

**Internal distribution code:**

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

**Datasheet for the decision  
of 19 July 2018**

**Case Number:** T 1696/14 - 3.5.05

**Application Number:** 09750790.9

**Publication Number:** 2277104

**IPC:** G06F3/14, G06F1/16, H04M1/725,  
G06F3/048

**Language of the proceedings:** EN

**Title of invention:**

DISPLAY MODE SWITCHING DEVICE AND METHOD FOR MOBILE TERMINAL

**Applicant:**

Samsung Electronics Co., Ltd.

**Headword:**

Virtual keypad switching for portrait/landscape modes/SAMSUNG

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - (no)

**Decisions cited:**

**Catchword:**



**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 1696/14 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 19 July 2018**

**Appellant:** Samsung Electronics Co., Ltd.  
(Applicant) 129, Samsung-ro  
Yeongtong-gu  
Suwon-si, Gyeonggi-do, 443-742 (KR)

**Representative:** HGF Limited  
Saviour House  
9 St. Saviourgate  
York YO1 8NQ (GB)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 18 March 2014  
refusing European patent application No.  
09750790.9 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** A. Ritzka  
**Members:** P. Cretaine  
G. Weiss

## **Summary of Facts and Submissions**

I. This appeal is against the decision of the examining division, posted on 18 March 2014, refusing European patent application No. 09750790.9. The main request and the auxiliary request were both refused because of the presence of added matter in the claims (Article 123(2) EPC).

The main request was also refused on the grounds of lack of inventive step (Article 56 EPC) having regard to the disclosure of each of

D1: EP 1 124 175 or

D5: WO 02/31807, in combination with

D3: US 6 986 103.

The auxiliary request was also refused for lack of inventive step (Article 56 EPC) having regard to the disclosure of D5 in combination with D3 or to the disclosure of D1 in combination with D3 and

D2: US 2005/243069.

II. The notice of appeal was received on 15 May 2014 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 21 July 2014. The appellant requested that the decision be set aside and that a patent be granted based on a main request or the first to third auxiliary requests, all requests submitted with the statement setting out the grounds of appeal. Oral proceedings were requested as an auxiliary measure.

III. A summons to oral proceedings was issued on 30 April 2018. In an annex to this summons, the board gave its preliminary opinion that the main request and the first to third auxiliary requests still did not meet the requirements of Article 123(2) EPC and those of Article 56 EPC having regard to the disclosure of D1 in combination with D3.

IV. Oral proceedings were held on 19 July 2018. The appellant requested that the decision under appeal be set aside and that a patent be granted based on the claims of a main request or of the first to third auxiliary requests, all requests filed with the statement setting out the grounds for appeal. The decision of the board was announced at the end of the oral proceedings.

V. Claim 1 according to the main request reads as follows:

"A display method of a portable electronic device, comprising:

activating a character input function;

detecting an orientation of the electronic device;

selecting a first mode or a second mode according to the orientation of the electronic device; and

displaying, on a single display, a virtual key pad comprising a plurality of virtual keys in an input region, and an output region being configured to display characters input via the virtual key pad, according to the selected mode;

wherein the display of the characters and the virtual key pad according to the first mode is different from the display of the characters and the virtual key pad according to the second mode, and

wherein one of the differences between the display of the characters and the virtual key pad in the first

mode and the display of the characters and the virtual key pad in the second mode is a font size of the characters input via the virtual key pad and displayed in the output region;  
wherein the first mode comprises a portrait mode and the second mode comprises a landscape mode."

Claim 1 according to the first auxiliary request reads as follows:

"A method for switching a display mode of a portable electronic device, the method comprising:  
activating a character input function;  
determining a posture of the portable electric device;  
selecting a first mode or a second mode according to the posture of the portable electronic device;  
displaying a first virtual key pad when the first mode is selected; and  
displaying a second virtual key pad when the second mode is selected;  
wherein the method further comprises:  
monitoring a change in the posture of the portable electronic device;  
switching to the second virtual key pad in response to the change in the posture of the portable electronic device if the first virtual key pad was displayed; and  
switching to the first virtual key pad in response to the change in the posture of the portable electronic device if the second virtual key pad was displayed;  
wherein the first virtual key pad is displayed in the first mode and configured with a first number of virtual keys, and wherein the second virtual key pad is displayed in the second mode and configured with a second number of virtual keys, the first number of virtual keys being smaller than the second number of virtual keys;

wherein the method further comprises:  
displaying characters input using the first or second  
virtual key pad in a window; and  
resizing characters displayed in the window when the  
mode changes from the first mode to the second mode or  
when the mode changes from the second mode to the first  
mode;  
wherein the first or second virtual key pad and the  
window are displayed on a single display;  
wherein the first mode comprises a portrait mode and  
the second mode comprises a landscape mode."

