

example, the fluid itself may be conductive, the fluid may include suspensions or dispersions of particles with relevant electrical and optical properties, or the any other suitable type of fluid. For example, the fluid 112 may function as an electrical conductor or an electrical insulator that manipulates an electromagnetic field that passes through the fluid 112. In this variation, the fluid 112 may be directed within the sheet 102 to provide desired manipulations of an electromagnetic field, for example, to increase the sensitivity of the sensor system 140 at particular portions and/or to decrease the sensitivity of the sensor system at another portion. Alternatively, the processor 160 may be configured to recognize the affect that the fluid 112 may have on the electromagnetic fields of the sensor 140 and to adjust the method of detecting a user touch when effects from the fluid 112 are detected. However, any other suitable use and/or accommodation to the effects of the fluid 112 on the electromagnetic fields of the sensor system 140 may be used.

[0049] 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 user interface system, comprising:
 - a sheet that defines a surface and at least partially defines a fluid vessel arranged underneath the surface;
 - a volume of fluid within the fluid vessel;
 - a displacement device that influences the volume of the fluid within the fluid vessel to expand and contract at least a portion of the fluid vessel, thereby deforming a particular region of the surface; and
 - a sensor system configured to receive a user input on the surface with a first sensitivity and configured to receive a user input substantially proximal to the particular region of the surface at with second sensitivity higher than the first sensitivity.
2. The user interface system of claim 1, wherein the first sensitivity is of a first location sensitivity and the second sensitivity is of a second location sensitivity higher than the first location sensitivity.
3. The user interface system of claim 1, wherein the first sensitivity is of a first height sensitivity to the height of the surface at the particular region and the second sensitivity is of a second height sensitivity higher than the first height sensitivity of the surface at the particular region.
4. The user interface system of claim 1, further comprising a display coupled to the sheet that outputs images to the user.
5. The user interface system of claim 4, wherein the sensor system cooperates with the volume of fluid and the sheet to transmit an image through the sheet without substantial obstruction.
6. The user interface system of claim 1, wherein the sensor system includes a first sensor portion that receives a user input on the surface at the first sensitivity and a second sensor portion arranged substantially proximal to the particular region of the surface that receives a user input at the particular region of the surface at the second sensitivity.
7. The user interface system of claim 6, wherein the second sensor portion operates substantially independently from the first sensor portion.
8. The user interface system of claim 6, wherein the first sensor portion is configured to receive a user touch on the surface at the first sensitivity and the second sensor portion

cooperates with the first sensor portion to increase the sensitivity substantially proximal to the particular region of the surface to the second sensitivity.

9. The user interface system of claim 6, wherein the sensor system is a capacitive sensor system and the capacitive sensor system includes a plurality of conductors, and wherein the first sensor portion includes a conductor to receive a user input provided on the surface at the first sensitivity and wherein the second sensor portion includes a conductor located substantially proximal to the particular region of the surface to receive a user input provided at the particular region of the surface at the second sensitivity.

10. The user interface system of claim 9, wherein the displacement device influences the volume of fluid within the fluid vessel to deform a plurality of particular regions of the surface and wherein the second sensor portion includes a conductor located substantially proximal to each of the particular regions of the surface to receive a user input provided at each of the particular regions of the surface at the second sensitivity.

11. user interface system of claim 9, wherein the conductors of the first and second sensor portions emit a first and second electric field, respectively, and wherein fluctuations in the first and second electric fields are detected to receive a user input on the surface.

12. The user interface system of claim 11, wherein the first and second electric fields are configured to fluctuate with the presence of a finger of the user substantially within the electric field.

13. The user interface system of claim 11, wherein the second sensor portion includes a first conductor and a second conductor that are both arranged substantially proximal to the particular region of the surface, and wherein the second electric field is configured to fluctuate with a change in distance between the first conductor and the second conductor as an input is provided substantially proximal to the particular region of the surface.

14. The user interface system of claim 13, wherein the first and second conductors of the second sensor portion are arranged within the fluid vessel substantially proximal to the particular region of the surface.

15. The user interface system of claim 11, wherein the second sensor portion includes a density of conductors that produces a higher number of detectable electric field fluctuations than the first sensor portion.

16. The user interface system of claim 15, further comprising a processor that distinguishes between electric field fluctuations in the second sensor portion and determines the location of the user input relative to the particular region based on the detected fluctuations.

17. The user interface system of claim 11, further comprising a processor, and wherein the fluctuation in the first electric field is substantially distinguishable from a fluctuation in the second electric field, and wherein the processor is configured to determine the location of the user input based on the fluctuation of the first electric field relative to the fluctuation in the second electric field.

18. The user interface system of claim 17, wherein the first electric field is of a first frequency and the second electric field is of a second frequency.

19. The user interface system of claim 1, further comprising a processor that detects the user touch and interprets the user touch.