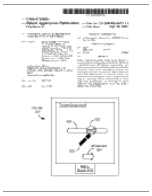
Unlocking a Device by Performing Gestures on an Unlock Image

Imran Chaudhri et al



› Overview
Abstract
Drawings
Description
Claims
3

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A device with a touch-sensitive display may be unlocked via gestures performed on the touch-sensitive display. The device is unlocked if contact with the display corresponds to a predefined gesture for unlocking the device. The device displays one or more unlock images with respect to which the predefined gesture is to be performed in order to unlock the device. The performance of the predefined gesture with respect to the unlock image may include moving the unlock image to a predefined location and/or moving the unlock image along a predefined path. The device may also display visual cues of the predefined gesture on the touch screen to remind a user of the gesture.

Inventors: Imran Chaudhri, Bas Ording, Freddy Allen Anzures, Marcel Van Os, Stephen O. Lemay, Scott Forstall, Greg Christie

Current U.S. Classification: 715/863

Referenced by

Citing Patent	Filing date	Issue date	Original Assignee	Title
US7793225	Dec 29, 2008	Sep 7, 2010	Apple Inc.	Indication of progress towards satisfaction of a user input condition
US7882234	Apr 20, 2004	Feb 1, 2011	Canon Kabushiki Kaisha	Wireless communication system, wireless communication device, and control method for establishing a one-to-one relationship
US8131859	Apr 20, 2004	Mar 6, 2012	Canon Kabushiki Kaisha	Wireless communication system, and wireless communication device and control method

Claims

1. A method of unlocking a hand-held electronic device, the device including a touch-sensitive display, the method comprising:

detecting a contact with the touch-sensitive display at a first predefined location corresponding to an unlock image;

moving the unlock image on the touch-sensitive display in accordance with movement of the contact while continuous contact with the touch screen is maintained; and

unlocking the hand-held electronic device if the moving the unlock image on the touch-sensitive display results in movement of the unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display.

2. The method of claim 1, wherein the moving comprises movement along any desired path.

3. The method of claim 1, wherein the moving comprises movement along a predefined channel from the first predefined location to the predefined unlock region.

4. The method of claim 1, further comprising displaying visual cues to communicate a direction of movement of the unlock image required to unlock the device.

5. The method of claim 4, wherein the visual cues comprise text.

6. The method of claim 4, wherein said visual cues comprise an arrow indicating a general direction of movement.

7. A portable electronic device, comprising:

a touch-sensitive display;

memory;

one or more processors; and

one or more modules stored in the memory and configured for execution by the one or more processors, the one or more modules including instructions:
to detect a contact with the touch-sensitive display at a first predefined location corresponding to an unlock image;
to move the unlock image on the touch-sensitive display in accordance with movement of the detected contact while continuous contact with the touch-sensitive display is maintained; and
to unlock the hand-held electronic device if the unlock image is moved from the first predefined location on the

8. The device of claim 7, further comprising instructions to display visual cues to communicate a direction of movement of the unlock image required to unlock the device.

9. The device of claim 8, wherein the visual cues comprise text.

10. The device of claim 8, wherein said visual cues comprise an arrow indicating a general direction of movement.

11. A portable electronic device, comprising:

a touch-sensitive display;

means for displaying an unlock image at a first predefined location on the touch-sensitive display while the device is in a user-interface lock state;

means for detecting contact with the touch-sensitive display; and

means for moving the unlock image on the touch-sensitive display in response to detecting the contact in accordance with movement of the contact while continuous contact with the touch screen is maintained; and means for transitioning the device to a user-interface unlock state if the moving the unlock image on the touch-sensitive display results in movement of the unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display.

12. A computer program product for use in conjunction with a portable electronic device

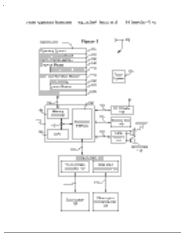
comprising a touch-sensitive display, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism comprising instructions for:

detecting a contact with the touch-sensitive display at a first predefined location corresponding to an unlock image;

moving the unlock image on the touch-sensitive display in accordance with movement of the contact while continuous contact with the touch screen is maintained; and

unlocking the hand-held electronic device if the moving the unlock image on the touch-sensitive display results in movement of the unlock image from the first predefined location to a predefined unlock region on the touch-sensitive display.

Drawings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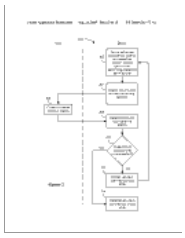
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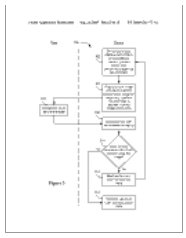
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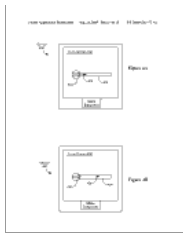
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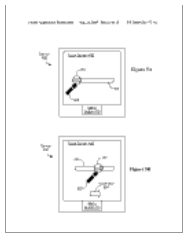
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