withers & rogers LLP

Withers & Rogers LLP, 4 More London Riverside, London, SE1 2AU
Tel: +44 (0)20 7940 3600 Fax: +44 (0)20 7378 9680
E-Mail: admin@withersrogers.com Web: www.withersrogers.com

European & Chartered Patent Attorneys
Trade Mark Attorneys

European Patent Office
PB 5818 Patentlaan 2
Rijswijk
NL-2280 HV
Netherlands

Our Ref: P338984EP-PCTDIV2/MH

Your Ref:

25 April 2017

SIGNED AND SENT ELECTRONICALLY

Writer's Telephone: +44 117 925 3030

Dear Sirs

European Patent Application No. 10194359.5
Unlocking A Device By Performing Gestures On An Unlock Image
Apple Inc.

We refer to the Summons to attend oral proceedings dated 2 February 2017. In response, we enclose a Main Request and First, Second and Third Auxiliary Requests, for consideration by the Examining Division in the order in which they are presented here. We also enclose replacement description page 2b (in clean and marked up versions) to replace page 2b of the description currently on file for all of the Requests.

MAIN REQUEST

This Main Request comprises a replacement set of 12 claims (presented in clean and marked-up versions) to replace the claims currently on file.

Claim Amendments and Basis

Claim 1 has been amended to recite:

"A computer-implemented method, comprising:
while an electronic device (700) having a touch-sensitive display (714) is in a first user-interface state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to a second user-interface state;
characterised in that the method further comprises:
while the device (700) is in the first user-interface state,
indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
wherein at least one of the one or more user interface objects (708)is not displayed prior to detecting progress towards completion of the gesture input and,
wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and

transitioning (606) the device (700) to the second user-interface state if the gesture input is completed".

Basis for the feature:

> "while an electronic device (700) having a touch-sensitive display (714) is in a first user-interface state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to a second user-interface state"

may be found, for example, in paragraphs [0091] to [0093] of the original specification, which disclose that in order to transition between a locked state and an unlocked state (i.e. a "first user-interface state" and a "second user-interface state") a user must complete a gesture input on the touch screen, which in the described example involves making contact with a finger on the touch screen of the device and dragging an unlock image to the end of a channel and releasing the unlock image, at which point the gesture is complete and the device transitions to its unlocked state. Paragraphs [0088] - [0090] give examples of alternative gesture inputs that could be used to transition between first and second user interface states, whilst paragraph [0090] give examples of different first and second user input states.

Basis for the features:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708)";
>
> "wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input"; and
>
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity"

may be found, for example, in paragraph [0092] of the specification as originally filed, which discloses that "*As the user drags the unlock image, a set of virtual buttons appears and increases in optical intensity... The increases in optical intensity indicate to the user progress towards completion of the unlock action*".

Basis for the feature:

> "transitioning (606) the device (700) to the second user-interface state if the gesture input is completed"

may be found, for example, in paragraph [0093] of the original specification, which discloses that: "*The user completes the unlock action by dragging the unlock image to the right end of the channel 704 and releasing the unlock image 702. The device 700 transitions to the unlock state*".

Thus, it will be apparent that the specification as originally filed (which is identical to the specification of the parent application) provides direct and unambiguous basis for the amendments to claim 1. Accordingly, the amendments to claim 1 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Corresponding amendments have been made to previous independent claims 6 and 11 (now independent claims 5 and 9 respectively). Basis for the amendments to these claims may be found in the sections of the original specification cited above. Accordingly, the amendments to independent claims 5 and 9 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

The previous claims 2, 7 and 12 have been deleted, and the remaining claims have been renumbered and their dependencies amended as appropriate.

Additionally, the dependent claims have been amended for consistency with the terminology used in the amended independent claims. Basis for the amendments to the dependent claims may therefore be found in the relevant sections of the original specification cited above. Accordingly, the amendments to the dependent claims comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Clarity

In the Summons the Examiner objected that the feature of "one or more user interface objects associated with the second user-interface state without being associated with the first user-interface state" of the previous independent claims 1, 6 and 11 lacked clarity.

To address this objection the relevant portions of the independent claims have been amended to delete the expression "associated with the second user-interface state without being associated with the first user-interface state" and the related expression "associated with the second user interface state". For example, claim 1 as currently amended recites:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
> wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity".

It is acknowledged that the expressions "associated with the second user-interface state without being associated with the first user-interface state" and the related expression "associated with the second user interface state" were present in the independent claims as originally filed, and thus the conditions set out in the Guidelines, H-V-3.1 must be satisfied in order for the deletion of the features to comply with Article 123(2) EPC. Those conditions are set out below:

(i) the feature was not explained as essential in the disclosure;
(ii) the feature is not, as such, indispensable for the function of the invention in the light of the technical problem the invention serves to solve; and
(iii) the replacement or removal requires no real modification of other features to compensate for the change.

As regards condition (i), it is submitted that nowhere in the original disclosure is there any indication that the feature that the one or more user interface objects is associated with the second user-interface state without being associated with the first user-interface state is essential to the invention.

The disclosure at paragraph [0082] of the original specification indicates only that (emphasis added) "*progress is indicated (604) towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects associated with the second user-interface state*". There is no mention in this part of the original disclosure that the user interface objects are not associated with the first user-interface state.

