enge (□ or □), the circle (● or ○), etc.) may be displayed instead of the directional symbols.

[0179] FIGS. **15**A and **15**B depict a screen image of a contents list according to another embodiment of the present invention.

[0180] In this embodiment, if the entire number of the items of the contents list exceeds the number of items that can be displayed on a single screen, a translucent directional symbol (e.g., arrows (↑, ↓), triangles (□, □), etc.) indicating that there are remaining undisplayed items in the contents list is displayed at one side of the contents list as shown in FIG. **15**A.

[0181] And as mentioned above with reference to FIGS. **14**A and **14**B, the directional symbol displayed at one portion of the screen is changed (e.g., by color change, highlighting, blinking, march of ants effect, neon sign effect, etc.) according to the movement direction (upwardly or downwardly) of the scroll bar.

[0182] In addition, when the selection bar reaches the first item or the last item of the contents list, the directional symbol displayed at the upper or lower end portions of the screen can be changed into different translucent shapes (e.g., the square (● or □), the lozenge (□ or □), or the circle (● or ○), etc.) as shown in FIG. **15**B, through which the user can recognize whether or not the selection bar has reached the first item or the last item of the contents list.

[0183] As shown in FIGS. **14**A, **14**B, **15**A, and **15**B, both the directional symbol and the scroll bar can be displayed on the single screen, but the movement situation of the selection bar can also be displayed only with the directional symbols.

[0184] The below table shows the movement directions of a page and that of the scroll bar according to flicking.

TABLE

Flicking directions: ↓, ↑ Movement directions of page: ↑, ↓ Movement directions of scroll bar: ↑, ↓ Positions of selection bar (or cursor): upper end of screen, lower end of screen

[0185] In this manner, when the user quickly moves to a different item of a displayed menu list through flicking, the feedback indication for indicating the reaching of the end of the menu list can be outputted. The above-described embodiments may be implemented into fabrication methods, devices or products by using a reference programming and/or engineering technique to produce software, firmware, hardware or their combinations. Here, the term 'product' as used herein refers to codes or logic implemented in hardware logic (e.g., FPGA, ASIC, etc.), a computer-readable medium (e.g., magnetic storage medium (e.g., a hard disk drive, a floppy disk, a tape, etc.), an optical memory (CD-ROMs, optical disk, etc.), and volatile/non-volatile memory unit (e.g., EEPROMs, ROMs, PROMs, RAMs, DRAMs, SRAMs, firmware, programmable logic, etc.). The codes within the computer-readable medium can be accessed and executed by a processor.

[0186] The codes implemented according to the embodiments of the present invention can be accessible from transmission media or a file server of a network. In this case, the code-implemented product may include a network transmission line, wireless transmission media, and a transmission media such as signals, radio waves, or infrared signals transmitted via the space. Of course, such configuration can be variably modified without departing from the scope of the present invention and the product can be configured with an information bearing medium well known in the related art by the ordinary person in the art.

[0187] The present invention is not limited to the slide type mobile terminal as shown in FIG. **1** but can be applicable to various types of mobile terminals such as bar type, folder type and swing type mobile terminals, and the like.

[0188] As so far described, the scrolling method of a mobile terminal according to the present invention has the following advantages.

[0189] That is, when the displayed menu list movement is performed according to a flicking operation in a user interface environment of the mobile terminal having the touch screen or the touch pad, the feedback for indicating the reaching of the end (the last item) of the menu list can be provided to the user, so the practicality of the terminal manipulation and the user convenience of menu searching can be enhanced.

[0190] As the exemplary embodiments may be implemented in several forms without departing from the characteristics thereof, it should also be understood that the above-described embodiments are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its scope as defined in the appended claims. Therefore, various changes and modifications that fall within the scope of the claims, or equivalents of such scope are therefore intended to be embraced by the appended claims.

What is claimed is:

1. A scrolling method of a mobile terminal, comprising:

moving a displayed menu list according to a user input; and

outputting a certain feedback for indicating reaching of the end of the displayed menu list when the last item of the displayed menu list appears.

2. The method of claim **1**, wherein the feedback is outputted when a portion or the entirety of the last item of the menu list is displayed.

3. The method of claim **1**, wherein the user input is a flicking input.

4. The method of claim **1**, wherein the certain feedback comprises one or more of visual, audible and tactile feedback.

5. The method of claim **4**, wherein the visual feedback displays a certain blank space at both ends of the displayed list indicating the ends of the menu list.

6. The method of claim **4**, wherein the visual feedback displays a border of a certain color indicating the end of the menu list below the last item of the menu list.

7. The method of claim **4**, wherein the visual feedback indicates that the last item of the list will be immediately displayed by coloring the last item of the list or changing the color of an item adjacent to the last item of the list.

8. The method of claim **4**, wherein the audible feedback includes a voice, a mechanical sound, an intermittent sound or a continuous sound.

9. The method of claim **8**, wherein the tactile feedback includes a vibration.

10. The method of claim **1**, wherein the outputting of the certain feedback comprises:

checking whether a certain portion of the last item of the menu list is displayed; and

when the certain portion of the last item of the menu list is displayed, outputting a feedback for indicating to the user the reading of the end of the menu list.