We claim:

1. A user interface system comprising:

a volume of fluid;

a tactile layer, defining an outer tactile surface touchable by a user and a back surface opposite the tactile surface, the tactile layer including a first region and a second region, wherein the second region is operable between:

a retracted state, wherein the second region is substantially flush with the first region; and

an expanded state, wherein the second region is substantially proud of the first region;

a retaining wall, substantially impermeable to the fluid;

a permeable layer, interposed between the tactile layer and the retaining wall, joined to the back surface of the first region and defining a support surface below the second region, wherein the permeable layer includes a plurality of fluid ports that communicate a portion of the fluid through a portion of the permeable layer to the back surface of the second region;

a displacement device cooperating with the retaining wall to direct a portion of the fluid through the fluid ports to the back surface of the tactile layer to transition the second region from the retracted state to the expanded state; and

a touch sensor coupled to the permeable layer and detecting a user touch on the tactile surface of the tactile layer.

2. The user interface system of claim **1**, wherein the support surface is substantially rigid and provides a hard stop that limits inward deformation of the tactile layer due to a force applied to the tactile surface by the user.

3. The user interface system of claim **1**, wherein the displacement device draws a portion of the fluid from the fluid ports to transition the second region from the expanded state to the retracted state.

4. The user interface system of claim **3**, wherein the support surface defines a concave contour beneath the second region, wherein the second region is further operable in a recessed state, and wherein the displacement device draws a portion of the fluid from the fluid ports to pull the second region into the concave contour in the recessed state.

5. The user interface system of claim **1**, further comprising a reservoir containing a portion of the volume of fluid, wherein the displacement device displaces fluid from the reservoir to the fluid ports of the permeable layer.

6. The user interface system of claim **5**, wherein the reservoir is at least partially defined by the retaining wall on one side and by the permeable layer on an opposite side.

7. The user interface system of claim **6**, wherein the displacement device modifies the orientation of a portion of the retaining wall, relative to the permeable layer, to direct fluid from the reservoir to the fluid ports.

8. The user interface system of claim **1**, wherein the displacement device is an electrical pump that generates a voltage differential within the permeable layer to induce electroosmotic fluid flow through the fluid ports to outwardly expand the second region.

9. The user interface system of claim **8**, wherein the displacement device generates the voltage differential across a first conductive trace, arranged on the support surface, and a second conductive trace, arranged on the permeable layer opposite the support surface.

10. The user interface system of claim **9**, wherein the touch sensor is a capacitive sensor incorporating a portion of a conductive trace of the displacement device.

11. The user interface system of claim **1**, wherein the displacement device is a mechanical pump that increases fluid pressure in the permeable layer proximal to the retaining wall, and wherein the retaining wall resists deformation due to the increase in fluid pressure and directs the fluid through a portion of the fluid ports to expand the second region.

12. The user interface system of claim **1**, further comprising an attachment point that joins a portion of the back surface of the tactile layer to the permeable layer.

13. The user interface system of claim **12**, wherein the permeable layer defines a substantially uniform density of fluid ports adjacent to the first and second regions, and wherein the attachment point blocks fluid flow through at least one fluid port adjacent to the first region.

14. The user interface system of claim **12**, wherein the first and second regions of the tactile layer are adjacent and form a substantially continuous tactile surface, and wherein the attachment point defines a border between the first and second region.

15. The user interface system of claim **1**, wherein the permeable layer defines the fluid ports that are substantially small in diameter such that the fluid ports are tactilely imperceptible to the user touching the tactile surface.

16. The user interface system of claim **1**, wherein the outward deformation of the second region of the tactile layer forms a button, and wherein the touch sensor detects a user touch substantially proximal to the button.

17. The user interface system of claim **1**, wherein the touch sensor is a capacitive touch sensor.

18. The user interface system of claim **1**, wherein the retaining wall is physically coextensive with the touch sensor.

19. The user interface system of claim **1**, further comprising a digital display, coupled to the retaining wall, that visually outputs an image to the user, wherein the image is of an input key substantially aligned with the second region.

20. The user interface system of claim **19**, wherein the digital display is physically coextensive with the retaining wall.

21. The user interface system of claim **20**, wherein a portion of the touch sensor is arranged substantially within the permeable layer.

22. The user interface system of claim **19**, wherein the fluid, the permeable layer, and the tactile layer cooperatively communicate the image from the display to the user.

23. The user interface system of claim **1**, wherein the tactile layer further defines a third region operable in a retracted state and an expanded state, wherein the displacement device cooperates with the retaining wall to direct a portion of the fluid through the fluid ports to the back surface to transition the third region, independently of the second region, from the retracted state to the expanded state.

24. The user interface system of claim **1**, further comprising a pressure sensor that detects ambient air pressure proximal to the user interface system, wherein, in the retracted state, the displacement device directs a portion of the fluid to substantially match fluid pressure at the back surface of the second region to ambient air pressure.

25. The user interface system of claim **1**, wherein the permeable layer is of a substantially porous material comprising a series of interconnected cavities that form the fluid ports.

26. The user interface system of claim **1**, wherein the permeable layer defines a plurality of fluid ports that are