

words, a user interface to retrieve a user preference for the operation of the tactile layer **100** (the first embodiment of user preference) may be provided on the device **10**. This example of the second variation of the user interface may function similarly to the second and third example of the user interface of the first variation that provide a slider on the tactile interface layer **100**.

[0042] In a third example of the second variation, as shown in FIG. 9, the user interface may provide an interface on the device **10** that allows the user to provide a preference for the operation of the device, for example, vibrating and/or producing a sound when a particular region **113** is deformed or when a particular application of the device is actuated. This is particularly applicable to retrieving a user preference for the operation of the device in Step **S133**.

[0043] In a fourth example of the second variation, the user interface may allow the user to select the desired location for a particular region. For example, in the variation where the device **10** includes an application which uses a keyboard, the user interface may prompt the user to select the desired location for each key in a keyboard instead of providing options to the user for the location of each key in the keyboard. The user may alternatively be asked to place the fingers of their hand in the most natural position onto the tactile interface layer **100**. The location of each finger is detected and the cavity **125** and particular region of the surface **113** that is substantially adjacent to the location of the finger is then selected as the location of the keyboard key.

[0044] In a third variation of the user interface, the user interface may be provided on a device that is external to both the device **10** and the tactile interface layer **100**. For example, the user interface may be provided an application on the Internet, on a personal computer, or any other suitable medium.

[0045] The user interface of the preferred embodiments is preferably one of the variations described above, but may alternatively be a combination of the variations described above. For example, the user interface may provide a slider on the device **10** that functions to control the characteristic of an "example region" on the tactile interface layer **100**, allowing the device **10** and the tactile interface layer **100** to cooperatively provide a user interface to the user. The device may also provide a visual indicator (for example, a numerical level setting) that indicates the level of a particular setting. This may facilitate in communicating setting options to the user. However, any other suitable user interface may be used.

[0046] As shown in FIGS. 1 and 2, a processing unit retrieves a user preference that is provided by the user on the user interface **S130** and sets the user preferences to the operating conditions **S140**. The processing unit may actuate the manipulation of the volume of fluid based on the user preferences to the operation of the tactile interface layer **S132**, the operation of the device **S133**, and/or the interaction between the device and the tactile interface layer **S134**. In a first variation, the processing unit may be included into the tactile interface layer **100** and may also function to control the displacement device **130**, sensor **140** and/or the display **150**. The processing unit may communicate directly with the components of the tactile interface layer **100** (e.g. the displacement device **130**), but may alternatively communicate with the components of the tactile interface layer **100** in any other suitable manner. The processing unit of this first variation may function to communicate with a processing unit of the device **10** to receive signals representing user selections.

[0047] In a second variation, the processing unit may be included into the device **10** and may also function to control the applications of the device **10**. The processing unit of this second variation may communicate directly with the components of the tactile interface layer **100** (e.g. the displacement device **130**), but may alternatively communicate to the components of the tactile interface layer **100** in any other suitable manner. The processing unit of this second variation may communicate with the components of the tactile interface layer **100** through a wired communication protocol, a wireless communication protocol, or any other suitable kind of communication protocol.

[0048] In a third variation, the processing unit may be external to both the tactile interface layer **100** and the device **10**, for example, a personal computer that is communicably coupled to the tactile interface layer **100** and/or the device **10**. In this variation, when the user desires to provide and/or apply user preferences to operating conditions, the device and/or the tactile layer **100** may be connected to a personal computer that may include an interface that allows the user to provide a user preference.

[0049] The processing unit of the preferred embodiments is preferably one of the variations as described above, but may alternatively be any combination of the above variations. For example, the tactile interface layer **100** may include a processing unit that functions to control the tactile interface layer **100** and the device **10** may include a processing unit that functions to control the device **10**. The processing units of the tactile interface layer **100** and the device **10** may function to communicate with each other to provide control for an operating condition. In this variation, the processing unit of the tactile interface layer **100** may communicate with the processing unit of the device **10** through a wired communication protocol, a wireless communication protocol, or any other suitable kind of communication protocol. However, any other suitable arrangement of the processing unit may be used.

[0050] As a person skilled in the art will recognize from the previous detailed description and from the figures and claims, modifications and changes can be made to the preferred embodiments of the invention without departing from the scope of this invention defined in the following claims.

We claim:

1. A method for adjusting the user interface of a device, comprising the steps of:

- providing a user interface to retrieve a user input;
- providing a tactile interface layer that defines a surface and includes a volume of fluid and a displacement device that manipulates the volume of fluid to deform a particular region of the surface into a tactilely distinguishable formation;
- retrieving a user preference between a tactilely distinguishable formation of a first type and a second type through the user interface; and
- manipulating the volume of fluid to deform a particular region of the surface into a tactilely distinguishable formation of one of the first type and second type based on the user preference.

2. The method of claim 1, wherein the user interface is provided on the tactile interface layer.

3. The method of claim 1, wherein the tactilely distinguishable formation is a button.

4. The method of claim 3, wherein the button includes a substantially dome-shaped protrusion.