Further, the exemplary implementation disclosed in paragraphs [0091] - [0093] and illustrated in Figures 7A - 7D of the original specification, there is no mention that the user interface objects (virtual buttons 708) are associated with the second user-interface state, let alone that the user interface objects are associated with the second user-interface state without being associated with the first user-interface state.

Thus it is submitted that condition (i) is fulfilled.

As regards condition (ii), it is submitted that the technical problem that the invention serves to solve is to provide a visual indication of the progress of a transition between first and second user interface states of a device. It is submitted that the deleted feature is not, as such, indispensable for the function of the invention in light of this technical problem; the problem can be solved without requiring that the user interface objects are associated with the second user-interface state without being associated with the first user-interface state.

As regards condition (iii), it is submitted that the removal of the deleted feature requires no real modification of other features to compensate for the change. As is clear from the independent claims as currently amended, the one or more user interface objects still appear and increase in optical intensity to signal progress towards completion of a gesture input required to transition the device from the first user-interface state to the second user-interface state.

Thus, it is submitted that the amendments to the independent claims address the clarity objection without violating Article 123(2) EPC.

Novelty

It is submitted that the independent claims as currently amended are novel over all of the available prior art, as none of the cited documents discloses a method (or corresponding device or computer readable storage medium) in which progress towards completion of a gesture on a touch-sensitive display of a device required to transition the device from a first user-interface state to a second user-interface state is indicated by causing one or more user interface objects to appear and increase in optical intensity.

The Examiner objected that the previous independent claims lacked novelty over the newly cited D8 document (N1 Quick Start Guide). It is submitted that claim 1 as currently amended are novel over this document, for the following reasons.

D8 discloses a device having a first user interface state, namely the keylock state in which the screen turns dark, as disclosed on page 8. D8 also discloses a second user interface state, namely the unlocked state that the device enters after completion of a sweep gesture to unlock it.

In order to transition from the first user interface state to the second user interface state, the user must first press the power button once, and then perform a sweep gesture (see page 9 of D8). When the power button has been pressed, the text "Right sweep to unlock" appears on the screen of the device, and the menu bar appears on the bottom of the screen, as shown in the drawing on page 9. The menu bar is a user interface object, and in order for it to appear in response to the press of the power button, the optical intensity of the menu bar must transition, in the sense that the menu bar must transition from being invisible to being visible.

Claim 1 as currently amended requires:

> "while the device is in the first user-interface state,
> indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects,
> wherein at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

In D8, the transition of the optical intensity of the menu bar is not linked to the progress of the sweep gesture required to unlock the device. Instead, the menu bar appears (and thus its optical intensity transitions) in response to the press of the power button.

Thus, D8 fails to disclose the features of claim as currently amended of (emphasis added):

"indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects"; and

"wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

Further, because the menu bar is displayed in response to the press of the power button, it is displayed before any progress of the gesture input is detected.

Accordingly, D8 also fails to disclose the feature of claim as currently amended that:

"at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input".

Claim 1 as currently amended is therefore novel over D8. The corresponding independent claims 6 and 9 are also novel over D8 for the same reasons.

None of the other prior art documents D1-D7 discloses or suggests any method, device or computer readable storage medium in which the progress of a gesture input required to transition between user input states of a device is indicated by transitioning the optical intensity of one or more user interface elements. Thus, the independent claims as currently amended are also novel over D1-D7.

Inventive Step

It is further submitted that the subject matter of the independent claims as currently amended involves an inventive step over all of the available prior art, for the following reasons.

D8 is regarded as representing the closest available prior art, as that document relates to a portable electronic device which implements a method for preventing unintentional unlocking of the device.

However, as discussed above, D8 fails to disclose the characterising features of claim 1 as currently amended of:

> "while the device is in the first user-interface state,
> indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects,
> wherein at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity; and
> transitioning the device to the second user-interface state if the gesture input is completed".

These characterising features give rise to a technical effect of providing visual feedback to a user as to the progress of the transition between the first and second user interface states.

The objective technical problem may therefore be expressed as "how to provide visual feedback to a user as to the progress of a transition between first and second user interface states in an electronic device".

In seeking to address this problem the skilled person would search for documents in the field of user interface design, and would find the D6 document (Plaisant *et al*), since this document deals with user interface design and proposes a solution to the problem of user confusion between state indication and possible action label.

D6 proposes a number of different toggles, some of which could be said to increase in optical intensity. For example, the "words toggle" and the "two-button toggle" discussed in the first paragraph of page 668 of D6 use colour changes to indicate whether they are in the on or off states. The colour changes could be regarded as equivalent to increasing the optical intensity. However, these toggles are simple binary switches which indicate only whether they are on or off, and cannot indicate the progress of a transition between the states, since in such switches the transition between states is instantaneous, so the switches can only indicate the current state.

The only disclosure in D6 of anything that provides an indication of the progress of a transition between states is the slider toggle discussed in the first paragraph of page 668. The slider toggle includes a yellow pointer whose position changes in accordance with a sliding/dragging movement from one side of the toggle to the other. D6 indicates that "*a simple three step animation shows the movement of the pointer along the slide*". Thus, the movement of the slider provides visual feedback as to the progress of the transition between states. However, there is no suggestion that the optical intensity of the slider could change to indicate the progress of the transition.

