

ments thereof, reference should be made to the Description of Embodiments below, in conjunction with the following drawings in which like reference numerals refer to corresponding parts throughout the figures.

[0012] FIG. 1 is a block diagram illustrating a portable communications device in accordance with some embodiments.

[0013] FIG. 2A illustrates a portable communications device having a physical click wheel input device in accordance with some embodiments.

[0014] FIG. 2B illustrates a portable communications device having a virtual click wheel input device in accordance with some embodiments.

[0015] FIG. 3 is a flowchart illustrating a method of receiving and using numeric input in accordance with some embodiments.

[0016] FIG. 4A-4C illustrate exemplary user interfaces for receiving and using numeric input in accordance with some embodiments.

DESCRIPTION OF EMBODIMENTS

[0017] Reference will now be made in detail to certain embodiments of the invention, examples of which are illustrated in the accompanying drawings. While the invention will be described in conjunction with the embodiments, it will be understood that it is not intended to limit the invention to these particular embodiments alone. On the contrary, the invention is intended to cover alternatives, modifications and equivalents that are within the spirit and scope of the invention as defined by the appended claims.

[0018] Moreover, in the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will be apparent to one of ordinary skill in the art that the present invention may be practiced without these specific details. In other instances, well-known methods, procedures, components, circuits, and networks are not described in detail to avoid obscuring aspects of the present invention.

[0019] Embodiments of user interfaces and associated processes for using a portable communication device are described. The user interface includes a click wheel. A click wheel is a user-interface device that may provide navigation commands based on an angular displacement of the wheel or a point of contact with the wheel by a user of the device. In some embodiments, the click wheel is a physical device that is separate from a display (e.g., FIG. 2A). In other embodiments, the click wheel is a virtual device that is displayed on a touch screen or other display (e.g., FIG. 2B). A click wheel may also be used to provide a user command corresponding to selection of one or more items, for example, when the user of the device presses down on at least a portion of the wheel or the center of the wheel. For simplicity, in the discussion that follows, a portable communications device (e.g., a cellular telephone that may also contain other functions, such as SMS (also called text messaging), PDA and music player functions) that includes a click wheel is used as an exemplary embodiment. It should be understood, however, that the user interfaces and associated processes may be applied to other devices, such as personal computers and laptops, which may include one or more other user-interface devices.

[0020] The device may support a variety of applications, such as one or more telephone applications, a text message application and a music player. The music player may be compatible with one or more file formats, such as MP3 and/or

AAC. In an exemplary embodiment, the device includes an iPod music player (trademark of Apple Computer, Inc.).

[0021] The various applications that may be executed on the device may use at least one common physical user-interface device, such as a physical click wheel or a touch screen with a virtual click wheel. One or more functions of the click wheel as well as corresponding information displayed on the device may be adjusted and/or varied from one application to the next and/or within a respective application. In this way, a common physical architecture (such as the click wheel or the touch screen) of the device may support the variety of applications with user interfaces that are intuitive and transparent to a user.

[0022] Attention is now directed towards embodiments of the device. FIG. 1 is a block diagram illustrating a portable communications device 100 in accordance with some embodiments. The device 100 may include a memory 102 (which may include one or more computer readable storage mediums), a memory controller 122, one or more processing units (CPU's) 120, a peripherals interface 118, RF circuitry 108, audio circuitry 110, a speaker 111, a microphone 113, an input/output (I/O) subsystem 106, a display system 112 (which may include a touch screen), a click wheel 114, other input or control devices 116, and an external port 124. The device 100 may optionally include one or more optical sensors 164. These components may communicate over one or more communication buses or signal lines 103. The device 100 may be any portable electronic device, including but not limited to a handheld computer, a tablet computer, a mobile telephone, a media player, a personal digital assistant (PDA), or the like, including a combination of two or more of these items, provided the device includes voice communication capabilities (e.g., telephony).

[0023] It should be appreciated that the device 100 is only one example of a portable communications device 100, and that the device 100 may have more or fewer components than shown, may combine two or more components, or may have a different configuration or arrangement of the components. The various components shown in FIG. 1 may be implemented in hardware, software or a combination of both hardware and software, including one or more signal processing and/or application specific integrated circuits.

[0024] Memory 102 may include high speed random access memory and may also include non-volatile memory, such as one or more magnetic disk storage devices, flash memory devices, or other non-volatile solid state memory devices. In some embodiments, memory 102 may further include storage remotely located from the one or more processors 120, for instance network attached storage accessed via the RF circuitry 108 or the external port 124 and a communications network (not shown) such as the Internet, intranet(s), Local Area Networks (LANs), Wide Local Area Networks (WLANs), Storage Area Networks (SANs) and the like, or any suitable combination thereof. Access to memory 102 by other components of the device 100, such as the CPU 120 and the peripherals interface 118, may be controlled by the memory controller 122.

[0025] The peripherals interface 118 couples the input and output peripherals of the device to the CPU 120 and memory 102. The one or more processors 120 run or execute various software programs and/or sets of instructions stored in memory 102 to perform various functions for the device 100 and to process data.