

21. The apparatus of claim 14, wherein the detection circuitry is part of a touch sensitive display, the at least one electrode being an insulated electrode layer provided on an exposed surface of the touch sensitive display.

22. The apparatus of claim 14, comprising an electrode layer having a plurality touch sensitive areas separated from one another by a grid, the grid having a conductivity lower than a conductivity of the plurality of touch sensitive areas.

23. The apparatus of claim 22, wherein the capacitive coupling between the body member and the grid is different than the capacitive coupling between the plurality of touch sensitive areas and the body member.

24. The apparatus of claim 14, wherein a touch input section including the touch surface and the detection circuitry is galvanically isolated from the at least one electrode.

25. The apparatus of claim 24, wherein the at least one electrode forms part of a tactile output section, the tactile output section supplying power to the touch input section.

26. The apparatus of claim 14, wherein the at least one electrode is an electrode layer comprising a plurality of electrically floating sections.

27. The apparatus of claim 14, wherein the position corresponds to one of a plurality of touch sensitive areas and a function is assigned to the touch sensitive area to provide an input to an application program.

28. The apparatus of claim 27, wherein the controller is configured to provide different electrosensory stimulation in different touch sensitive areas.

29. The apparatus of claim 27, wherein the functions are programmable.

30. The apparatus of claim 29, wherein more than one function is assignable to a single touch sensitive area.

31. The apparatus of claim 30, wherein detecting a first touch by the body member corresponds to a first function and detecting a second touch within a time window corresponds to a second function.

32. The apparatus of claim 14, wherein a plurality of key legends are displayed by the apparatus, each a key legend being at an associated position and the controller providing different electrosensory stimulation corresponding to different key legends to provide feedback based a selection of a key legend.

33. The apparatus of claim 14, wherein the power source is configured to provide the power with a first frequency component in a frequency range between 1 Hz and 1000 Hz.

34. The apparatus of claim 33, wherein the power source is configured to provide the power with a second frequency component having a frequency that is higher than the frequency of the first frequency component and lower than 500 kHz.

35. The apparatus of claim 34, further comprising a modulator to modulate the second frequency component based on the first frequency component.

36. The apparatus of claim 14, wherein the power source is configured to provide the power with a peak-to-peak voltage of 500 to 100,000 Volts.

37. The apparatus of claim 14, wherein the insulation layer has a thickness between 0.1 mm and 50 mm.

38. The apparatus of claim 14, further comprising:

a grounding electrode separate from the at least one electrode, the grounding electrode being positioned to be touched by a different body member distinct from the body member to be stimulated.

39. The apparatus of claim 14, wherein a grounding connection is provided between a reference voltage of the power source and the grounding electrode.

40. The apparatus of claim 14, wherein the controller varies the power applied to the at least one electrode to induce the electrosensory sensation at the position without movement of the body member.

41. The apparatus of claim 14, wherein the electrosensory stimulation is produced independent of any mechanical vibration of the apparatus.

42. The apparatus of claim 14, comprising:

a processor; and
memory to store instructions which, when executed by the processor, cause the controller to vary the power applied to the at least one electrode based on the detecting the presence or absence of the body member at the position.

43. The apparatus of claim 42, wherein the instructions cause the processor to assign a function associated with the position.

44. The apparatus of claim 14, further comprising a display layer to display information proximate the position, the information corresponding to at least one function selectable by a user.

45. The apparatus of claim 14, wherein varying the power applied to electrode includes modulating a frequency of the power.

46. A method of providing a tactile output on a touch sensitive display, the method comprising:

detecting a presence or absence of a body member on a touch surface of the touch sensitive display at a position on the touch surface;

providing power to at least one electrode to form a capacitive coupling between the at least one electrode and the body member, the capacitive coupling being provided at least in part by an insulation layer, the power being to provide an electrosensory stimulation to the body member, the insulation layer to inhibit a flow of direct current between the at least one electrode and the body member; and

varying the power applied to the at least one electrode based on the detecting of the presence or the absence of the body member at the position so as to vary the electrosensory stimulation.

47. The method of claim 46, comprising:

detecting the presence or absence of a body member in a plurality of touch sensitive areas each having an associated position; and
individually varying the electrosensory stimulation in each touch sensitive area.

48. The method of claim 47, comprising assigning one or more functions to each touch sensitive area.

49. A non-transitory computer readable medium embodying instructions which, when executed by the machine cause the machine to perform the operations of:

detecting the presence or absence of a body member on a touch surface of a touch sensitive display at a position on the touch surface;

providing power to at least one electrode to form a capacitive coupling between the at least one electrode and the body member, the capacitive coupling being provided at least in part by an insulation layer, the power being to provide an electrosensory stimulation in the body member, the insulation layer to inhibit a flow of direct current between the electrode and the body member; and

varying the power applied to the at least one electrode based on the detecting of the presence or the absence of the body member at the position so as to vary the electrosensory stimulation.