Thus, the result of the combination of D8 and D6 would be, at best, to provide a visual indication in the form of a pointer whose position changes in accordance with the progress of the transition between first and second user interface states.

The skilled person would not arrive at a solution in which the optical intensity of a user interface object changes in accordance with the progress of a gesture input required to transition between user input states, as there is no mention or even hint in D6 that the optical intensity of a user interface object could change in order to provide a visual indication of the progress of a transition between user interface states.

Accordingly, the subject matter of the independent claims as amended involves an inventive step over the combination of D8 and D6.

None of the other prior art documents discloses or suggest anything equivalent or similar to the claimed feature of increasing the optical intensity of one or more user interface objects in accordance with progress towards completion of a gesture input, and so the skilled person would not combine the disclosure of D8 with any one of D1-D5 or D7.

Formal Issues

Parenthesised reference signs have been added to the independent claims where appropriate, and the independent claims have been re-cast in the two-part form with respect to the newly-cited prior art document D8. Additionally, D8 has been identified and briefly discussed in the enclosed replacement description page 2b.

Concluding Remarks

It is submitted that the enclosed amendments and the comments above address all of the objections raised in the Summons and thus place this application in order for allowance. We therefore request cancellation of the oral proceedings scheduled for 13 June 2017 and grant of a European patent on the basis of the claims of this Main Request.

FIRST AUXILARY REQUEST

This First Auxiliary Request comprises a replacement set of 15 claims (provided in clean and marked-up versions) to replace the claims currently on file for this application.

Claim Amendments and Basis

Claim 1 has been amended to recite:

"A computer-implemented method, comprising:
while an electronic device (700) is in a first user-interface state, detecting progress towards satisfaction of a user input condition needed to transition to a second user-interface state;
while the device (700) is in the first user-interface state,
indicating (604) progress towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects (708), wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress toward satisfaction of the user input condition and, wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and
transitioning (606) the device (700) to the second user-interface state if the condition is satisfied, characterised in that the one or more user interface objects (708) increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied".

Basis for the feature of

> "indicating (604) progress towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects, wherein at least one of the one or more user interface objects is not displayed prior to detecting progress toward satisfaction of the user input condition and, wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity"

may be found, for example, in paragraphs [0091] - [0093], paragraph [0095], and Figures 7A - 7D of the original specification.

Specifically, paragraph [0091] indicates that "*Figures 7A - 7D illustrate the GUI display of a device that is transitioning the optical intensity of user-interface objects concurrent with a transition from a first user interface state to a second user interface state...*", whilst paragraph [0092] describes how "*As the user drags the unlock image, a set of virtual buttons 708 appears and increases in optical intensity*". Paragraph [0093] indicates that "*The user completes the unlock action... The device 700 transitions to the unlock state. The unlock image and the channel 704 disappear from the display and the virtual buttons are at their final optical intensity levels*".

Additionally, paragraphs [0095] - [0098] describe how the optical intensity of the user interface objects increases from an initial value at 0% completion of the user input condition to a final value at 100% completion of the user input condition.

Basis for the characterising feature that

> "the one or more user interface objects (708) increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied"

may be found, for example in paragraphs [0095] - [0098] of the original specification, which describe how the optical intensity of the user interface objects increases from an initial value at 0% completion of the user input condition to a final value at 100% completion of the user input condition "*as a function of the completion of the user interface condition*".

Thus, it will be apparent that the specification as originally filed (which is identical to the specification of the parent application) provides direct and unambiguous basis for the amendments to claim 1. Accordingly, the amendments to claim 1 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Corresponding amendments have been made to independent claims 6 and 11. Basis for the amendments to these claims may be found in the sections of the original specification cited above. Accordingly, the amendments to claims 6 and 11 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Clarity

In the Summons the Examiner objected that the feature of "one or more user interface objects associated with the second user-interface state without being associated with the first user-interface state" of the previous independent claims 1, 6 and 11 lacked clarity.

To address this objection the relevant portions of the independent claims have been amended to delete the expression "associated with the second user-interface state without being associated with the first user-interface state" and the related expression "associated with the second user interface state". For example, claim 1 as currently amended recites:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
> wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity".

As will be appreciated, these amendments correspond to the amendments to the independent claims in the Main Request, and it is submitted that these amendments address the clarity objection and comply with Article 123(2) EPC for the reasons outlined in the Main Request, which will not be repeated here for the sake of brevity.

Novelty

It is submitted that the independent claims as currently amended are novel over all of the available prior art, as none of the cited prior art discloses the characterising feature of the independent claims as currently amended that "the one or more user interface objects increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied".

The Examiner objected that the previous independent claims lacked novelty over the newly cited D8 document (N1 Quick Start Guide). It is submitted that claim 1 as currently amended are novel over this document, for the following reasons.

D8 discloses a device having a first user interface state, namely the keylock state in which the screen turns dark, as disclosed on page 8. D8 also discloses a second user interface state, namely the unlocked state that the device enters after completion of a sweep gesture to unlock it.

