electronic device that features an adaptive user interface. The electronic device, which may or may not include a display, may be an automotive console, a desktop computer, a laptop computer, a tablet computer, a television, a radio, any suitable appliance, a desk phone, a mobile phone, a PDA, a personal navigation device, a personal media player, a camera, a watch, a remote, a mouse, a trackpad, or a keyboard. The user interface system **100** may, however, be used as the user interface for any suitable device that interfaces with a user in a tactile and/or visual manner. As shown in FIG. **2**, the surface **115** of the user interface system **100** preferably remains flat until a tactile guidance is to be provided at the location of the particular region **113**. The surface **115** of the user interface system **100** may also be deformed when a user input is required. At that time, the displacement device **130** may increase the volume of the fluid within the fluid vessel **127** (or at the cavity **125**) to deform and/or expand the particular region **113** outward, preferably forming a button-like shape. With the button-like shape, the user will have tactile guidance when navigating for the expanded particular region **113** and will have tactile feedback when applying force onto the particular region **113** to provide input. The capacitive sensor system **140** preferably senses a user input that inwardly deforms the particular region **113**, but may alternatively a user input that inwardly deforms any other suitable region along the surface **115** and/or any other user input that does not inwardly deform the surface **115**. However, any other arrangement of the user interface system **100** suitable to providing tactile guidance and/or detecting user input may be used.

[0019] As shown in FIG. **3**, the user interface system **100** may be display **150** that displays an image. As described above, the volume of fluid **112** and/or the capacitive sensor system **140** preferably cooperates with the sheet **102** to transmit an image through the sheet **102** without substantial obstruction. Alternatively, the volume of fluid **112** may cooperate with the sheet **102** to transmit an image through the sheet **102** without substantial obstruction only when the fluid vessel **127** is in a particular state, for example, when the fluid vessel **127** is in the retracted state or when the fluid vessel is in the expanded state. Because the deformation of the particular region **113** functions to provide tactile guidance to the user, the user may not need the visual cues from the image to operate the user interface when tactile guidance is present. However, the volume of fluid **112** and the sheet **102** may cooperate to transmit an image through the sheet **102** without substantial obstruction in any other suitable arrangement. Obstruction to image transmission may be defined as any manipulation of the image that provides a visual interruption of the image in reaching the user. Obstruction may include blocking a substantial portion of the image, substantially dimming the image, and/or substantially distorting the image unintelligibly. Manipulations to an image that are preferably not considered obstruction to image transmission may include distortion of the image while allowing the image to be substantially visually intelligible, substantially uniformly tinting the image, and/or substantially uniformly enlarging the image. In a first variation, to decrease distortion of the image, the volume of fluid **112** and the sheet **102** preferably cooperate to allow the light from the display to reach the user's eyes at substantially the same angle from the sheet **102** as directly from the display **150** such that an image from the display is seen through the sheet **102** as it would be seen directly from the display. In a second variation, the volume of fluid **112** and sheet **102** may function to substantially uniformly refract light from the display to maintain substantially the same relative proportions between different regions of the image as seen by the user. For example, the volume of fluid **112** and the sheet **102** may cooperatively function to substantially magnify the image from the display of the device **10** thus increasing the size of the image as seen by the user uniformly or increasing the size of one portion of the image more than another portion. In a third variation, the volume of fluid **112** and sheet **102** may cooperate to refract light from different portions of the image differently (i.e., "warp" the image) to increase the magnification of certain portions of the image. For example, the fluid **112** and the sheet **102** may cooperate to provide a fish-eye type magnification to the image to substantially increase visibility of certain portions of the image. In the first, second, and third variations, the volume of fluid **112** and sheet **102** are preferably each of substantially the same index of refraction to maintain substantially one refraction angle of the light from the display as the light transmits through the sheet **102**. Alternatively, the index of refraction of the volume of fluid **112** and the sheet **102** may be substantially different but the fluid **112** and sheet **102** preferably cooperate to decrease detection of the different refraction angles by the user. For example, the volume of fluid **112** may occupy a substantially small percentage of the thickness and/or width of the sheet **102** such that the change in refraction angle in the fluid **112** is substantially undetectable by the user. In a second example, the walls of the channel **138** and/or cavity **125** may be arranged to compensate for differences in the index of refraction between the fluid **112** and the sheet **102**, for example, by positioning the walls at a particular angle relative to the sheet **102**. Both the sheet **102** and the fluid **112** are preferably substantially transparent to decrease changes in the color and/or intensity of the image. Similarly, the sheet **102** and fluid **112** preferably both include substantially similar light absorptive properties, birefringence properties, and/or chromaticity properties. However, any other suitable translucency, transparency level, absorptive, refraction, and/or any other suitable light transmission properties may be used for the sheet **102** and fluid **112**. Similarly, any other suitable method may be used to decrease obstruction to the transmission of an image.

1. The Sheet

[0020] As shown in FIGS. **1** and **2**, the sheet **102** of the preferred embodiment functions to provide the surface **115** that interfaces with a user in a tactile manner and to at least partially define a fluid vessel **127**. As described above, the fluid vessel **127** is preferably a cavity **125** (as shown in FIGS. **1***b* and **2**), but may alternatively be a channel **138** or a combination of a cavity **125** and a channel **138** (as shown in FIG. **4***a*). The surface **115** is preferably continuous, such that when swiping a finger across the surface **115** a user would not feel any interruptions or seams. 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 surface **115** also functions to deform upon an expansion of the cavity **125**, and