Claim 1 according to the second auxiliary request is  
identical to claim 1 of the main request, except for  
the position of the step of activating a character-  
input function, which comes after the step of  
displaying a virtual keypad.

Claim 1 according to the third auxiliary request is  
identical to claim 1 of the first auxiliary request,  
except for the position of the step of activating a  
character-input function, which comes after the step of  
displaying a second virtual keypad.

The main request and the second auxiliary request  
comprise further independent claims directed to a  
corresponding device (claim 17) and computer program  
(claim 34).

The first and third auxiliary requests comprise a  
further independent claim directed to a corresponding  
device (claim 8).

## Reasons for the Decision

### 1. Admissibility of the appeal

The appeal complies with Articles 106 to 108 EPC (cf. point II above) and is therefore admissible.

### 2. Prior art

D1 discloses a mobile display apparatus (MDA) for a portable electronic device being able to function in portrait mode or landscape mode upon detection of the orientation of the electronic device (see paragraph [0059]). The mobile display apparatus may support the functions of a PDA/personal computer, a radio telephone (see paragraph [0064]) or a diary (see paragraph [0067]). In the embodiment described with respect to Figures 11a and 11b, the display apparatus is adapted to display on a single display a virtual keypad (204 in Figures 11a and 11b) and an output region (202 in Figures 11a and 11b). The virtual keypads 204 in the two modes are different in form and size, as shown in Figures 11a and 11b. Once the device is powered on, the characters input via the virtual keypad are displayed in the output region (see paragraphs [0071] and [0072]). In the embodiment described with respect to Figures 13b and 13c, the mobile display apparatus is adapted to display a virtual QWERTY keypad (250 in Figure 13b) for inputting characters by the user (see paragraphs [0090] and [0091]).

D2 discloses a portable electronic device including a display for displaying alternate character sets depending on the selected mode of operation of the device (see Figures 1 and 2).



D3 discloses a portable electronic device for displaying a text document in portrait or landscape mode (see column 9, lines 32 to 37, and Figures 4 and 7). One of the differences between text characters displayed in portrait or landscape mode is the font size (see column 9, lines 42 to 46, and 716 in Figure 7 compared with 416 in Figure 4).

D5 discloses a portable electronic device comprising a display functioning in portrait or landscape mode, and adapted to display on a single display a virtual keypad and an output region for displaying characters input via the virtual keypad (see page 5, lines 4 to 19; from page 9, line 22, to page 10, line 2; page 10, lines 23 to 26; Figures 3 and 9).

3. Interpretations of claims

The independent claims of all the requests define that "the first mode comprises a portrait mode and the second mode comprises a landscape mode". For the assessment of inventive step the board assumes that this broad wording means that, in accordance with the whole description and drawings of the present application, the first mode is portrait mode and the second mode is landscape mode.

4. Main request

4.1 D1 represents the closest prior art to the subject-matter of claim 1 since it relates to a portable electronic device displaying on a single display both a virtual keypad and an output region displaying the characters input via the virtual keypad, either in portrait mode or in landscape mode, depending on the

detected orientation of the device, as per the embodiments disclosed with respect to Figures 11a/11b and Figures 13b/13c.

The only difference between the subject-matter of claim 1 and the disclosure of D1 is that the font sizes of the characters input via the virtual keypad and displayed in the output region are defined to be different in portrait and landscape modes.

The technical effect of this distinguishing feature is the ability to adapt the size of the displayed characters to the mode. The font size can for instance be adapted to improve the readability of the characters by the user or to better suit the size of the output region.

The objective technical problem can thus be formulated as how to optimise the presentation of the displayed characters depending on the mode (portrait or landscape).

