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Datasheet for the decision of 15 December 2016

Case Number: T 0313/13 - 3.5.05

Application Number: 06737762.2

Publication Number: 1859337

IPC: G06F3/02

Language of the proceedings: EN

Title of invention:
SMALL FORM-FACTOR KEYPAD FOR MOBILE COMPUTING DEVICES

Applicant:
QUALCOMM Incorporated

Headword:
SMALL FORM-FACTOR KEYPAD FOR MOBILE COMPUTING DEVICES/QUALCOMM

Relevant legal provisions:
RPBA Art. 15(3)
EPC Art. 54(2)
EPC 1973 Art. 56, 84

Keyword:

Oral proceedings - held in absence of appellant
Claims - clarity after amendment (yes)
Novelty - main request (no) - first to fourth auxiliary requests (no)
Inventive step - fifth auxiliary request (no)

Decisions cited:

T 0454/89

Catchword:

Europäisches Patentamt
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Case Number: T 0313/13 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 15 December 2016

Appellant: (Applicant)	QUALCOMM Incorporated 5775 Morehouse Drive San Diego, CA 92121-1714 (US)
Representative:	WP Thompson 138 Fetter Lane London EC4A 1BT (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 25 September 2012 refusing European patent application No. 06737762.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	M. Höhn
	G. Weiss

Summary of Facts and Submissions

I. This appeal is against the decision of the Examining Division of the European Patent Office posted on 25 September 2012 refusing European patent application No. 06737762.2 pursuant to Article 97(2) EPC with regard to prior-art publications:

D1: US 2004/0165924 A1,
D2: WO 2004/059955 A1,
D3: WO 03/007582 A1,
D4: WO 01/82042 A2,
D5: EP 1696448 A1.

II. The notice of appeal was received on 16 November 2012. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 31 January 2013. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the main request or of the first to third auxiliary requests, all filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.

III. The board summoned the appellant to oral proceedings on 15 December 2016. With a communication sent by fax on 7 November 2016 the board expressed its preliminary opinion that all requests lacked clarity (Article 84 EPC 1973) and novelty (Article 54(2) EPC 1973, or at least lacked inventive step (Article 56 EPC 1973) in view of the disclosure of D6 (US 5612690 A1), which was introduced into the proceedings by the board of its own motion according to Article 114(1) EPC 1973, either by D6 alone or in combination with D1 or D4.

IV. By letter dated 1 December 2016 the appellant submitted two sets of claims according to a fourth and fifth auxiliary request, supported by arguments in favour of clarity and inventive step for all requests.

V. Oral proceedings were held on 15 December 2016. Nobody appeared for the appellant. The board's registrar phoned the appellant's representative's office and was informed that no representative had been sent to attend on behalf of the appellant.

The appellant requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of the main request or the first to third auxiliary requests filed with the statement setting out the grounds of appeal, or the fourth or fifth auxiliary request filed with letter dated 1 December 2016.

VI. After due consideration of the appellant's arguments provided in writing, the chair announced the decision.

Reasons for the Decision

1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point II above). It is therefore admissible.

2. Non-attendance at oral proceedings

Nobody attended on behalf of the appellant.

Article 15(3) RPBA stipulates that the board is not obliged to delay any step in the proceedings, including

its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case.

Hence, the board was in a position to announce a decision at the end of the oral proceedings.

3. Article 84 EPC 1973

The appellant has introduced the expression "nearly abutting" several times in the amended independent claims. This expression was objected to for lack of clarity, because it was vague (see point 2.2 of the decision under appeal).

The board notes that the wording of a claim has to be clear in itself (see T 454/89 of 11 March 1991).

In view of the passages of the description referred to by the appellant, in particular [0052] of the application as filed, the board interprets "nearly abutting" as a functional feature.

Paragraph [0052] reads "... a distance of separation for nearly abutting key structures corresponds to a distance that is of the order of a tolerance level for assembling the housing and interconnecting components or layers (excluding the actual keypad)) [sic] to make the keyboard effective. That is to say, as close together as the manufacturing process can achieve **whilst reliably providing independent movement** of one key structure relative to an adjacent key structure" (emphasis added).

