

a flexible touch surface layer disposed over the haptic mechanism layer and configured to change its surface shape in accordance with the surface pattern of haptic mechanism layer.

26. The device of claim **25**, further comprising a vacuum generator coupled to the flexible touch surface layer and configured to deform the flexible touch surface layer to conform with the surface pattern of the haptic mechanism layer.

27. The device of claim **26**, wherein the haptic mechanism layer includes multiple tactile regions, wherein each tactile region is capable of being independently activated.

28. An apparatus for providing a haptic texture surface, comprising:

- means for receiving a first substrate activating signal;
- means for generating a first pattern of a haptic substrate via haptic feedback in response to the first substrate activating signal;

means for activating a deforming generator to generate deforming force capable of changing shape of a flexible surface layer; and

means for reconfiguring surface texture of the flexible surface layer to change the surface texture from a first surface characterization to a second surface characterization in accordance with the first pattern.

29. The apparatus of claim **28**, further comprising means for forcing the flexible surface layer against the first pattern to confirm the flexible surface layer having substantially similar topography as the first pattern.

30. The apparatus of claim **28**, further comprising:
means for sensing a contact on the flexible surface;
means for generating an input signal in response to the contact; and

means for sending the input signal to a processing unit.

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