interface **112**, a touch-sensitive interface **114**, a display **116**, an actuator **118**, a speaker **120**, and a memory **122**.

[0037] The processor **110** is configured to execute computer-executable program instructions stored in memory **122**. For example, processor **110** may execute one or more computer programs for messaging or for generating haptic feedback. Processor **110** may comprise a microprocessor, a digital signal processor (DSP), an application-specific integrated circuit (ASIC), one or more field programmable gate arrays (FPGAs), or state machines. Processor **110** may further comprise a programmable electronic device such as a programmable logic controller (PLC), a programmable interrupt controller (PIC), a programmable logic device (PLD), a programmable read-only memory (PROM), an electronically programmable read-only memory (EPROM or EEPROM), or other similar devices.

[0038] Memory **122** comprises a computer-readable medium that stores instructions, which when executed by processor **110**, cause processor **110** to perform various steps, such as those described herein. Embodiments of computer-readable media may comprise, but are not limited to, an electronic, optical, magnetic, or other storage or transmission devices capable of providing processor **110** with computer-readable instructions. Other examples of media comprise, but are not limited to, a floppy disk, CD-ROM, magnetic disk, memory chip, ROM, RAM, ASIC, configured processor, all optical media, all magnetic tape or other magnetic media, or any other medium from which a computer processor can read. In addition, various other devices may include computer-readable media such as a router, private or public network, or other transmission devices. The processor **110** and the processing described may be in one or more structures, and may be dispersed throughout one or more structures.

[0039] Processor **110** is in communication with the network interface **112**. The network interface **112** may comprise one or more methods of mobile communication, such as infrared, radio, Wi-Fi, or cellular network communication. In other variations, the network interface **112** comprises a wired network interface, such as Ethernet. The messaging device **102** can be configured to exchange messages or virtual message objects with other devices (not shown) over networks such as a cellular network and/or the Internet. Embodiments of messages exchanged between devices may comprise voice messages, text messages, data messages, or other forms of digital messages.

[0040] The processor **110** is also in communication with one or more touch-sensitive interfaces **114**. In some embodiments, touch-sensitive interface **114** may comprise a touch-screen or a touch-pad. For example, in some embodiments, touch-sensitive interface **114** may comprise a touch-screen mounted overtop of a display configured to receive a display signal and output an image to the user. In other embodiments, touch-sensitive interface **114** may comprise an optical sensor or another type of sensor. In one embodiment, touch-sensitive interface may comprise an LED detector. For example, in one embodiment, touch-sensitive interface **114** may comprise an LED finger detector mounted on the side of display **116**. In some embodiments, the processor is in communication with a single touch-sensitive interface **114**, in other embodiments, the processor is in communication with a plurality of touch-sensitive interfaces, for example, a first touch-screen and a second touch screen. The touch-sensitive interface **114** is configured to detect user interaction, and based on the user interaction, transmit signals to processor **110**. In some embodiments, touch-sensitive interface **114** may be configured to detect multiple aspects of the user interaction. For example, touch-sensitive interface **114** may detect the speed and pressure of a user interaction, and incorporate this information into the interface signal.

[0041] In the embodiment shown in FIG. **1**, the processor **110** is also in communication with a display **116**. The processor **110** can be configured to generate a graphical representation of a user interface to be shown on display **116**, then transmit a display signal comprising the graphical representation to display **116**. In other embodiments, display **116** is configured to receive a display signal from another device. For example, in some embodiments, display **116** may comprise an external display, such as a computer monitor. Display **116** is configured to receive a display signal and output an image associated with that display signal. In some embodiments, the display signal may comprise a vga, hdmi, svga, video, s-video, or other type of display signal known in the art. In some embodiments, display **116** comprises a flat screen display, such as a Liquid Crystal Display (LCD) or Plasma Screen Display. In other embodiments display **116** comprises a Cathode Ray Tube (CRT) or other type of display known in the art. In still other embodiments, display **116** may comprise touch-sensitive interface **114**, for example, display **116** may comprise a touch-screen LCD. In still other embodiments, display **116** may comprise a flexible screen or flexible display. For example, in some embodiments, display **116** may comprise a haptic substrate mounted underneath its surface. In such an embodiment, display **116** is made of a flexible material, and in response to signals received from processor **110**, the haptic substrate flexes, forming ridges, troughs, or other features on the surface of display **116**. In some embodiments, the haptic substrate may comprise a plasma actuator, a piezoelectric actuator, an electro-active polymer, a micro-electro-mechanical system, a shape memory alloy, a grid of fluid or gas-filled cells.

[0042] In some embodiments, processor **110** receives signals from touch-sensitive interface **114** that are associated with an interaction with the graphical user interface shown on display **116**. For example, in one embodiment, touch-sensitive interface **114** may comprise a touch-screen and a graphical user interface on display **116** may comprises a virtual keyboard. In such an embodiment, when the user interacts with a section of the touch-screen that overlays one of the keys of the virtual keyboard, the touch-screen will send an interface signal to processor **110** corresponding to that user interaction. Based on the interface signal, processor **110** will determine that the user pressed one of the keys on the virtual keyboard. This functionality allows the user to interact with other icons and virtual objects on the display **116**. For example, in some embodiments the user may flick the touch-screen to move a virtual ball or turn a virtual knob.

[0043] As shown in FIG. **1**, processor **110** is also in communication with an actuation system comprising one or more actuators **118**, a suspension system for each actuator, and electrical power and control wiring for each actuator. In some embodiments, messaging device **102** comprises more than one actuation system. Processor **110** is configured to determine a haptic effect and transmit a haptic signal corresponding to the haptic effect to actuator **118**. In some embodiments, the haptic effect comprises a vibrotactile texture felt on the surface of display **116**, touch-sensitive interface **114**, or the housing of messaging device **102**. In some embodiments, determining a haptic effect may comprise performing a series