Taking the expression "nearly abutting" to be a functional feature, the board considers the independent

claims comprising these words to fulfil the requirements of Article 84 EPC 1973.

Main request

4. Article 54(2) EPC 1973 - Novelty

4.1 D6 is considered to be the closest prior art. It discloses in comparison with the subject-matter of independent claim 1 (the references applying to this publication):

A mobile computing device (col. 1, l. 18/19 cellular phone) comprising:
a housing (implicit for a cellular phone);
one or more processors contained within the housing (implicit for a cellular phone); and
a keypad (figure 1) coupled to the one or more processors and comprising a plurality of nearly abutting key structures (see figure 1 and figure 2, elements 7a to 7d, 14)) extending above a surface of the housing (implicit) wherein the plurality of key structures comprises a first set of nearly abutting key structures individually actuatable to register entry of a character (figure 7a, keys 45) and a second set of nearly abutting key structures including a plurality of groups of at least two nearly abutting key structures (figure 7a, keys 10) which are proximate enough so that they appear to be in contact (figure 1);
said one or more processors operative in a first mode to respond to individual actuation of a key structure in the second set of nearly abutting key structures to register entry of a first character corresponding to the actuated key structure (figure 7a, alphanumeric keys 45, in particular set with keys labelled A, B, E, F), and operative in a second mode to respond to

actuation of a simultaneous actuation of a combination of nearly abutting key structures (figure 1) in a group of at least two of said nearly abutting key structures from the second set of said key structures (figure 7a, keys 10, in particular set with neighbouring keys labelled A, B, E, F) to register entry of a second character corresponding to said group of nearly abutting key structures (figure 7a, here numeric character "1").

D6 further discloses in comparison with the subject-matter of independent method claim 20 (the references applying to this publication):

A method for operating a mobile computing device (col. 1, l. 18/19 cellular phone), the method comprising:
determining whether a mobile computing device is in a numeric mode or a text mode (figure 7a and corresponding text); determining whether a single key is pressed (=text mode) or a group of 4 keys (=numeric mode);
interpreting actuation of a simultaneous actuation of a combination of nearly abutting keys of a set of keys of said mobile computing device (figure 7a, keys 10, in particular set with neighbouring keys labelled A, B, E, F) as a single numerical value when the mobile computing device is in the numerical mode (figure 7a, here numeric character "1") and interpreting actuation of a key not in the said set of keys differently; and interpreting actuation of each of the nearly abutting keys as a corresponding and different character value when the mobile computing device is in the text mode (figure 7a, alphanumeric keys 45, in particular set with keys labelled A, B, E, F).

4.2 The appellant argued that D6 did not disclose two different operation modes. However, the board does not agree. D6 discloses different modes depending on whether only a single key is pressed (text mode producing characters, see figure 7a) or more than one key is pressed at the same time (numeric mode producing numbers, see figure 7a). This is considered to correspond to the first mode and second mode according to claim 1 and to the numeric mode or text mode according to claim 20.

4.3 The appellant further argued that D6 was no more relevant than any other prior art on file, since D6 disclosed that the side of each key cap abutted the side of the adjacent key cap (see D6, column 5, lines 21 to 25).

However, the board does not agree. What is disclosed in D6 to be "abutting" has a distance of approximately 1 mm (see D6, column 5, lines 25 to 27) whereas according to the present application "nearly abutting" is in the range of less than 0.1 mm, which is even closer. Therefore, as in the claim (see point 3 above), the disclosure of D6 has to be understood by considering the technical functionality underlying the term "abutting". D6 requires that two discrete key switches are independently operable (see column 3, line 18) and that "The distance between key cap top surfaces is minimized with the goal of reducing the visual and tactile void between adjacent key caps" (column 3, lines 29 to 32; see also column 5, lines 17 to 21). Hence, from a technical point of view D6 discloses the same functionality of reliably providing independent movement between key structures according to claims 1 and 20. D6 therefore anticipates the corresponding feature of "nearly abutting".

