formation may be transitioned into the first type of tactilely distinguishable formation when the key corresponding to the particular region is a predicted key. By providing keys that are of two types of tactilely distinguishable formations based on the predicted subsequent input determined in Step S**140**, additional tactile assistance for text and/or number input is provided to the user. For example, the user may provide an input of the letter "t." The predicted subsequent key inputs may include the letters "h," "e," and/or "r," and an unpredicted key may include the letters "y," "d," and/or "q." The step of manipulating the volume of fluid to deform the plurality of particular regions S**150** may include decreasing the height of the unpredicted letters "y," "d," and "q" while maintaining the height of the letters "h," "e," and "r." As a result, the user can tactilely distinguish between a predicted letter and an unpredicted letter. In this particular example, it may be particularly useful to tactilely distinguish between the letter "y" and the letter "h" because of their proximity on a typical QWERTY keyboard, facilitating the user in correctly inputting the letter "h" if desired as opposed to incorrectly inputting the letter "y." Additionally, because the "h" is now tactilely distinguishable from "y," a user may more accurately locate the letter "h" as opposed to the letter "y" without looking, for example, by determining the relative location of the desired key within the overall layout of the keyboard and subsequently feeling for the tactilely distinguishable formation in the determined location. The step of manipulating the volume of fluid to deform the plurality of particular regions S**150** preferably manipulates the volume of fluid to deform the plurality of particular regions S**150** if the predicted letters are not otherwise distinguishable from the unpredicted letters. For example, a predicted letter "F" may already have a distinguishable feature from, for example, an unpredicted letter "H," such as the nub as seen in typical keyboards and thus fluid may not be further manipulated to provide another distinguishable feature to the letter "F." However, any other suitable arrangement of the manipulation of fluid in Step S**150** may be used.

[0016] As described above, the keyboard may be a letter keyboard that facilitates text input on a device **10**, as shown in FIG. **2**. However, the keyboard may alternatively be a number keypad, navigational arrows, directional input, volume input, playback control input, or any other suitable type of keyboard. For example, the keyboard may be a number keypad for a phone application. The step of predicting a subsequent key input S**140** may include predicting a subsequent number input, such as in a "speed dial" application. In a second example, each key in the keyboard may represent a word or a phrase or any other suitable combination of letters, numbers, symbols, or any others suitable type of text unit. In this example, the step of predicting a subsequent key input Step S**140** preferably includes predicting a subsequent word, phrase, or any other suitable combination of letters, numbers, symbols, and/or any other suitable type of text unit. A particularly notable example of such an input may include Chinese and Japanese text input where a key might represent a subsequent character or combination of characters. The step of manipulating the volume of fluid S**150** may include deforming a particular region corresponding to a number associated with a stored speed dial number into the first type of tactilely distinguishable formation and deforming a particular region corresponding to a number that is not associated with a stored speed dial number into the second type of tactilely distinguishable formation. In another example, the keyboard may be the interface of a navigation device. The step of predicting a subsequent key input S**140** may include predicting a subsequent letter and/or number of an address input based on a stored database of available addresses. This may provide tactile guidance that may facilitate navigational entry while in a vehicle or in any other suitable situation where the user may not be concentrating on the device **10** (for example, the user is operating the vehicle while entering a desired navigational entry). However, any other suitable type of device, predictive function, or keyboard may be used.

1. Providing a Tactile Interface Layer

[0017] As shown in FIGS. **2-7**, the tactile interface layer **100** provided in Step S**120** of the preferred embodiment includes: a layer **110** defining a surface **115**, a substrate **120** supporting the layer **110** and at least partially defining a fluid vessel **127**, and a displacement device **130** coupled to the fluid vessel **127** that influences the volume of fluid **112** within the fluid vessel **127** to expand and retract at least a portion of the fluid vessel **127**, thereby deforming a particular region **113** of the surface **115**. The surface **115** is preferably continuous, such that when swiping a finger across the surface **115** a user would not feel any substantial seams or any other type of interruption in the surface **115**. Alternatively, the surface **115** may include features that facilitate the user in distinguishing one region from another. The surface **115** is also preferably planar. The surface **115** is preferably arranged in a flat plane, but may alternatively be arranged in a curved plane or on a first plane and then wrapped around to a second plane substantially perpendicular to the first plane, or any other suitable arrangement. The surface **115** may alternatively include lumps, bumps, depressions, textures, or may be a surface of any other suitable type or geometry. The fluid vessel **127** preferably includes a cavity **125** and the displacement device **130** preferably influences the volume of fluid **112** within the cavity **125** to expand and retract the cavity **125**. The fluid vessel **127** may alternatively be a channel **138** or a combination of a channel **138** and a cavity **125**, as shown in FIG. **3***b*. As shown in the variation shown in FIG. **3***b*, the substrate **120** preferably defines a fluid outlet **116** that allows fluid to flow between the channel **138** and the cavity **125** to deform and un-deform a particular region of the surface **113**. The variation may also include a plurality of channels **138***a*, **138***b*, and **138***c* within the substrate **120**, as shown in FIG. **5**. The fluid outlet may be formed into the substrate, for example, the fluid outlet **116** may be a series of bores that are machined into the substrate in between the channel **138** and the cavity **125** (shown in FIG. **3***b*) or an open orifice between the cavity **125** and the channel **138** (shown in FIG. **3***a*), but may alternatively be a property of the material, for example, the substrate **120** may include a porous material that includes a series of interconnected cavities that allow fluid to flow through the substrate **120**. The substrate **120** may define any suitable number of fluid outlets **116** that are of any suitable size and shape. The tactile interface layer may also include a fluid outlet layer (not shown) that defines the fluid outlets **116** that is separate from substrate **120** and arranged in between the substrate **120** and layer **110**. However, any other suitable arrangement of the fluid outlets **116** may be used. As shown in FIG. **3***b*, the portion of the substrate **120** (or the fluid outlet layer) that includes the fluid outlets **116** may also function to provide a support for the layer **110** to substantially prevent the layer **110** from substantially depressing into the channel **138** when force is applied over the particular region **113**. However, the