

**34.** A haptic feedback touch control as recited in claim 33 wherein said actuator is a linear actuator that moves said inertial mass bi-directionally along a linear axis that is substantially perpendicular to said planar touch surface.

**35.** A haptic feedback touch control as recited in claim 33 wherein said touch input device is a touchpad separate from a display screen of said computer.

**36.** A haptic feedback touch control as recited in claim 33 wherein said touch input device is included in a display device of said computer to provide a touch screen.

**37.** A method for providing haptic feedback to a touch input device that provides input to a computer device, said computer device implementing a graphical environment, the method comprising:

providing said touch input device that is contacted by a user, said touch input device including at least one sensor for determining a location of said contact on a planar surface of said touch input device by said user and providing said computer device with a position signal indicating said location, wherein said computer device positions a cursor in said graphical environment based at least in part on said position signal; and

providing an actuator coupled to said touch input device, said actuator receiving control signals derived from force information output by said computer device, wherein said force information causes said actuator to output a force on said touch input device, said force being correlated with an interaction occurring in said graphical environment between said cursor and a different graphical object.

**38.** A method as recited in claim 37 wherein said force output on said touch input device is a linear force approximately perpendicular to said surface of said touch input device.

**39.** A method as recited in claim 37 wherein a touch device microprocessor, separate from a host processor of said computer device, receives said force information from said host processor and causes said control signals to be sent to said actuator.

**40.** A method as recited in claim 37 wherein said interaction occurring in said graphical environment includes a collision between said cursor and said different graphical object.

**41.** A method as recited in claim 37 wherein said interaction occurring in said graphical environment includes a selection of said different graphical object by said cursor, wherein said different graphical object is one of an icon, a window, and a menu item.

**42.** A method as recited in claim 37 wherein said touch input device is moveable along an axis approximately perpendicular to said planar surface of said touch input device, wherein said movement along said axis is sensed and information representative of said movement is sent to said computer device.

**43.** A method as recited in claim 37 wherein said computer device is portable, said touch input device is integrated in a housing of said computer device, and said actuator is a piezoelectric actuator.

\* \* \* \* \*