The skilled person, starting from D1 and trying to solve this problem, would look for prior-art devices displaying characters on a display that functions in either portrait or landscape mode. The skilled person would find in D3 a device that uses different font sizes in portrait and landscape mode to maintain optimal readability (see column 9, lines 42 to 46, and Figures 4 and 7). By using this particular feature of D3 in the display device and method of D1, the skilled person would arrive at the subject-matter of claim 1 without the exercise of inventive step (Article 56 EPC).

4.2 The appellant argued that the skilled person would not be incited to use D3 in combination with D1 since D3 discloses neither displaying a virtual keypad nor detecting the orientation of the device. The board however holds that the skilled person trying to solve the objective technical problem formulated in point 4.1 would consider any document dealing with optimising the display of groups of characters on a display device functioning either in portrait or landscape mode, regardless of how the mode is chosen and how the characters are input.

The appellant also disputed that the region 202 in Figures 11a and 11b of D1 was an output region in the sense of claim 1 since, according to paragraphs [0071] and [0072], it displayed the content of a web page whose address has been entered by the user on the virtual keypad, and not characters input by the user via the virtual keypad as defined in claim 1. The board is however not convinced by this argument for the following reasons. Firstly, although paragraph [0071] mentions that the embodiment disclosed with respect to Figures 11a and 11b is suitable for web browsing, it does not explicitly exclude the use of the mobile display apparatus MDA for other purposes mentioned in the application, such as a diary or a radio telephone (see paragraphs [0064] and [0067]). Secondly, D1 clearly mentions in paragraph [0092], that the embodiment disclosed with respect to Figures 13b/13c may be utilised in combination with the other embodiments. The skilled person would thus readily combine the teaching of the embodiment of Figures 13b/13c in respect of outputting characters input via the virtual keypad with the embodiment of Figures 11a/11b.

4.3 For these reasons the board judges that claim 1 does not meet the requirements of Article 56 EPC having regard to the disclosure of D1 in combination with D3.

5. First auxiliary request

Claim 1 adds substantially to claim 1 according to the main request the features that the mode is switched during operation of the character-input function and that the virtual keypad in portrait mode has fewer keys than the virtual keypad in landscape mode.

The first additional feature is however already disclosed in D1. In that respect, paragraphs [0059] and [0068] describe that the mode, portrait or landscape, automatically changes in response to the sensed orientation of the device. In the particular embodiment shown in Figures 11a/11b, this automatic change is also performed (see paragraphs [0073]). It is thus implicit from these passages that switching occurs based solely upon a change in the orientation, irrespective of the function, e.g. a character-input function, that is activated at that time.

In respect of the second additional feature, Figures 11a and 11b of D1 disclose that the virtual keypads are different in form and size in portrait and landscape modes, the surface of the keypad in portrait mode being smaller than in landscape mode. It is however common knowledge to change the keypad appearance for each mode (landscape or portrait), as illustrated by D2 (see D2, Background of the Invention, paragraph [0004] and Figures 1 and 2). The board thus considers that it is obvious for the skilled person to adapt the number of keys to the available space and to devise a smaller number of keys in portrait mode.

For these reasons, the board judges that the subject-matter of claim 1 does not involve an inventive step having regard to the disclosure of D1 in combination with D3 and the common general knowledge (Article 56 EPC).

6. Second auxiliary request

Claim 1 is identical to claim 1 according to the main request, except for the position of the step "activating a character input function".

The orientation detection and the subsequent automatic selection of portrait or landscape mode in D1 is however performed independently of the activation of a particular function, e.g. a character input function (see point 5 above). Therefore, the position of the activating step in claim 1 does not change the assessment on inventive step. Moreover, the board further holds that claim 1 does not specify a chronological order in which the steps have to be performed.

For these reasons, the board judges that the subject-matter of claim 1 does not involve an inventive step having regard to the disclosure of D1 in combination with D3 (Article 56 EPC).

7. Third auxiliary request

Claim 1 is identical to claim 1 of the first auxiliary request, except for the position of the step "activating a character input function".

As already mentioned in point 6 above, this amendment to claim 1 of the first auxiliary request is however not sufficient to change the assessment of inventive step.

For these reasons, the board judges that the subject-matter of claim 1 does not involve an inventive step having regard to the disclosure of D1 in combination with D3 and the common general knowledge (Article 56 EPC).

8. Conclusion

Neither of the appellant's four requests is allowable under Article 56 EPC.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chair:



D. Magliano

A. Ritzka

Decision electronically authenticated