In order to transition from the first user interface state to the second user interface state, the user must first press the power button once and then perform a sweep gesture (see page 9 of D8). When the power button has been pressed, the text "Right sweep to unlock" appears on the screen of the device, and the menu bar appears on the bottom of the screen, as shown in the drawing on page 9. The menu bar is a user interface object, and in order for it to appear in response to the press of the power button, the optical intensity of the menu bar must transition, in the sense that the menu bar must transition from being invisible to being visible.

Claim 1 as currently amended requires that (emphasis added):

> "the one or more user interface objects increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied".

In contrast, in D8 the transition in the optical intensity of the menu bar is not linked to the progress of the transition from the key locked state to the unlocked state. Instead, it seems that the menu bar simply appears (i.e. transitions from being invisible to being visible) as soon as the on/off button is pressed, and continues to be displayed at a constant optical intensity during and after completion of the sweep gesture.

Accordingly, whilst the menu bar may be said to increase in optical intensity, it reaches its final optical intensity value almost instantaneously following the pressing of the power button, and remains at that optical intensity as the user completes the user input condition (the sweep gesture on the touch screen) required to transition the device from the keylock state to the unlocked state. In other words, there is no increase in optical intensity of the menu bar from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied; the final optical intensity value is reached before the user input condition is satisfied.

Thus, D8 does not disclose the newly added characterising feature that "the one or more user interface objects increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied".

Claim 1 as currently amended is therefore novel over D8. The corresponding independent claims 6 and 11 are also novel over D8 for the same reasons.

None of the other prior art documents D1-D7 discloses or suggests any method, device or computer readable storage medium in which the optical intensity of one or more user interface objects increases in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied. Thus, the independent claims as currently amended are also novel over D1- D7.

Inventive Step

It is further submitted that the subject matter of the independent claims as currently amended involves an inventive step over all of the available prior art, for the following reasons.

D8 is regarded as representing the closest available prior art, as that document relates to a portable electronic device which implements a method for preventing unintentional unlocking of the device.

However, as indicated above, D8 fails to disclose the characterising features of claim 1 as currently amended that:

"the one or more user interface objects increase in optical intensity in accordance with completion of progress towards satisfaction of the condition, from an initial optical intensity value when there is no progress towards satisfaction of the condition to a final optical intensity value when the condition is satisfied".

These distinguishing features give rise to a technical effect of providing visual feedback as to the progress of a transition between the first user interface state and the second user interface state.

Thus, the objective technical problem can be expressed as "how to provide visual feedback to a user as to the progress of a transition between the first and second user interface states in an electronic device".

In seeking to address this problem the skilled person would search for documents in the field of user interface design, and would find the D6 reference (Plaisant *et al*), since this reference deals with user interface design and proposes a solution to the problem of user confusion between state indication and possible action label.

D6 proposes a number of different toggles, some of which could be said to increase in optical intensity. For example, the "words toggle" and the "two-button toggle" discussed in the first paragraph of page 668 of D6 use colour changes to indicate whether they are in the on or off states. The colour changes could be regarded as equivalent to increasing the optical intensity. However, these toggles are simple binary switches which indicate only whether they are on or off, and cannot indicate the progress of a transition between the states, since in such switches the transition between states is instantaneous, so the switches can only indicate the current state.

The only disclosure in D6 of anything that provides an indication of the progress of a transition between states is the slider toggle discussed in the first paragraph of page 668. The slider toggle includes a yellow pointer whose position changes in accordance with a sliding/dragging movement from one side of the toggle to the other. D6 indicates that "*a simple three step animation shows the movement of the pointer along the slide*". Thus, the movement of the slider provides visual feedback as to the progress of the transition between states. However, there is no suggestion that the optical intensity of the slider could change to indicate the progress of the transition.

Thus, the result of the combination of D8 and D6 would be, at best, to provide a visual indication in the form of a pointer whose position changes in accordance with the progress of the transition between first and second user interface states.

The skilled person would not arrive at a solution in which the optical intensity of a user interface object changes in accordance with the progress of a gesture input required to transition between user input states, as there is no mention or even hint in D6 that the optical intensity of a user interface object could change in order to provide a visual indication of the progress of a transition between user interface states.

Accordingly, the subject matter of the independent claims as amended involves an inventive step over the combination of D8 and D6.

None of the other prior art documents discloses or suggest anything equivalent or similar to the claimed feature of increasing the optical intensity of one or more user interface objects in accordance with progress towards completion of a gesture input, and so the skilled person would not combine the disclosure of D8 with any one of D1-D5 or D7.

Formal Issues

Parenthesised reference signs have been added to the independent claims where appropriate, and the independent claims have been re-cast in the two-part form with respect to the newly-cited prior art document D8. Additionally, D8 has been identified and briefly discussed in the enclosed replacement description page 2b.

Concluding Remarks

It is submitted that the enclosed amendments and the comments above address all of the objections raised in the Summons and thus place this application in order for allowance. We therefore request cancellation of the oral proceedings scheduled for 13 June 2017 and grant of a European patent on the basis of the claims of this First Auxiliary Request.

SECOND AUXILIARY REQUEST

This Second Auxiliary Request comprises a replacement set of 9 claims (presented in clean and marked-up versions) to replace the claims currently on file.

Claim Amendments and Basis

Claim 1 has been amended to recite:

" A computer-implemented method, comprising:
while an electronic device (700) having a touch-sensitive display (714) is in a first user-interface state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to a second user-interface state;
characterised in that:
the gesture input includes dragging an image (702) to a predefined location on the touch-sensitive display (714), and in that the method further comprises:
while the device (700) is in the first user-interface state,
indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
wherein at least one of the one or more user interface objects (708)is not displayed prior to detecting progress towards completion of the gesture input and,
wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and
transitioning (606) the device (700) to the second user-interface state if the gesture input is completed".

Basis for the feature:

> "while an electronic device (700) having a touch-sensitive display (714) is in a first user-interface state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to a second user-interface state"

may be found, for example, in paragraphs [0091] to [0093] of the original specification, which disclose that in order to transition between a locked state and an unlocked state (i.e. a "first user-interface state" and a "second user-interface state") a user must complete a gesture input on the touch screen, which in the described example involves making contact with a finger on the touch screen of the device and dragging an unlock image to the end of a channel and releasing the unlock image, at which point the gesture is complete and the device transitions to its unlocked state. Paragraphs [0088] - [0090] give examples of alternative gesture inputs that could be used to transition between first and second user interface states, whilst paragraph [0090] give examples of different first and second user input states.

Basis for the feature:

"the gesture input includes dragging an image (702) to a predefined location on the touch-sensitive display (714)"

May be found, for example, in paragraph [0089] of the original specification, which teaches that the user input condition can include dragging an image to a predefined location.

Basis for the features:

"indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708)";

"wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input"; and

wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity"

may be found, for example, in paragraph [0092] of the specification as originally filed, which discloses that "*As the user drags the unlock image, a set of virtual buttons appears and increases in optical intensity... The increases in optical intensity indicate to the user progress towards completion of the unlock action*".

Basis for the feature:

"transitioning (606) the device (700) to the second user-interface state if the gesture input is completed "

May be found, for example, in paragraph [0093] of the original specification, which discloses that: "*The user completes the unlock action by dragging the unlock image to the right end of the channel 704 and releasing the unlock image 702. The device 700 transitions to the unlock state*".

Thus, it will be apparent that the specification as originally filed (which is identical to the specification of the parent application) provides direct and unambiguous basis for the amendments to claim 1. Accordingly, the amendments to claim 1 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Corresponding amendments have been made to previous independent claims 6 and 11 (now independent claims 4 and 7 respectively). Basis for the amendments to these claims may be found in the sections of the original specification cited above. Accordingly, the amendments to independent claims 4 and 7 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

The previous claims 2, 4, 7, 9, 12 and 14 have been deleted, and the remaining claims have been renumbered and their dependencies amended as appropriate.

Additionally, the dependent claims have been amended for consistency with the terminology used in the amended independent claims. Basis for the amendments to the dependent claims may therefore be found in the relevant sections of the original specification cited above. Accordingly, the amendments to the dependent claims comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Clarity

In the Summons the Examiner objected that the feature of "one or more user interface objects associated with the second user-interface state without being associated with the first user-interface state" of the previous independent claims 1, 6 and 11 lacked clarity.

To address this objection the relevant portions of the independent claims have been amended to delete the expression "associated with the second user-interface state without being associated with the first user-interface state" and the related expression "associated with the second user interface state". For example, claim 1 as currently amended recites:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
> wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity".

As will be appreciated, these amendments correspond to the amendments to the independent claims in the Main Request, and it is submitted that these amendments address the clarity objection and comply with Article 123(2) EPC for the reasons outlined in the Main Request, which will not be repeated here for the sake of brevity.

Novelty

It is submitted that the independent claims as currently amended are novel over all of the available prior art, as none of the cited prior art discloses a method (or corresponding device or computer readable storage medium) in which progress towards completion of a gesture input that includes dragging an image to a predefined location on a touch-sensitive display of a device required to transition the device from a first user-interface state to a second user-interface state is indicated by causing one or more user interface objects to appear and increase in optical intensity.

The Examiner objected that the previous independent claims lacked novelty over the newly cited D8 document (N1 Quick Start Guide). It is submitted that claim 1 as currently amended are novel over this document, for the following reasons.

D8 discloses a device having a first user interface state, namely the keylock state in which the screen turns dark, as disclosed on page 8. D8 also discloses a second user interface state, namely the unlocked state that the device enters after completion of a sweep gesture to unlock it.

In order to transition from the first user interface state to the second user interface state, the user must first press the power button once and then perform a sweep gesture (see page 9 of D8). Importantly, there is no disclosure in D8 that the sweep gesture is perfumed with respect to any image displayed on the screen. When the power button has been pressed, the text "Right sweep to unlock" appears on the screen of the device, and the menu bar appears on the bottom of the screen, as shown in the drawing on page 9. The menu bar is a user interface object, and in order for it to appear in response to the press of the power button, the optical intensity of the menu bar must transition, in the sense that the menu bar must transition from being invisible to being visible.

Claim 1 as currently amended requires that:

> "the gesture input includes dragging an image to a predefined location on the touch-sensitive display";
>
> and
>
> "while the device is in the first user-interface state,
> indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects,

wherein at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input and,

wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

In D8, the transition of the optical intensity of the menu bar is not linked to the progress of the sweep gesture required to unlock the device. Instead, the menu bar appears (and thus its optical intensity transitions) in response to the press of the power button.

Thus, D8 fails to disclose the features of claim as currently amended of:

"the gesture input includes dragging an image to a predefined location on the touch-sensitive display";

"indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects"; and

"wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

Further, because the menu bar is displayed in response to the press of the power button, it is displayed before any progress of the gesture input is detected.

Accordingly, D8 also fails to disclose the feature of claim as currently amended that:

"at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input".

Claim 1 as currently amended is therefore novel over D8. The corresponding independent claims 6 and 9 are also novel over D8 for the same reasons.

None of the other prior art documents D1-D7 discloses or suggests any method, device or computer readable storage medium in which the progress of a gesture input required to transition between user input states of a device is indicated by transitioning the optical intensity of one or more user interface elements. Thus, the independent claims as currently amended are also novel over D1-D7.

Inventive Step

It is further submitted that the subject matter of the independent claims as currently amended involves an inventive step over all of the available prior art, for the following reasons.

D8 is regarded as representing the closest available prior art, as that document relates to a portable electronic device which implements a method for preventing unintentional unlocking of the device.

However, as indicated above, D8 fails to disclose the characterising features of claim 1 as currently amended that:

"the gesture input includes dragging an image (702) to a predefined location on the touch-sensitive display (714), and in that the method further comprises:
while the device (700) is in the first user-interface state,

indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),

wherein at least one of the one or more user interface objects (708)is not displayed prior to detecting progress towards completion of the gesture input and,

wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and

transitioning (606) the device (700) to the second user-interface state if the gesture input is completed".

These characterising features give rise to a technical effect of providing guidance as to the user interaction required to transition between first and second user interface states, and providing user feedback as to the progress of the transition.

The objective technical problem may therefore be expressed as "how to provide guidance as to the user interaction required to transition between first and second user interface states in an electronic device and feedback to a user as to the progress of the transition between the user interface states".

In seeking to address this problem the skilled person would search for documents in the field of user interface design, and would find the D6 document (Plaisant *et al*), since this document deals with user interface design and proposes a solution to the problem of user confusion between state indication and possible action label.

D6 proposes a number of different toggles, some of which could be said to increase in optical intensity. For example, the "words toggle" and the "two-button toggle" discussed in the first paragraph of page 668 of D6 use colour changes to indicate whether they are in the on or off states. The colour changes could be regarded as equivalent to increasing the optical intensity. However, these toggles are simple binary switches which indicate only whether they are on or off, and cannot indicate the progress of a transition between the states, since in such switches the transition between states is instantaneous, so the switches can only indicate the current state.

The only disclosure in D6 of anything that provides an indication of the progress of a transition between states is the slider toggle discussed in the first paragraph of page 668. The slider toggle includes a yellow pointer whose position changes in accordance with a sliding/dragging movement from one side of the toggle to the other. D6 indicates that "*a simple three step animation shows the movement of the pointer along the slide*". Thus, the movement of the slider provides visual feedback as to the progress of the transition between states. However, there is no suggestion that the optical intensity of the slider could change to indicate the progress of the transition.

Thus, the result of the combination of D8 and D6 would be, at best, to provide a visual indication in the form of a pointer whose position changes in accordance with the progress of the transition between first and second user interface states.

The skilled person would not arrive at a solution in which the optical intensity of a user interface object changes in accordance with the progress of a gesture input required to transition between user input states, as there is no mention or even hint in D6 that the optical intensity of a user interface object could change in order to provide a visual indication of the progress of a transition between user interface states.

Accordingly, the subject matter of the independent claims as amended involves an inventive step over the combination of D8 and D6.

None of the other prior art documents discloses or suggest anything equivalent or similar to the claimed feature of increasing the optical intensity of one or more user interface objects in accordance with progress towards completion of a gesture input, and so the skilled person would not combine the disclosure of D8 with any one of D1-D5 or D7.

Concluding Remarks

It is submitted that the enclosed amendments and the comments above address all of the objections raised in the Summons and thus place this application in order for allowance. We therefore request cancellation of the oral proceedings scheduled for 13 June 2017 and grant of a European patent on the basis of the claims of this Second Auxiliary Request.

THIRD AUXILIARY REQUEST

This Third Auxiliary Request comprises a replacement set of 9 claims (presented in clean and marked-up versions) to replace the claims currently on file.

Claim Amendments and Basis

Claim 1 has been amended to recite:

"A computer-implemented method, comprising:
while an electronic device (700) having a touch-sensitive display (714) is in a locked state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to an unlocked state;
characterised in that:
the gesture input includes dragging an unlock image (702) to a predefined location on the touch-sensitive display (714), wherein the unlock image (702) is a is a graphical, interactive user-interface object with which the user interacts in order to unlock the device, and in that the method further comprises:
while the device (700) is in the locked state,
indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
wherein at least one of the one or more user interface objects (708)is not displayed prior to detecting progress towards completion of the gesture input and,
wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and
transitioning (606) the device (700) to the unlocked state if the gesture input is completed".

