MAIN REQUEST

CLAIMS

1.   A computer-implemented method for preventing unintentional unlocking of a portable electronic device (1000), the device including a touch-sensitive display (1014), characterised in that the method comprises:

        displaying a plurality of unlock images (1002, 1008) on the touch-sensitive display (1014), wherein each of the plurality of unlock images (1002, 1008) is a graphical, interactive user-interface object with which a user interacts in order to unlock the portable electronic device (1000), and wherein each of the plurality of unlock images corresponds to an active application running on the portable electronic device (1000) or to an event received by the portable electronic device (1000) while the portable electronic device (1000) is in a locked state;

        detecting a contact with the touch-sensitive display (1014) at a first predefined location corresponding to ~~a single~~ one of the plurality of unlock image~~s~~ (1002, 1008) while the portable ~~electronic~~ device (1000) is in ~~a~~ the 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 (208, 308)~~;

        moving the ~~single~~ unlock image (1002, 1008) on the touch-sensitive display (1014) in accordance with the movement of the contact while continuous contact with the touch-sensitive display (1014) is maintained;

        unlocking the portable electronic device (1000), ~~and~~ ceasing to display the ~~single~~ unlock image~~s~~ (1002, 1008), and displaying on the touch-sensitive display (1014) user interface objects (1016) associated with the application or event corresponding to the unlock image (1002, 1008) if the moving of the ~~single~~ unlock image (1002, 1008) on the touch-sensitive display (1014) results in movement of the ~~single~~ unlock image (1002, 1008) from the first predefined location to a predefined unlock region on the touch-sensitive display (~~214, 314~~1014); 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 (1002, 1008) does not result in movement of the ~~single~~ unlock image (1002, 1008) from the first predefined location to the predefined unlock region on the touch-sensitive display (~~212, 314~~1014).

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 ~~single~~ unlock image required to unlock the device ~~(204, 304)~~.

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

6.   The method of claim 4, wherein the visual cues comprise an arrow indicating a general direction of movement of the ~~single~~ unlock image required to unlock the device.

7.   A portable electronic device (~~100, 400, 500, 700~~1000) comprising:

a touch-sensitive display (~~126~~1014);

memory (102);

one or more processors (106); and

one or more modules (144, 150, 152) stored in the memory (102) and configured for execution by the one or more processors (106), characterised in that the one or more modules (144, 150, 152) include instructions:

<u>to display a plurality of unlock images (1002, 1008) on the touch-sensitive display (1014), wherein each of the plurality of unlock images (1002, 1008) is a graphical, interactive user-interface object with which a user interacts in order to unlock the portable electronic device (1000), and wherein each of the plurality of unlock images corresponds to an active application running on the portable electronic device (1000) or to an event received by the portable electronic device (1000) while the portable electronic device (1000) is in a locked state</u>

_____to detect a contact with the touch-sensitive display (~~126~~1014) at a first predefined location corresponding to ~~a single~~<u>one of the plurality of</u> unlock image<u>s</u> (~~402, 502, 702~~<u>1002, 1008</u>) while the portable electronic device (~~100, 400, 500, 700~~1000) is in ~~a~~ <u>the</u> locked state~~, wherein the single unlock image (402, 502, 702) is a graphical, interactive user-interface object with which a user interacts in order to unlock the device (100, 400, 500, 700)~~;

to move the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) on the touch-sensitive display (~~126~~1014) in accordance with movement of the detected contact while continuous contact with the touch-sensitive display (~~126~~1014) is maintained;

to unlock the portable electronic device (~~100, 400, 500, 700~~1000), and cease to display the ~~single~~ unlock image, and to display on the touch-sensitive display (1014) user interface objects (1016) associated with the application or event corresponding to the unlock image (1002, 1008) if the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) is moved from the first predefined location on the touch-sensitive display (~~126~~1014) to a predefined unlock region on the touch-sensitive display (~~126~~1014); and

to maintain the portable electronic device (~~100, 400, 500, 700~~1000) in the locked state ~~and maintain display of the single unlock image~~ if moving the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) on the touch-sensitive display (~~126~~1014) does not result in movement of the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) from the first predefined location to the predefined unlock region on the touch-sensitive display (~~126~~1014).

8.   The device of claim 7, further comprising instructions to display visual cues (406) to communicate a direction of movement of the ~~single~~ unlock image (402, 502, 702) required to lock the device (100, 400, 500, 700).

9.   The device of claim 8, wherein the visual cues (406) comprise text.

10.   A computer program product for use in conjunction with a portable electronic device (~~100, 400, 500, 700~~1000) comprising a touch-sensitive display (~~126~~1014), the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, characterised in that the computer program mechanism comprises instructions for:

displaying a plurality of unlock images (1002, 1008) on the touch-sensitive display (1014), wherein each of the plurality of unlock images (1002, 1008) is a graphical, interactive user-interface object with which a user interacts in order to unlock the portable electronic device (1000), and wherein each of the plurality of unlock images corresponds to an active application running on the portable electronic device (1000) or to an event received by the portable electronic device (1000) while the portable electronic device (1000) is in a locked state;

~~~~detecting a contact with the touch-sensitive display (~~126~~1014) at a first predefined location corresponding to ~~a single~~one of the plurality of unlock image~~s~~ (~~402, 502, 702~~1002, 1008) while the portable electronic device (~~100, 400, 500, 700~~1000) is in a locked state~~,~~ ~~wherein the single unlock image (402, 502, 702) is a graphical, interactive user interface object with which a user interacts in order to unlock the device (100, 400, 500, 700)~~;

moving the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) on the touch-sensitive display (~~126~~1014) in accordance with movement of the detected contact while continuous contact with the touch-sensitive display (~~126~~1014) is maintained;

unlocking the portable electronic device (~~100, 400, 500, 700~~1000), ~~and~~ ceasing to display the ~~single~~ unlock image (1002, 1008), and displaying on the touch-sensitive display (1014) user interface objects (1016) associated with the application or event corresponding to the unlock image (1002, 1008) if the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) is moved from the first predefined location on the touch-sensitive display (~~126~~1014) to a predefined unlock region on the touch-sensitive display (~~126~~1014); and

maintaining the portable electronic device (~~100, 400, 500, 700~~1000) in the locked state ~~and maintaining displaying of the single unlock image~~ if moving the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) on the touch-sensitive display (~~126~~1014) does not result in movement of the ~~single~~ unlock image (~~402, 502, 702~~1002, 1008) from the first predefined location to the predefined unlock region on the touch-sensitive display (~~126~~1014).