

ments, such as actuation elements **106**. Device events may include incoming telephone calls, incoming text messages, incoming multimedia messages, low battery warnings, and the like.

[0023] In some embodiments, the user interface **104** may be extended beyond the area shown to additionally include a display **105**. The display **105** notifies the user as to the present state of the electronic device **100**, while the actuation elements **106**, which are tactile buttons in one embodiment, allow the user to input data and control the device. By way of example, the words “new message” may appear on the display **105** following the receipt of a text message. One or more actuation elements **106** may be actuated to open and view the message.

[0024] The actuation element **106** has a corresponding actuation element profile **108** relative to the housing **102**. The actuation element profile **108** is a physical form factor relative to the housing **102**. Said differently, the actuation element profile **108** is comparison of physical shape or dimension relative to the housing **102**. In one sense, the actuation element profile may be characterized by the height of the actuation element **106** relative to the housing **102**. In another embodiment, the actuation element profile **108** may be characterized by a cross sectional shape of the actuation element **106**. For example, in one embodiment, the actuation element **106** is positioned flush with the housing **102**, thereby creating one actuation element profile. In another embodiment, the actuation element **106** may be protruding slightly above the housing **102**, thereby creating a second actuation element profile.

[0025] The actuation element profile may alternatively be characterized by the surface area of the actuation element **106**, or the surface area of the housing **102** covered by the actuation element **106**. For example, in one embodiment, the actuation element **106** is balloon like, in that it may swell or contract. In such an embodiment, the actuation element **106** may cover the housing **102** with a first surface area when deflated and a second surface area when inflated.

[0026] In addition to the various actuation element form factors, the actuation element **106** may additionally take many physical forms, shapes, textures, and compositions. The particular shape, texture or composition will depend upon the type of electronic device **100**, and its intended application.

[0027] In one embodiment, the actuation element **106** is as simple as a rigid button with a printed symbol disposed thereon, which a user physically depresses to perform the function associated with the printed symbol. By contrast, in another embodiment, as set forth in commonly assigned, copending U.S. patent application Ser. No. 11/684,454, filed Mar. 9, 2007, the actuation element **106** may be a proximity sensitive interface comprising an optical shutter device. In such an embodiment, the actuation element performs a function when the user's finger comes in proximity of the actuation element **106**.

[0028] The actuation element **106** may additionally have an actuation element cross sectional shape **107**. The actuation element cross sectional shape **107** may be, but is not limited to, any of the following shapes: a ramp, a rectangle, a plus, a circle, a semicircle, an oval, a triangle, an alphanumeric character, or a predetermined symbol. Predetermined symbol shapes may include shapes indicative of the following actions: power on, power off, initiate call, end call, camera mode, video mode, volume control, and musical playback.

[0029] In accordance with embodiments of the invention, the actuation element **106** described herein is configured to alter the actuation element profile **108** relative to the housing **102** in response to a device event **110**. This alteration of the actuation element profile **108** may occur in many ways. For example, in one embodiment, the actuation element profile **108** may be altered by extending the actuation element **106** distally from the housing **102**. Alternate embodiments for altering the actuation element profile **108** will be discussed in further detail below. In each embodiment, however, following the alteration of the actuation element profile **108**, the actuation element retains an actuation element actuation state **112**.

[0030] The actuation element actuation state **112** is a state of control associated with the actuation element **106**. For instance, where the actuation element **106** is a power button prior to altering its actuation element profile **108**, the actuation element **106** will still be a power button after the actuation element profile **108** is altered. Similarly, in the case of a mobile telephone, when the actuation element **106** is a “9 WXY” button prior to altering its actuation element profile **108**, the actuation element **106** will continue to be a “9 WXY” button after the actuation element profile **108** is altered.

[0031] Turning briefly to FIG. 2, illustrated therein is one embodiment of an actuation element **206** changing its actuation element profile **208** relative to a housing **202** of an electronic device **200** in response to a device event while retaining its actuation element state. In FIG. 2, the electronic device **200** has an actuation element **206** initially residing in a relatively flush relationship with a housing **202**. The actuation element **206** is capable of controlling at least one device function. The control of this function defines the actuation element's actuation element actuation state.

[0032] In response to a device event **210**, such as an incoming call or e-mail, the actuation element **206** in one embodiment extends distally from the housing **202** by a predetermined distance, such as one-half inch, thereby altering the actuation element profile **208**. After this extension, the actuation element **206** is still capable of controlling the original device function, and thus retains its actuation element actuation state.

[0033] The illustrative embodiment shown in FIG. 2 is that of the actuation element **206** extending distally from the side of a “candy bar” style electronic device. It will be clear to those of ordinary skill in the art having the benefit of this disclosure, however, that the invention is not so limited. In one embodiment, for instance, the electronic device comprises a hinged “flip style” housing. In such an embodiment, the actuation element may be disposed on the inside of one half of the hinged housing. As such, the actuation element rests in an initial actuation element profile when the hinged housing is closed. In response to the device event, the actuation element may extend distally from the hinged housing, thereby altering the actuation element profile and separating the two halves of the hinged housing. Closing the two halves of the hinged housing depresses the actuation element and returns it to the initial actuation element profile.

[0034] Turning back to FIG. 1, in one embodiment, the device event **110**, as briefly mentioned above, is an event that requires a user to take an action or to make a decision. Where the device event **110** is an incoming phone call, for example, the user may be requested to accept or ignore the call. Examples of device events include: an incoming call, an incoming text message, an incoming multimedia message, a call in progress, an availability of a personal area network or