4.4 The subject-matter of independent claims 1 and 20 is therefore anticipated by the disclosure of D6 and, hence, lacks novelty (Article 54(2) EPC 1973).

First auxiliary request

5. Independent claims 1 and 20 of this request comprise the additional feature of key structures nearly abutting "so as to appear to be in contact".

Since this is also disclosed in D6 (see e.g. figure 1) the objections raised with regard to the main request also apply to the independent claims according to the first auxiliary request. In particular, the keypad in D6 is also assumed to be for a limited viewing angle as argued by the appellant.

5.1 The subject-matter of independent claims 1 and 20 of this request is therefore also anticipated by the disclosure of D6 and, hence, lacks novelty (Article 54(2) EPC 1973).

Second auxiliary request

6. Independent method claim 15 according to this request reads:

"15. A method for operating a mobile computing device (2210), the method comprising:
determining whether a mobile computing device (2210) is in a numeric mode or a text mode;
interpreting actuation of a simultaneous actuation of a combination of nearly abutting keys (2020) in a group of keys of said mobile computing device as a single numerical value when the mobile computing device (2210)

is in the numerical mode and interpreting actuation of a key not in the said set of keys differently; and interpreting actuation of each of the nearly abutting keys (2020) as a corresponding and different character value when the mobile computing device (2210) is in the text mode, [sic]".

6.1 The subject-matter of claim 15 largely corresponds to claim 20 according to the main request. In view of figure 7a of D6 and the reasons given in point 4 above, the subject-matter of independent claim 15 of this request is anticipated for the same reasons by the disclosure of D6 and, hence, lacks novelty (Article 54(2) EPC 1973).

Third auxiliary request

7. Independent method claim 15 of this request comprises the additional feature of keys nearly abutting "so as to appear to be in contact".

7.1 Since this is also disclosed in D6 (see e.g. figure 1) the objection raised against the second auxiliary request also applies to independent claim 15 according to the third auxiliary request.

Fourth auxiliary request

8. Independent method claim 15 of this request comprises the additional feature of keys nearly abutting so as to appear to be in contact "when viewed during use of the mobile computing device".

8.1 Since this is also disclosed in D6 (see e.g. figures 1 and 6) the objection raised against the third auxiliary request also applies to independent claim 15 according

to the fourth auxiliary request. In particular, the keypad in D6 is also assumed to be for a limited viewing angle and viewed head-on as argued by the appellant.

8.2 The subject-matter of independent claim 15 of this request is therefore also anticipated by the disclosure of D6 and, hence, lacks novelty (Article 54(2) EPC 1973).

Fifth auxiliary request

9. Independent method claim 15 of this request replaces the "nearly abutting" feature by specifying a range for the distance between key caps, namely "a separation between adjacent key structures in the range 0.04 0.1 [sic] mm".

Article 84 EPC 1973 - Clarity

9.1 The expression "0.04 0.1 mm" leaves the reader in doubt as to what exactly is the claimed range. It could either be a single figure, in which case it is unclear where the decimal point is supposed to be, or it could be directed to a range, in which case a "-" is missing. Claim 15 is therefore considered to be unclear.

Article 56 EPC 1973 - Inventive step

9.2 But even reading it as "0.04 - 0.1 mm" and therefore considering the subject-matter of claim 15 to be novel over D6, the additional feature is not considered to involve an inventive step.

Nowhere does the description of the present application disclose what the technical effect or advantages of

selecting this range might be. In particular, it is not possible to consider such effects without knowing the material from which the key caps are made. However, there is no disclosure of such a material that might support an inventive selection for the claimed range.

In the absence of any arguments by the appellant in this regard, selecting the range claimed amounts to no more than an obvious design option which the skilled person would choose when appropriate, depending on the material of the key caps and without any need to exercise inventive skill.

9.3 The claimed subject-matter therefore does not involve an inventive step over D6 with regard to the skilled person's common general knowledge.

10. Thus, none of the requests fulfils the requirements of the EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated