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Dear Sirs

European Patent Application No. 09170574.9
Unlocking A Device By Performing Gestures On An Unlock Image
Apple Inc.

In response to the examination report dated 3 May 2016 we enclose an amended set of ten claims, in clean and marked-up versions, to replace the claims currently on file. We also enclose replacement description page 1a again in clean and marked-up versions, to replace the corresponding page of the description currently on file.

Claim Amendments and Basis

Claim 1 has been amended to recite steps of:

"unlocking the portable electronic device and ceasing to display the single unlock image if the moving of the single unlock image on the touch-sensitive display results in movement of the single unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display";

and

"maintaining the portable electronic device in the locked state and maintaining display of the single unlock image if the moving of the single unlock image does not result in movement of the single unlock image from the first predefined location to the predefined unlock region on the touch-sensitive display".

Corresponding amendments have been made to independent claims 7 and 10.

Basis for these amendments may be found, for example, in paragraph [0093] of the specification as originally filed, which explains that (emphasis added) "*the user completes the unlock action by dragging the unlock image to the right of the channel 704 and releasing the unlock image 702. The device 700 transitions to the unlock state. The unlock image 702 and the channel 704 disappear from the display*", and in paragraph [0077] of the specification as originally filed, which explains that (again, emphasis added) "*the unlock image 402 may be used to indicate failure of performance of the unlock action. For example, if the user breaks the contact with the touch screen before the unlock image reaches the right end of the channel 404, the unlock action has failed. The device 400 may display the unlock image returning to its original position on the left end of the channel 404, allowing the user to attempt the unlock action again*".

Thus, the amendments to the independent claims are directly and unambiguously derivable from the content of the application as filed, and therefore meet the requirements of Article 123(2) EPC in relation to added subject matter.

Inventive Step

In the examination report the Examiner maintains the inventive step objection based on the D5 document "Touchscreen Toggle Design" by Plaisant *et al*, and raises a further objection of lack of inventive step based on the newly-cited D7 document, the user manual for the Neonode N1 phone. It is submitted that the claims as currently amended define an invention that involves an inventive step over both of these documents, for the following reasons.

D5 as closest prior art

We maintain that D5 cannot be the closest prior art, as the problem addressed by that document, of providing easily understood touch-screen toggle switches to control two-state devices, is so far removed from the problem addressed by the claimed invention, of preventing unintentional unlocking of a portable electronic device. In this regard we direct the Examining Division's attention to T 835/00:

"*4.1 The determination of the disclosure which is nearest to the claimed invention and which therefore presents the most promising springboard for its development is essential for the assessment of inventive step*".

Because of the distance between the disclosure of D5 and the invention as claimed, D5 cannot possibly be regarded as presenting the most promising springboard for the development of the claimed invention.

Nevertheless, in view of the Examiner's comments we provide below our assessment of inventive step taking D5 as the closest prior art document.

D5 discloses a slider toggle control for switching a device between on and off states, in which a sliding or dragging movement is required to change the position of a pointer from one side of the toggle to the other. A simple three step animation shows the movement of the pointer along the slide. If the device is in the ON state the pointer is on the on side. A user can then grab the pointer and slide it to the other side. If the pointer is released before reaching the other side the pointer slides back to its previous position.

The slider toggle of D5 is disclosed as being used in a touchscreen interface which is flushmounted into a wall or cabinetry, for use in controlling integrated entertainment, security and climate control systems for homes and offices. The slider toggle disclosed in D5 is used to turn a device on and off, and must be permanently visible, in order to be available to the user to toggle between the on and off states at all times.

Furthermore, the disclosure in the right-hand column of page 667 under the heading "Description of the Toggles" states:

"*A requirement imposed by our particular application was to design toggles allowing lists of devices or options to be presented on screen. This limited us to horizontal toggles (Figure 2) to increase the number of possible toggles and labels per page*".

This disclosure teaches that toggles are provided, and permanently presented on screen, for each of a list of devices or options, since it would not make sense for a toggle to disappear from the list.

In contrast, claim 1 as currently amended requires that a single unlock image is no longer displayed if moving the unlock image results in the movement of the unlock image from a first predefined location to a predefined unlock region on the touch-sensitive display.

Thus, D5 fails to disclose at least the features of claim 1 as currently amended of

> "A computer-implemented method for preventing unintentional unlocking of a portable electronic device",
>
> "unlocking the portable electronic device and ceasing to display the single unlock image if the moving of the single unlock image on the touch-sensitive display results in movement of the single unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display";

and

> "maintaining the portable electronic device in the locked state and maintaining display of the single unlock image if the moving of the single unlock image does not result in movement of the single unlock image from the first predefined location to the predefined unlock region on the touch-sensitive display".

These distinguishing features give rise to a technical effect of providing an easy mechanism for unlocking a portable electronic device which, once the device has been unlocked, does not occupy screen area that could be used for displaying content.

By simply following the problem and solution approach from the (unrealistic) starting point of D5, the objective technical problem becomes "how to provide an easy mechanism for unlocking a portable electronic device which does not compromise the screen area available to display content".

However, this is an unrealistic problem to be solved when starting from D5, because D5 does not relate to the field of portable electronic devices, and does not even hint that the touchscreen interface could be used for anything other than presenting controls for an external device. D5 therefore does not mention

that the objective of providing an easy mechanism for unlocking a portable electronic device which does not limit the screen area available to display content is a goal that is worth achieving.

As such, formulating the objective technical problem as set out above actually includes a pointer to the claimed solution, due to the reference to a portable electronic device. The objective technical problem should not however be formulated in such a way that contains pointers to the claimed solution.

Referring again to T 835/00:

"*4.2 It follows that a prior art disclosure not mentioning a technical problem which is at least related to that derivable from the specification under examination does not normally qualify as the closest prior art, however many technical features it may have in common with the claimed subject-matter (cf. T 686/91, not published in the OJ EPO).*"

"*4.4.5. In the Board's judgment, a fatal defect of the choice of D1' as a starting point for the application of the problem/solution method, is that no relevant technical problem can be formulated without inappropriate hindsight. Without such hindsight, any attempt to establish a logical chain of considerations which would lead to the claimed invention inevitably gets stuck at the start for want of a relevant identifiable goal or object. If the relevant problem is thus not derivable, the measures necessary for its solution are a fortiori not derivable. In other words, the invention is not obvious in the light of such art.*"

Therefore, if D5 is to be chosen as the starting point, the only objective technical problem that can be formulated is: *"how to modify D5 to permit it to be used to provide an unlocking mechanism for a portable electronic device without compromising the screen area available for display of content"*. This problem is of course based entirely on inappropriate hindsight. Without the use of such hindsight no meaningful objective technical problem can be derived. Following the reasoning of T 835/00, the invention of the claims as currently amended is not obvious in the light of D5.

In any event, D5 teaches away from the solution of the independent claims as currently amended, since, as discussed above, D5 teaches that toggles must be permanently displayed on screen in order to permit a user to toggle between on and off states. Nothing in any of the other cited prior art documents provides any direction to the skilled person to go against the clear teaching of D5 by ceasing to display an unlock image.

Thus, it is submitted that the claims as currently amended are inventive over D5.

D7 as closest prior art

D7 relates to a portable electronic device (the Neonode N1 phone), and discloses the use of a "sweep" gesture to unlock the phone.

As the Examiner concedes, D7 fails to disclose any unlock image with which a user interacts in order to unlock the device. D7 therefore also fails to disclose the newly-introduced features of claim 1 relating to ceasing to display the unlock image and maintaining display of the unlock image.

Thus, D7 fails to disclose the features of claim 1 as currently amended of:

"detecting a contact with the touch-sensitive display at a first predefined location corresponding to a single unlock image while the portable device is in a locked state, wherein the single unlock image is a graphical, interactive user-interface object with which a user interacts in order to unlock the device";

"ceasing to display the single unlock image if the moving of the single unlock image on the touch-sensitive display results in movement of the single unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display" and

"maintaining the portable electronic device in the locked state and maintaining display of the single unlock image if the moving of the single unlock image does not result in movement of the single unlock image from the first predefined location to the predefined unlock region on the touch-sensitive display".

These distinguishing features give rise to a technical effect of providing an improved mechanism for unlocking a portable electronic device which, once the device has been unlocked, does not occupy screen area that could be used for displaying content.

The objective technical may therefore be expresses as "how to provide an improved mechanism for unlocking a portable electronic device which does not compromise the screen area available to display content".

In seeking to address this technical problem the skilled person would not consider D5, since that document does not relate even remotely to the technical problem, but instead relates to providing touchscreen toggle controls for controlling the operation (on or off) of an external device.

Even if the skilled person were to consider D5, he would find no teaching in that document that would solve the problem identified above, since all of the toggle controls disclosed in that document must be permanently visible, and would therefore, if imported into the system of D7, occupy screen area that could otherwise be used for displaying content. Accordingly, the skilled person would not combine the teaching of D5 with that of D7 to arrive at the invention now claimed, so the claims as currently amended are inventive over the combination of D7 and D5.

Similarly, none of the other cited documents D1-D4 provides any teaching that could be combined with that of D7 to arrive at the invention now claimed, and thus the claims as amended are inventive over D7 and any of D1-D4.

Formal Issues

The newly-cited prior art document and D7 has been identified and briefly discussed in the enclosed replacement description page 1a. Additionally, the independent claims have been re-cast in the two-part form with respect to D7.

Concluding Remarks

It is submitted that the enclosed amendments and the comments above address all of the outstanding objections, and therefore place this application in condition for allowance. Accordingly, we look forward to receiving a communication pursuant to Rule 71(3) EPC as the next action.

Nevertheless, if any minor deficiencies remain as an obstacle to allowance the Examiner is invited to contact the undersigned representative by telephone in order to resolve any such deficiencies in a procedurally efficient manner.

As a precaution against summary refusal we request oral proceedings in the event that the Examining Division is minded to refuse this application.

Yours faithfully

Matthew Howell
Professional Representative
WITHERS & ROGERS LLP