on applications or modes, which can be associated with the host. For example, the user interface state module **43** can drive the user interface to change to a phone mode or a media player mode.

[0092] In other embodiments, the controller **42** can adjust the layers **41**, **45**, **46** based on how a user interacts with the user interface. For example, after detecting a touch event, the shape changeable nodes associated with the touch event can change shape in order to provide feedback to the user as the user interacts with the user interface. For example, the surface can change in real time during the touch event. The change can be based on touch location, acceleration, direction, size, number of touch points and/or the like. Basically, any characteristic of the touch event can affect the topography.

[0093] It should be appreciated that the layers **41**, **45**, **46** can be placed in various layer stacks and, in some cases, integrated into the same layer stack, depending on the needs of the device. For example, the layers **41**, **45**, **46** can be ordered differently from top to bottom. In one example, the shape changeable layer can be disposed above the sensing and display layers. In another example, the sensing layer can be position above the shape changeable layer. Alternatively, the sensing layer and shape changeable layer can be integrated into the same layer. In another example, the shape changeable layer can be disposed below the display and touch sensing layer. In yet another example, all the layers can be integrated. In yet another example, the display and sensing can be integrated into the same layer.

[0094] FIG. **5** illustrates an exemplary method for changing a topography of a user interface according to embodiments of the invention. In the example of FIG. **5**, a determination can be made about whether an input has been received (**51**). The input can be from a user of a touch sensitive device. For example, the user can input a request to form a particular user interface or can touch or near touch the user interface surface. The input can also be from an application running on the device. For example, a telephone application running on the device can input a command to form a telephone user interface. The input can also be from the device itself. For example, upon powering up, a device can input a command to form a user interface for that particular device type.

[0095] Based on the input, a user interface state can be obtained (**53**). The user interface can be configured based on the obtained user interface state (**55**). The configuring can include at least a physical change of the user interface. The user interface can be in communication with the host system or device, which can drive the configuring. Alternatively, the user interface can frequently ask for a new configuration.

[0096] The configuring can include configuring the topography of the user interface according to the user interface state. For example, the shape or contour of the user interface can be adjusted to match preferences for the user interface state, where the control shape module can map the contour to the user interface state, thereby creating variable, different tactile feels. The configuring can also include configuring touch characteristics of the user interface according to the user interface state. For example, the null touch areas and the active touch areas can be configured and associated with the shape and contour of the user interface. The configuring can also include configuring display characteristics of the user interface according to the user interface state. For example, user interface elements can be displayed that are associated with the shape and contour of the user interface.

[0097] The configuring can also include configuring the topography of the user interface dynamically. For example, the shape or contour of the user interface can be adjusted based on a touch event, thereby dynamically creating different tactile feels and feedback.

[0098] The regions on the device surface to form the user interface can be determined in a number of ways. For example, a look-up table residing in memory can store, for each user interface state, the list of regions and/or nodes to be altered to form the user interface. When a user interface state is obtained, the list of regions and/or nodes can be retrieved from the look-up table.

[0099] It is to be understood that the method is not limited to that illustrated here, but can include additional or other functions for changing the topography of a user interface according to embodiments of the invention.

[0100] FIG. **6** illustrates an exemplary touch screen that can change topography according to embodiments of the invention. As shown in FIG. **6**, touch screen **60** can include shape changeable surface **61** having a plurality of movable touch screen blocks **62**. In some cases, the touch screen blocks **62** can be proximate to one another and more particularly adjacent to one another. They can be positioned together to form a user interface having a wide variety of shapes (e.g., square, rectangle, circle, plus, cross, X, concentric, annular, etc.). They can for example be positioned in rows and/or columns in order to form a substantially rectangular user interface (as shown). Each of the touch screen blocks **62** can include a display and touch sensor(s). The touch screen blocks **62** can work individually or be configured to cooperate with one another to form one large touch screen display.

[0101] The movement of the touch screen blocks **62** can be widely varied. In one embodiment, the touch screen blocks **62** can be configured to move up and down from a nominal position. The nominal position of the blocks **62** can form a tapered, curved or flat surface. In the illustrated embodiment, the nominal position of the blocks **62** can form a substantially flat planar surface. That is, each of the touch screen blocks can include a flat planar surface, the upper surface of which can be level with the other blocks when in the nominal position. Depending on the desired needs of the device, the touch screen blocks can raise, lower and/or remain in the nominal position in order to affect a topography change at the surface **61**. This can be accomplished while adjusting the display elements being presented and the touch sensors being active on the touch screen blocks **62**. The movement can be analog or binary. In analog, the movement can occur at various distances of up and down, while in binary, the movement can be up and down at a specific distance.

[0102] The touch screen blocks **62** can respond to a user's input and/or be changed by a host system for example in response to a control signal or mode of the host system. In some embodiments, the placement of the touch screen blocks can be configured to form specific user interface elements, as in FIGS. **7** and **8** described below.

[0103] FIG. **7** illustrates an exemplary touch screen having a user interface that can change topography to form virtual buttons according to embodiments of the invention. In the example of FIG. **7**, touch screen **70** can have a desired user interface state in which the user interface can display two virtual buttons **73** and **74** in the display **79**. As such, shape changeable nodes **72** overlaying the displayed buttons **73** and **74** can be raised on the surface **71**, thereby informing the user of the location of the buttons to be touched. The underlying