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**Datasheet for the decision
of 18 June 2019**

Case Number:	T 1927/14 - 3.4.03
Application Number:	07735833.1
Publication Number:	2092508
IPC:	G09G5/00, G06F3/01
Language of the proceedings:	EN

Title of invention:
ADJUSTING DISPLAY BRIGHTNESS AND/OR REFRESH RATES BASED ON EYE TRACKING

Applicant:
Sony Ericsson Mobile Communications AB

Headword:

Relevant legal provisions:
EPC 1973 Art. 54, 56

Keyword:
Novelty - main request (no)
Inventive step - auxiliary request (no)

Decisions cited:

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It can be changed at any time and without notice.

Catchword:

Case Number: T 1927/14 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 18 June 2019

Appellant: (Applicant)	Sony Ericsson Mobile Communications AB Nya Vattentornet 221 88 Lund (SE)
Representative:	Kraus & Weisert Patentanwälte PartGmbB Thomas-Wimmer-Ring 15 80539 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 28 February 2014 refusing European patent application No. 07735833.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Eliasson
Members:	M. Stenger
	C. Heath

Summary of Facts and Submissions

I.   The appeal of the applicant concerns the decision of
        the Examining Division to refuse European patent
        application no. 07735833. The Examining Division held
        that the subject-matter of claim 1 was not new in view
        of document D3 (US2003/052903).

II.   The appellant requests that the decision under appeal
        be set aside and that a patent be granted according to
        a main request corresponding to the request on which
        the contested decision is based and filed with letter
        dated 21 December 2012 or according to one of auxiliary
        requests 1 to 4 filed with the grounds of appeal.

III.   In a communication preparing the oral proceedings, the
        Board indicated its preliminary opinion that the
        subject-matter of the independent claims of the main
        request lacked novelty and that the subject-matter of
        the independent claims of auxiliary requests 1 to 4
        lacked an inventive step.

IV.   At the end of the oral proceedings which were held in
        the previously indicated absence of the appellant, the
        Chairman announced the decision of the Board.

V.   Claim 1 of the main request has the following wording
        (labeling added by the Board):

        *A method comprising determining (404) a first area at
        which a user gazes on a display screen (212), the
        method characterized by:*

a)   *identifying (406) a first screen region that does not overlap the first area, wherein the first screen region includes a first portion and a second portion;*
b)   *determining (412) a first distance between the first area and the first portion;*
c)   *determining (412) a second distance between the first area and the second portion;*
d)   *assigning (414), based on the first distance, a first value to the first portion;*
e)   *assigning (414), based on the second distance, a second value to the second portion, wherein*
f)   *the second value is different from the first value;*
g)   *darkening (416) the first portion to a first brightness level based on the first value; and*
h)   *darkening (416) the second portion to a second brightness level based on the second value, wherein*
i)   *the second brightness level is different than the first brightness level.*

VI.   Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that features b) and c) are replaced by the following features b1) and c1), respectively (labeling added by the Board):

b1)   *calculating (412) a first distance between the first area and the first portion, wherein the calculating the first distance comprises: determining a third distance in a horizontal direction with respect to a plane of the display screen between the first area and the first portion, determining a fourth distance in a vertical direction with respect to the plane of the display screen between the first area and the first portion, and*

determining the first distance based on the third and fourth distances;
c1)   *calculating (412) a second distance between the first area and the second portion,*
wherein the calculating the second distance comprises:
determining a fifth distance in a horizontal direction with respect to the plane of the display screen between the first area and the second portion,
determining a sixth distance in a vertical direction with respect to the plane of the display screen between the first area and the second portion, and
determining the second distance based on the fifth and sixth distances;

VII.   Claim 1 of auxiliary request 2 differs from claim 1 of the main request in that features b) and c) are replaced by the following features b2) and c2), respectively (labeling added by the Board):

b2)   *calculating (412) a first distance between the first area and the first portion, wherein the calculating the first distance comprises:*
determining a third distance in a horizontal direction with respect to a plane of the display screen between the first area and the first portion,
determining a fourth distance in a vertical direction with respect to the plane of the display screen between the first area and the first portion, and
determining the first distance by calculating a square root of the sum of the square of the third distance and the square of the fourth distance;
c2)   *calculating (412) a second distance between the first area and the second portion,*
wherein the calculating the second distance comprises:

determining a fifth distance in a horizontal direction with respect to the plane of the display screen between the first area and the second portion,
determining a sixth distance in a vertical direction with respect to the plane of the display screen between the first area and the second portion, and
determining the second distance by calculating a square root of the sum of the square of the fifth distance and the square of the sixth distance;

VIII.   Claim 1 of auxiliary request 3 differs from claim 1 of the main request in that features b) and c) are replaced by the following features b3) and c3), respectively (labeling added by the Board):

b3)   *calculating (412) a first distance between the first area and the first portion, wherein the calculating the first distance comprises:*
determining a third distance in a first direction with respect to a plane of the display screen between the first area and the first portion,
determining a fourth distance in a second direction with respect to the plane of the display screen between the first area and the first portion, and
determining the first distance based on the third and fourth distances,
c3)   *calculating (412) a second distance between the first area and the second portion,*
wherein the calculating the second distance comprises:
determining a fifth distance in the first direction with respect to the plane of the display screen between the first area and the second portion,
determining a sixth distance in the second direction with respect to the plane of the display screen between the first area and the second portion, and

determining the second distance based on the fifth and sixth distances;

IX.   Claim 1 of auxiliary request 4 differs from claim 1 of the main request in that features b) and c) are replaced by the following features b4) and c4), respectively (labeling added by the Board):

b4)   *calculating (412) a first distance between the first area and the first portion, wherein the calculating the first distance comprises: determining a third distance in a first direction with respect to a plane of the display screen between the first area and the first portion, determining a fourth distance in a second direction with respect to the plane of the display screen between the first area and the first portion, and determining the first distance by calculating a square root of the sum of the square of the third distance and the square of the fourth distance,*
c4)   *calculating (412) a second distance between the first area and the second portion, wherein the calculating the second distance comprises: determining a fifth distance in the first direction with respect to the plane of the display screen between the first area and the second portion, determining a sixth distance in the second direction with respect to the plane of the display screen between the first area and the second portion, and determining the second distance by calculating a square root of the sum of the square of the fifth distance and the square of the sixth distance;*

X.   The arguments of the appellant, as far as they are relevant for the present decision, may be summarised as

follows (see in particular the grounds of appeal, page 2, antepenultimate paragraph to page 3, paragraph 3):

The mere fact that D3 disclosed gradually darkening the the area around the focus area 590 did not imply that D3 disclosed the determination of distances and assigning values based on the distances as required by claim 1.

For example, the gradual reduction of lighting shown in figure 5B could merely entail reducing the brightness of a row of pixels bordering the focus area 590, reducing the next row of pixels by an additional amount and so on until the end of the screen is reached.

Therefore, D3 did not disclose
-    identifying a first screen region that includes a first portion and a second portion,
-    determining corresponding first and second distances,
-    assigning a first and a second value based on the respective distances to the first and second portions, and
-    darkening the first and the second portions to first and second brightness levels based on the first and second value,
-    wherein the second brightness level is different than the first brightness level.

The Board notes that the features identified as differentiating features by the appellant correspond essentially to features a) to i) of claim 1 of the main request.

Reasons for the Decision

1.   The appeal is admissible.

2.   If a party duly summoned to oral proceedings before the
        European Patent Office does not appear as summoned, the
        proceedings may continue without that party according
        to Rule 115(2) EPC. In particular, the Board is not
        obliged to delay its decision in such a case according
        to Article 15(3) RPBA. In the present case, no reply to
        the preliminary opinion of the Board was received from
        the appellant. Therefore, the case was ready for
        decision at the conclusion of the oral proceedings
        (Articles 15(5) and (6) RPBA).

3.   D3
        Document D3 relates to a method and apparatus for
        lighting a display where only a relevant portion of the
        display screen is fully illuminated, while reduced
        illumination is used on the remaining portion of the
        display screen. Thereby the power consumption of the
        display screen is decreased (abstract).
        The relevant portion (or focus area) of the display
        screen may be determined based on the user's eye
        movement ([14] and [31]). The remaining portion of the
        display screen may turned off completely or parts of it
        may be illuminated to a lesser extent than the relevant
        portion. Alternatively, there may be a gradation of
        lighting from the relevant portion outward ([15]).

4.   Main request, claim 1

4.1   Disclosure of D3
        The appellant did not dispute that D3 discloses, in the
        wording of claim 1 of the main request, a method
        comprising determining a first area (*focus area* or
        relevant portion) at which a user gazes on a display
        screen (see [31] and [41]).

        Further, as noted above, D3 discloses a *graduated
        darkening* (or illumination) of the area outside the
        *focus area/relevant portion, around the focus area/from
        the relevant portion outward*; see [15] and [54]). This
        was also accepted by the appellant (grounds of appeal,
        penultimate paragraph of page 2).

        That is, according to D3, the *area outside the focus
        area/the remaining portions* does not overlap the *focus
        area/relevant portion* and thus corresponds to the first
        screen region of claim 1.
        Further, a *graduated darkening* of an area implies that
        this area is divided into a plurality of portions which
        are to be darkened (or illuminated) to different
        brightness levels.
        Thereby, D3 implicitly discloses feature a).

        Further, it is the understanding of the Board that
        *graduated darkening around the focus area/from the
        relevant portion outward* as disclosed in D3 means that
        different ones of these portions are illuminated to
        different brightness levels in a *graduated* manner.
        That is, the different portions are not darkened/
        illuminated to different brightness levels in a random
        manner, but must be darkened/illuminated such that the
        brightness levels of the different portions *decrease
        monotonically* with their distance from the focus area/
        relevant portion.

In order to be able to provide such a monotone decrease
of brightness levels, the respective distances between
each portion and the focus area/relevant portion must
be determined in one way or another. Thus, D3 also
implicitly discloses features b) and c).

In addition, in order to be able to provide the
monotone decrease mentioned above, brightness levels
must be assigned to individual ones of the different
portions based on their individual distances to the
focus area/relevant portion. Thereby, D3 also
implicitly discloses features d) and e).

It is furthermore indispensable to actually darken/
illuminate the different portions according to these
brightness levels during use to obtain a graduated
lighting pattern. Thus, D3 also implicitly discloses
features g) and h).

Finally, a monotone decrease of brightness implies that
there are at least two different portions which are
darkened/illuminated to different brightness levels.
Thereby, D3 also implicitly discloses features f) and
i).

Document D3 thus at least implicitly discloses all the
features of claim 1 of the main request, including
features a) to i), contrary to the argument of the
appellant.

4.2   Embodiment of figure 5B
        The Board accepts the argument of the appellant that in
        the embodiment shown in figure 5B of D3, graduated
        darkening could be performed row by row.
        The Board notes that such a darkening would then imply
        that the brightness level of a given row decreases

monotonically with the number of rows between that
given row and the focus area 590.
However, determining a number of rows or, more
generally, counting rows (or pixels) is nothing more
than one generally known way of determining a distance
on a (computer) display screen as required by claim 1
of the main request.

Therefore, the above considerations with respect to
features a) to i) also apply to the embodiment shown in
figure 5B of D3, contrary to the arguments of the
appellant.

4.3   Conclusion
        It follows from the above that D3 discloses all the
        features of claim 1 of the main request. Its subject-
        matter is therefore not new according to Article 54 EPC
        1973.

        The Board thus comes to the same conclusion as the
        Examining Division in the contested decision (point
        1.1).

5.   Auxiliary requests 1 to 4

        The independent method claims of auxiliary requests 1
        to 4 differ from independent method claim 1 of the main
        request in that features b1), c1), b2), c2), b3), c3),
        b4) and c4), respectively, specify in more detail than
        features b) and c) *how* the first and second distances
        are determined/calculated.

        Document D3 discloses the determination of the
        distances between the different portions of the area
        with the graduated darkening and the focus area in an

implicit manner and is silent about *how* they are determined.

Starting from D3, the skilled person would thus be confronted with the problem to find a way to determine these distances.

One immediately obvious way to do so would be to count pixels, as mentioned above. Another equally obvious way would be to use the Pythagorean theorem, which has been a generally known way of determining a distance for a very long time. Therefore, the skilled person would, starting from D3 and using his common general knowledge, readily consider to use the Pythagorean theorem to determine the distances required.

The Board acknowledges that each of the independent method claims of auxiliary requests 1 to 4 is formulated in a slightly different manner. Nonetheless, calculating the first and second distances by means of the Pythagorean theorem falls under the definition of each of these claims.

Thus, the skilled person would, by starting from D3 and using the Pythagorean theorem to determine the distances required, arrive at the subject-matter of each of the independent method claims of auxiliary requests 1 to 4.

Therefore, the subject-matter of these claims is not inventive according to Article 56 EPC 1973.

6.   It follows from the above that the independent method claim of the main request as well as the independent method claims of auxiliary requests 1 to 4 do not fulfill the requirements of the EPC. Thus, the appeal must fail.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

S. Sánchez Chiquero   G. Eliasson

Decision electronically authenticated