example, a series of buttons and nibs. At Time B, the shape changes to form a rectangular input device **1520**. At Time C, the shape changes again to form a specific weapon (i.e., a sword).

[0060] FIG. **16** is a perspective view of a computer mouse in accordance with one embodiment of the present invention. The shape of the mouse changes over time to provide ergonomic variations to the user. As shown, in the time duration between the mouse at **1610** and **1620**, the base of the mouse has expanded to raise its height relative to the surface. Further, in the time duration between the mouse at **1630** and **1640**, the shape of the sides of the mouse have changed to vary the grasping surface of the mouse.

[0061] Several embodiments are specifically illustrated and/or described herein. However, it will be appreciated that modifications and variations of the disclosed embodiments are covered by the above teachings and within the purview of the appended claims without departing from the spirit and intended scope of the invention.

What is claimed is:

1. A haptic device comprising:
- a processor;
- a communication module coupled to the processor for receiving a shape input; and
- a housing for housing the communication module and comprising a deformable portion;
- wherein the deformable portion comprises a deformation actuator, and the processor provides a signal to the deformation actuator in response to the shape input to deform the housing.

2. The device of claim **1**, wherein the shape input is received wirelessly.

3. The device of claim **1**, wherein the deformation actuator comprises an electroactive polymer.

4. The device of claim **1**, wherein the deformation actuator comprises a motor coupled to a deforming mechanism.

5. The device of claim **1**, wherein the deformation actuator comprises a piezoelectric material.

6. The device of claim **1**, further comprising a force actuator coupled to the processor.

7. The device of claim **1**, wherein the signal causes the deformation actuator to change a shape of the housing.

8. The device of claim **1**, wherein the deformation actuator generates haptic effects having frequency components causing a perception of deformation.

9. The device of claim **6**, wherein the force actuator generates haptic effects having frequency components causing a perception of directional or vibrational forces.

10. The device of claim **7**, wherein the change of shape simulates a handshake.

11. The device of claim **7**, wherein the change of shape changes an ergonomics of the device.

12. The device of claim **7**, wherein the change of shape causes the device to physically resemble a tool in a video game.

13. The device of claim **7**, wherein the change of shape causes the device to provide a specific shape on the housing, wherein the shape comprises at least one of a weapon, an input button, or a series of buttons.

14. The device of claim **1**, further comprising a display, wherein the deformation actuator further deforms the display in response to the shape input.

15. The device of claim **1**, further comprising a keyboard, wherein the deformation actuator further deforms the keyboard in response to the shape input.

16. The device of claim **1**, wherein the deformed housing forms a scrollbar in the housing for scrolling a list of options shown on a display of the haptic device.

17. A method of operating a wireless handheld device having a housing, the method comprising:
- receiving wirelessly a shape changing input;
- generating a signal to a deformation actuator in response to the shape changing input; and
- changing the shape of the housing via the deformation actuator in conformance with the shape changing input.

18. The method of claim **17**, wherein the deformation actuator comprises an electroactive polymer.

19. The method of claim **17**, wherein the deformation actuator comprises a motor coupled to a deforming mechanism.

20. The method of claim **17**, wherein the deformation actuator comprises a piezoelectric material.

21. The method of claim **17**, further comprising:
- receiving wirelessly a force generating input;
- generating a second signal to a force actuator in response to the force generating input.

22. The method of claim **17**, wherein the signal causes the deformation actuator to change a shape of the housing.

23. The method of claim **17**, wherein the deformation actuator generates haptic effects having frequency components causing a perception of deformation.

24. The method of claim **21**, wherein the force actuator generates haptic effects having frequency components causing a perception of directional or vibrational forces.

25. A handheld device having a first shape and in communication with a second device, the handheld device comprising:
- a controller;
- a force actuator coupled to the controller;
- a deformation actuator coupled to the controller;
- wherein the controller is adapted to receive a signal from the second device, and in response control the force actuator to cause a perception of force on the handheld device, or control the deformation actuator to change the first shape to a second shape.

26. The handheld device of claim **25**, wherein the handheld device is a video game controller and the signal is generated by a video game.

27. The handheld device of claim **25**, wherein the handheld device and the second device are portable communication devices.

28. The handheld device of claim **25**, wherein the change of the first shape to the second shape simulates a handshake or a heartbeat.

29. The handheld device of claim **25**, wherein the change of the first shape to the second shape changes an ergonomics of the handheld device.

30. The handheld device of claim **25**, wherein the change of the first shape to the second shape causes the device to physically resemble a tool in a video game.

31. The handheld device of claim **25**, wherein the second shape comprises at least one of a weapon, an input button, or a series of buttons.

* * * * *