[0016] FIG. **2** is a haptic computer interface, according to an exemplary embodiment. Display **210** may represent an organic light emitting diode display such as a polymer light emitting diode or another display capable of being constructed on a flexible substrate. Display **210** may also contain touch screen functionality such as a resistive touch screen panel, a capacitive touch screen panel or other touch screen technologies to accept input from a user. Alternatively display **210** may function simply as a display without detecting user input.

[0017] Tactile panel **220** may contain one or more buttons **230**. Tactile panel **220** when overlaid by display **210** may create one or more raised surfaces in display **210**. Display **210** may display indicia or other indicators over the one or more buttons **230** which may correspond to functionality of the one or more buttons **230**. Once a user has learned the functionality corresponding to the one or more buttons **230**, the user may memorize the location, size, texture or other tactile indicators of the one or more buttons **230**. A user may then use these tactile indicators to navigate the functionality of the touch screen without requiring visual navigation. Additionally, tactile panel **220** may contain one or more retractable buttons **230** so that different patterns of buttons may be presented to a user for different functionalities of a device, different preferences of a user or for other purposes. For example, buttons may be presented in a row for a traditional layout of a digital media player to present options to play the media, stop the media, rewind the media or fast forward the media. These buttons may be presented to a user for easy access while the touch screen of display **210** may enable more detailed controls such as media selection, equalizer controls, video editing or other options. Positioning of the buttons may be designed to increase ease of use of the interface such as by positioning related buttons near one another. For example, a first button that detects pressure may be used to increase a setting while a related button that detects pressure to decrease a setting may be positioned next to the first button.

[0018] Different behaviors of buttons may also be present. A button may also act as a rocker switch or as a pointing stick by allowing a user to depress one side of a button at a time. This may allow a user to use a button to increase or decrease a setting, to navigate or scroll through selections or to perform other functionality. A button may also respond to differing amounts of pressure applied to it. In one or more embodiments, a light pressure may correspond to a lower setting of a corresponding control while a heavier pressure applied by a user may correspond to a higher setting. For example, this could correspond to the speed of an operation such as the speed of fast forwarding or rewinding digital media, the speed of scrolling, the number of records, selections or files to skip or other operations with variable speeds.

[0019] Because the buttons may be retractable and the labeling or corresponding indicia of the buttons may be displayed by display **210** the interface may maintain the flexibility of the touch screen interface and may additionally provide haptic feedback for a user. One or more portions of an interface may be customizable by a user. For example, a user may able to assign one or more buttons **230** for the most commonly used or user preferred functions and display **210** may display indicia corresponding to the functions for the assigned buttons. In one or more embodiments, a user may be able to specify two or more functions for a button. For example, the first function may be performed when a user touches a button within a certain range of pressure that may be detected by a touch screen of display **210**. The second function may be performed when the button is pressed with a greater amount of pressure causing the button to recede. This may be detected by a switch connected to an actuator associated with the button.

[0020] FIG. **3** is a flowchart depicting a method for providing haptic computer interface, according to an embodiment. At block **310**, a flexible display may be provided. In one or more embodiments, it may be one or more touch screen displays. In other embodiments it may be a display without touch screen functionality.

[0021] At block **320** a layer may be provided giving tactile feedback to a user of the display. This may be accomplished simply by providing a layer with one or more raised surfaces. In one or more embodiments this may be a layer that contains one or more buttons. The buttons may remain raised continuously unless pressed by a user or the buttons may be raised dynamically to accommodate a specific interface. For example, if a user selects telephone functionality via a touch screen menu buttons may be raised corresponding to a traditional phone keypad. Buttons may also be raised or lowed corresponding to other user actions or actions of system using the display. For example, if a device using the display has headphones plugged into it or other peripherals attached it may signal the interface to present buttons for a corresponding control menu. If a display is embedded in a device with a cover, buttons may raise or retract if a cover is opened or closed. In one or more, embodiments buttons may be presented according to a user preference. A user may set the buttons to be raised when driving or running with a device and may change the preference so that they may use a touch screen without tactile feedback when they are at home or work.

[0022] In block **330**, the flexible display may be overlaid on top of the tactile feedback layer. The overlaying of the flexible display on the tactile feedback layer may cause the display to contain one or more raised surfaces and/or one or more indentations.

[0023] In block **340**, a user of the flexible display may enter input. Input may be entered using a touch screen, buttons, other raised surfaces, or a combination of these methods.

[0024] In block **350**, the user interface may provide haptic feedback to a user. A user may receive tactile feedback by the raised surfaces or recessed surfaces of one or more buttons. In one or more embodiments a user may also receive haptic feedback when pushing one or more buttons. One or more buttons may recess when pressed, may tilt when pressed, may vibrate when pressed, or may provide other forms of haptic feedback. In one or more embodiments, raised portions of a display may recess only enough to provide haptic feedback to a user to confirm that a selection has been made.

[0025] In some embodiments, a user may be provided confirmation of a selection by a vibration, or other haptic indicator. Vibration may be provided by a vibrating actuator connected to the display. A touch screen may sense a user's touch and may signal a controller which may activate a vibrating actuator to give a haptic confirmation of the user's touch. In one or more embodiments, a button may raise in response to a selection on a touch screen and may provide a tactile confirmation of a selection. A button may remain recessed in response to a user's selection to provide a tactile confirmation of a selection.

[0026] FIG. **4** is a haptic computer interface, according to an exemplary embodiment. Display **410** may contain one or