Basis for the feature:

> "while an electronic device (700) having a touch-sensitive display (714) is in a first user-interface state, detecting progress towards completion of a gesture input on the touch-sensitive display needed to transition to a second user-interface state"

may be found, for example, in paragraphs [0091] to [0093] of the original specification, which disclose that in order to transition between a locked state and an unlocked state (i.e. a "first user-interface state" and a "second user-interface state") a user must complete a gesture input on the touch screen, which in the described example involves making contact with a finger on the touch screen of the device and dragging an unlock image to the end of a channel and releasing the unlock image, at which point the gesture is complete and the device transitions to its unlocked state. Paragraphs [0088] - [0090] give examples of alternative gesture inputs that could be used to transition between first and second user interface states, whilst paragraph [0090] give examples of different first and second user input states.

Basis for the feature:

> "the gesture input includes dragging an unlock image (702) to a predefined location on the touch-sensitive display (714), wherein the unlock image (702) is a is a graphical, interactive user-interface object with which the user interacts in order to unlock the device"

May be found, for example, in paragraph [0089] of the original specification, which teaches that the user input condition can include dragging an image to a predefined location, and in paragraph [0062] of the original specification, which explains that the unlock image is a "*graphical, interactive user-interface object with which the user interacts in order to unlock the device*".

Basis for the features:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708)";
>
> "wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input"; and
>
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity"

may be found, for example, in paragraph [0092] of the specification as originally filed, which discloses that "*As the user drags the unlock image, a set of virtual buttons appears and increases in optical intensity... The increases in optical intensity indicate to the user progress towards completion of the unlock action*".

Basis for the feature:

> "transitioning (606) the device (700) to the unlocked state if the gesture input is completed"

may be found, for example, in paragraph [0093] of the original specification, which discloses that: "*The user completes the unlock action by dragging the unlock image to the right end of the channel 704 and releasing the unlock image 702. The device 700 transitions to the unlock state*".

Thus, it will be apparent that the specification as originally filed (which is identical to the specification of the parent application) provides direct and unambiguous basis for the amendments to claim 1. Accordingly, the amendments to claim 1 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Corresponding amendments have been made to previous independent claims 6 and 11 (now independent claims 4 and 7 respectively). Basis for the amendments to these claims may be found in the sections of the original specification cited above. Accordingly, the amendments to claims 4 and 7 comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

The previous claims 2, 4, 7, 9, 12 and 14 have been deleted, and the remaining claims have been renumbered and their dependencies amended as appropriate.

Additionally, the dependent claims have been amended for consistency with the terminology used in the amended independent claims. Basis for the amendments to the dependent claims may therefore be found in the relevant sections of the original specification cited above. Accordingly, the amendments to the dependent claims comply with the requirements of Article 123(2) EPC and Article 76(1) EPC regarding added subject matter.

Clarity

In the Summons the Examiner objected that the feature of "one or more user interface objects associated with the second user-interface state without being associated with the first user-interface state" of the previous independent claims 1, 6 and 11 lacked clarity.

To address this objection the relevant portions of the independent claims have been amended to delete the expression "associated with the second user-interface state without being associated with the first user-interface state" and the related expression "associated with the second user interface state". For example, claim 1 as currently amended recites:

> "indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
> wherein at least one of the one or more user interface objects (708) is not displayed prior to detecting progress towards completion of the gesture input and,
> wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity".

As will be appreciated, these amendments correspond to the amendments to the independent claims in the Main Request, and it is submitted that these amendments address the clarity objection and comply with Article 123(2) EPC for the reasons outlined in the Main Request, which will not be repeated here for the sake of brevity.

Novelty

It is submitted that the independent claims as currently amended are novel over all of the available prior art, as none of the cited prior art discloses a method (or corresponding device or computer readable storage medium) in which progress towards completion of a gesture input that includes dragging an unlock image (which is a is a graphical, interactive user-interface object with which the user interacts in order to unlock the device) to a predefined location on a touch-sensitive display of a device required to transition the device from a locked state to an unlocked state is indicated by causing one or more user interface objects to appear and increase in optical intensity.

The Examiner objected that the previous independent claims lacked novelty over the newly cited D8 document (N1 Quick Start Guide). It is submitted that claim 1 as currently amended are novel over this document, for the following reasons.

D8 discloses a device having a locked state, namely the keylock state in which the screen turns dark, as disclosed on page 8. D8 also discloses an unlock state, namely the unlocked state that the device enters after completion of a sweep gesture to unlock it.

In order to transition from the locked state to the unlocked state, the user must first press the power button once and then perform a sweep gesture (see page 9 of D8). Importantly, there is no disclosure in D8 that the sweep gesture is perfumed with respect to any image displayed on the screen. When the power button has been pressed, the text "Right sweep to unlock" appears on the screen of the device, and the menu bar appears on the bottom of the screen, as shown in the drawing on page 9. The menu bar is a user interface object, and in order for it to appear in response to the press of the power button, the optical intensity of the menu bar must transition, in the sense that the menu bar must transition from being invisible to being visible.

Claim 1 as currently amended requires that:

> "the gesture input includes dragging an unlock image (702) to a predefined location on the touch-sensitive display, wherein the unlock image (702) is a is a graphical, interactive user-interface object with which the user interacts in order to unlock the device"; and
>
> "while the device is in the first user-interface state,

indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects,

wherein at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input and,

wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

In D8, the transition of the optical intensity of the menu bar is not linked to the progress of the sweep gesture required to unlock the device. Instead, the menu bar appears (and thus its optical intensity transitions) in response to the press of the power button.

Thus, D8 fails to disclose the features of claim as currently amended of:

"the gesture input includes dragging an unlock image to a predefined location on the touch-sensitive display, wherein the unlock image is a is a graphical, interactive user-interface object with which the user interacts in order to unlock the device";

"indicating progress of the gesture input by transitioning an optical intensity of one or more user interface objects"; and

"wherein transitioning the optical intensity includes the one or more user interface objects appearing and increasing in optical intensity".

Further, because the menu bar is displayed in response to the press of the power button, it is displayed before any progress of the gesture input is detected.

Accordingly, D8 also fails to disclose the feature of claim as currently amended that:

"at least one of the one or more user interface objects is not displayed prior to detecting progress towards completion of the gesture input".

Claim 1 as currently amended is therefore novel over D8. The corresponding independent claims 6 and 9 are also novel over D8 for the same reasons.

None of the other prior art documents D1 -D7 discloses or suggests any method, device or computer readable storage medium in which the progress of a gesture input (which includes dragging an unlock image to a predefined location on a touch-sensitive display) required to transition between locked and unlocked states of a device is indicated by transitioning the optical intensity of one or more user interface elements. Thus, the independent claims as currently amended are also novel over D1-D7.

Inventive Step

It is further submitted that the subject matter of the independent claims as currently amended involves an inventive step over all of the available prior art, for the following reasons.

D8 is regarded as representing the closest available prior art, as that document relates to a portable electronic device which implements a method for preventing unintentional unlocking of the device.

However, as indicated above, D8 fails to disclose the characterising features of claim 1 as currently amended that:

"the gesture input includes dragging an unlock image (702) to a predefined location on the touch-sensitive display, wherein the unlock image (702) is a graphical, interactive user-interface object with which the user interacts in order to unlock the device, and in that the method further comprises:

while the device (700) is in the first user-interface state,
indicating (604) progress of the gesture input by transitioning an optical intensity of one or more user interface objects (708),
wherein at least one of the one or more user interface objects (708)is not displayed prior to detecting progress towards completion of the gesture input and,
wherein transitioning the optical intensity includes the one or more user interface objects (708) appearing and increasing in optical intensity; and
transitioning (606) the device (700) to the second user-interface state if the gesture input is completed".

These characterising features give rise to a technical effect of providing guidance as to the user interaction required to transition between first and second user interface states, and providing user feedback as to the progress of the transition.

The objective technical problem may therefore be expressed as "how to provide guidance as to the user interaction required to transition between locked and unlocked states in an electronic device".

In seeking to address this problem the skilled person would search for documents in the field of user interface design, and would find the D6 document (Plaisant *et al*), since this document deals with user interface design and proposes a solution to the problem of user confusion between state indication and possible action label.

D6 proposes a number of different toggles, some of which could be said to increase in optical intensity. For example, the "words toggle" and the "two-button toggle" discussed in the first paragraph of page 668 of D6 use colour changes to indicate whether they are in the on or off states. The colour changes could be regarded as equivalent to increasing the optical intensity. However, these toggles are simple binary switches which indicate only whether they are on or off, and cannot indicate the progress of a transition between the states, since in such switches the transition between states is instantaneous, so the switches can only indicate the current state.

The only disclosure in D6 of anything that provides an indication of the progress of a transition between states is the slider toggle discussed in the first paragraph of page 668. The slider toggle includes a yellow pointer whose position changes in accordance with a sliding/dragging movement from one side of the toggle to the other. D6 indicates that "*a simple three step animation shows the movement of the pointer along the slide*". Thus, the movement of the slider provides visual feedback as to the progress of the transition between states. However, there is no suggestion that the optical intensity of the slider could change to indicate the progress of the transition.

Thus, the result of the combination of D8 and D6 would be, at best, to provide a visual indication in the form of a pointer whose position changes in accordance with the progress of the transition between locked and unlocked states.

The skilled person would not arrive at a solution in which the optical intensity of a user interface object changes in accordance with the progress of a gesture input required to transition between locked and unlocked states, as there is no mention or even hint in D6 that the optical intensity of a user interface object could change in order to provide a visual indication of the progress of a transition between states.

Accordingly, the subject matter of the independent claims as amended involves an inventive step over the combination of D8 and D6.

None of the other prior art documents discloses or suggest anything equivalent or similar to the claimed feature of increasing the optical intensity of one or more user interface objects in

accordance with progress towards completion of a gesture input, and so the skilled person would not combine the disclosure of D8 with any one of D1-D5 or D7.

Concluding Remarks

It is submitted that the enclosed amendments and the comments above address all of the objections raised in the Summons and thus place this application in order for allowance. We therefore request cancellation of the oral proceedings scheduled for 13 June 2017 and grant of a European patent on the basis of the claims of this Third Auxiliary Request.

CONCLUDING REMARKS

In view of the foregoing we submit that this application is in order for allowance, and we therefore request cancellation of the oral proceedings scheduled for 13 June 2017 and grant of a European patent on the basis of one of the Requests presented here. For the avoidance of doubt, however, we maintain our request for oral proceedings in the event that the Examining Division is minded not to allow the application.

Yours faithfully

Matthew Howell
Professional Representative
WITHERS & ROGERS LLP