configured for *writing* the first character in the plurality of characters assigned to the key into the input character buffer (i.e. feature (d1); see point VI above).

4.3 Claim 1 of **auxiliary request 3** includes the amended feature that the control unit *appends* the first character corresponding to the pressed key into the input character buffer (i.e. feature (d1'); see point VII above).

4.4 The above features relating to the fact that a first character to the key is *written* or *appended* into the "input character buffer" has been introduced for the first time in response to the board's preliminary opinion (see point III above), and is said to be disclosed in paragraphs [0045], [0049], [0050] and [0058] of the present application as published.

4.5 In particular, paragraph [0045] as filed refers to a flow chart illustrating the operation of examining the character string formed by the characters inputted by means of the touch panel. The two relevant sentences read as follows:

> *"First, when a key displayed on the key display unit 2 is pressed (step S201), the control unit 4 stores a character corresponding to the press in the "n"th of the input character buffer 7."* and
>
> *"The control unit 4 displays the first character assigned to the key that is pressed on the display unit 3 ...".*

In the appellant's view, this would support the features in question since it showed that a *displayed* character is also the one added to the "input character buffer".

The board however holds that the first sentence refers to a character corresponding to the pressing action. In

this regard, the term "press" is understood by the board as the action of pressing a key and selecting the specific character selectable at this moment. On the other hand, the second sentence refers to the first character assigned to the pressed key, which is related to the general *assignment* of characters to a key and not to the *selection* of a specific character by pressing the key. Hence, the second sentence does not include a reference to the "character" included in the first sentence, nor are both sentences to be read together merely due to their vicinity in the text.

4.6 In addition, paragraph [0049] refers to FIG. 7 and FIG. 8 of the application showing the display in those cases *with* and *without* a "conversion candidate". No further details are given as to *which* character is written into the respective buffer. Paragraph [0050] discloses how a specific character is inputted and stored in the input buffer by pressing a key but does not disclose that the character is a "first character".

The appellant further argued that, according to paragraph [0050], upon pressing the key "9/row RA", the character "RA" was added, as was shown in FIG. 9 of the application as a "first character" assigned to this key. The board, however, notes that FIG. 9 shows a row of characters ("RA", "RI", "RU", etc.) and, on the left-hand side of this row, an arrow labelled "Press key of '9/row RA'". The character "RA" is the leftmost character in the row, but this is not considered to be equivalent to being the first character *assigned* to the key. Paragraph [0058] describes - like paragraph [0049] - the two cases *with* and *without* "conversion candidates" but does not disclose *which* character is actually written into the input character buffer, let alone that it is the *first* character. The rest of the

present description does not provide a basis for the disputed features either.

4.7 The board concludes that the application as filed *prima facie* does not disclose features (d1) and (d1') in a direct and unambiguous way and that auxiliary requests 2 and 3 therefore give rise to new objections under Article 123(2) EPC.

4.8 In view of the above, the board, exercising its discretion under Article 13(1) RPBA 2020, decided not to admit auxiliary requests 2 and 3 into the appeal proceedings.

5. Auxiliary request 4 - clarity (Article 84 EPC)

5.1 Claim 1 of **auxiliary request 4** includes the feature that the control unit is adapted for writing a character corresponding to the pressed key into the input character buffer (i.e. feature (d1') as amended; see point VIII above).

5.2 Claim 1 states in its preamble that a *plurality* of characters is assigned to a key. However, the above feature (d1') refers to a character corresponding to a pressed key, without specifying which one of the plurality of characters. However, the writing of a character requires to first identify that character from among the plurality of assigned characters.

Since there is no respective teaching and as it is unclear which character shall be written by the control unit, the amended feature (d1') is unclear.

5.3 The board therefore concludes that claim 1 of auxiliary request 4 is not clear and that auxiliary request 4 is thus not allowable under Article 84 EPC.

6. Auxiliary requests 5 to 9 - added subject-matter (Article 123(2) EPC)

6.1 Claim 1 of **auxiliary requests 5 to 9** specifies that the display unit is adapted for displaying a numeric keypad having a plurality of keys and a character assigned to a pressed key (i.e. feature (b'); see point IX above).

6.2 The appealed decision stated that the application as filed did not provide a basis for a display unit for displaying "a character assigned to a pressed key" as claimed. In that regard, this wording was understood as meaning that "a character which has been input somewhen in the past by pressing a key" (see Reasons 2). The board sees no reason to depart from this view.

6.3 The appellant argued that claim 1 also comprised the expression "if the key remains pressed" which would clearly mean that pressing the key was not an action which had ended in the past, but that the key was still being pressed. The term "pressed key" therefore unambiguously meant "key being pressed", which was originally disclosed.

The board firstly notes that the expression "pressed key" leaves it open *when* the key has actually been pressed, and encompasses also the case in which the key has been pressed in the past. Secondly, the objected wording refers to the display unit whereas the expression "if the key remains pressed" refers to the control unit and its operation. Hence, the wording "if

the key remains pressed" does not further specify the display unit.

6.4 The board concludes that claim 1 of auxiliary requests 5 to 9 contains added subject-matter and that auxiliary requests 5 to 9 are therefore not allowable under Article 123(2) EPC.

7. As there is no allowable claim request, it follows that the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated