METHOD AND APPRESS FOR CONTROLLING MULTITASKING OPERATIONS OF MOBILE TERMINAL HAVING TOUCHSCREEN

CLAIM OF PRIORITY

[0001] This application claims the benefit of the earlier filing date, pursuant to 35 USC 119, to that patent application entitled "METHOD AND APPRESS FOR CONTROLLING MULTITASKING OPERATIONS OF MOBILE TERMINAL HAVING TOUCHSCREEN" filed in the Korean Intellectual Property Office on Sep. 18, 2008 and assigned Serial No. 10-2008-0091640, the contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a mobile terminal and, in particular, to a method and apparatus for controlling the multitasking operations of a mobile terminal having at least one touchscreen based on the input singles corresponding to touch events detected on the touchscreen.

[0004] 2. Description of the Related Art

[0005] With the rapid development of mobile communication and information processing technologies, mobile communication terminals, such as mobile cellular phones, are becoming multifunctional devices. For instance, the recent mobile terminals are configured to support various supplementary functions such as text messaging, e-mail, video playback, wireless Internet access, gaming, and Digital Multimedia Broadcasting (DMB) functions. With the reinforcement of such multimedia functions, the display devices of mobile terminals have been developed in order to meet the needs of modern users' sensitive to the visual information.

[0006] Typically, a mobile terminal equipped with multiple display devices supports multitasking, which allows multiple applications installed on the mobile terminal to run simultaneously, with the support of multiprocessor or software. When the multiple applications run in multitasking environments, the application data are displayed on a single main display device in whole or on a main and auxiliary devices, in parts.

SUMMARY OF THE INVENTION

[0007] The present invention provides a method and apparatus for controlling a multitasking operation a mobile terminal having two touchscreen-enabled display devices that are capable of interactively controlling operations of multiple applications running in the multitasking environment using the touchscreen-enabled display devices.

[0008] Also, the present invention provides a method and apparatus for controlling a multitasking operation of the mobile terminal having a touchscreen that is capable of interactively controlling the operations of the multiple applications running in the multitasking environment with the intuitive touch behaviors on the touchscreen.

[0009] In accordance with an exemplary embodiment of the present invention, a method for controlling multitasking operations of a mobile terminal having at least one touchscreen includes executing an application in response to a user request while at least one other application is running; displaying an execution window of an application selected from the currently running applications in an auxiliary screen in response to a touch event detected on the touchscreen; and displaying the execution screens of the applications running concurrently, except for the application of which execution window is displayed in the auxiliary screen, in a main screen accumulatively.

[0010] In accordance with another exemplary embodiment of the present invention, an apparatus for controlling multitasking operations of a mobile terminal having at least one touchscreen includes a display unit which provides at least one touchscreen for displaying execution windows of multiple applications running concurrently and a control unit which controls the display unit to define a main screen for displaying execution windows of the multiple applications except for the most recently activated application and an auxiliary screen for displaying an execution window of the most recently activated application in response to a touch event detected on the touchscreen.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The above features and advantages of the present invention will be more apparent from the following detailed description in conjunction with the accompanying drawings, in which:

[0012] FIG. **1** is a block diagram illustrating a configuration of a mobile terminal according to an exemplary embodiment of the present invention;

[0013] FIGS. **2**A to **2**K are diagrams illustrating display operations of a mobile terminal having two touchscreens in response to touch signals in multitasking environment according to an exemplary embodiment of the present invention;

[0014] FIGS. **3**A to **3**I are diagrams illustrating display operations of a mobile terminal having a single touchscreen in response to touch signals in multitasking environment according to an exemplary embodiment of the present invention;

[0015] FIG. **4** is a flowchart illustrating a method for controlling display operations of a touchscreen-enabled mobile terminal operating in a multitasking environment in response to touch events detected on the touchscreen;

[0016] FIG. **5** is a flowchart illustrating a method for controlling display operations of a mobile terminal having dual touchscreens in response to a touch signal input through the touchscreens according to an exemplary embodiment of the present invention; and

[0017] FIG. **6** is a flowchart illustrating a method for controlling display operations of a mobile terminal having a touchscreen in response to a touch signal input through the touchscreen according to another embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0018] Exemplary embodiments of the present invention are described with reference to the accompanying drawings in detail. The same reference numbers are used throughout the drawings to refer to the same or like parts. Detailed descriptions of well-known functions and structures incorporated herein may be omitted to avoid obscuring the subject matter of the present invention.

[0019] In an exemplary embodiment of the present invention, the mobile terminal can be any of cellular communication terminals (including a Code Division Multiple Access (CDMA) terminal, a Wideband CDMA (WCDMA) terminal,