

fied at a given cursor location in the display graphic wherein the electronic device is portable and pocket sized and for handheld usage such as a mobile cellular telephone or a gaming device. The screen carried by the portable electronic device may be a touch sensitive screen and the first element touch sensitive surface may be at least a portion of the touch sensitive screen.

[0012] In a second aspect of the invention, a user input device is presented and includes a touch sensitive surface arranged to provide a pre-defined desired number of touch sensitive surface areas wherein each of the touch sensitive areas are associated with a corresponding pre-defined functionality. Appropriate control circuitry is responsive to touching contact with the touch sensitive surface for controlling the movement of a cursor in a display graphic such as a graphical user interface (GUI) shown on a screen carried by the electronic device. In a first pre-defined functionality a touching contact with a first pre-defined surface area causes the cursor to move in a corresponding first direction. In a second pre-defined functionality a touching contact with a second pre-defined surface area causes the cursor to move in a corresponding second direction, and in a third pre-defined functionality a touching contact with a third pre-defined surface area causes the cursor to stop movement. The first, second and third pre-defined surface areas are further arranged such that the first pre-defined surface area is juxtaposed and substantially continuous with the third pre-defined surface area and the third pre-defined surface area is juxtaposed and substantially continuous with the second pre-defined surface area. The touch sensitive surface may be resistive, capacitive or inductive touch sensitive surfaces and may be used with portable electronic devices, particularly pocket sized and for handheld use for example gaming devices and mobile cellular telephones.

[0013] In a third aspect of the invention, a method is presented and includes the steps of controlling the movement of a cursor in a display graphic using a user input device comprising a touch sensitive surface arranged to provide a number of adjacent touch sensitive surface areas, each of the touch sensitive surface areas being associated with a corresponding cursor movement direction and functionality; touching a touch sensitive surface area; responding to the touching of touch sensitive surface areas, and, moving the cursor in the direction associated with the touch sensitive area being touched. The step of touching may further comprise sliding touching contact in a direction for moving the cursor in a direction corresponding to the direction of the sliding touching contact. The step of moving the cursor may further comprise moving the cursor at an increasing or decreasing speed corresponding to the speed and direction of the sliding touching contact on the corresponding touch sensitive surface area.

[0014] In a fourth aspect of the invention, a touch sensitive element for moving a cursor in a graphical user interface (GUI) is presented. A touch sensitive surface is arranged to provide a desired number of adjacent touch sensitive surface areas wherein each of the areas is associated with a corresponding pre-defined cursor movement direction and functionality. Each of the areas are responsive to a touching contact to control the movement of the cursor in accordance with the pre-defined direction and functionality associated with the respective touch sensitive surface areas. The touching contact is a sliding touching contact for moving the

cursor in a direction corresponding to the direction of the sliding touching contact and the cursor may move at an increasing or decreasing speed corresponding to the speed and direction of the sliding touching contact on the touch sensitive surface area. The touching contact may also be a tapping touching contact.

[0015] In a fifth aspect of the invention, a computer program is presented. The computer program is carried on a storage medium and executable by a processor in an electronic device for controlling the movement of a cursor in a display graphic shown on a screen carried by the electronic device. The electronic device has a user input device comprising a first element having a touch sensitive surface arranged to provide a pre-defined desired number of touch sensitive surface areas wherein each of the touch sensitive areas is associated with a corresponding cursor movement direction and functionality wherein touching contact in a first pre-defined surface area causes the cursor to move in a corresponding first direction, touching contact in a second pre-defined surface area causes the cursor to move in a corresponding second direction, and touching contact in a third pre-defined surface area causes the cursor to stop movement.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Additional features, objects and advantages of the present invention will become readily apparent from the following written description taken in conjunction with the drawings wherein:

[0017] FIG. 1 is a schematic plan view of the touch sensitive user input device embodying the present invention;

[0018] FIG. 2 is a schematic perspective view of a portable electronic device with a touch sensitive user input device embodying the present invention;

[0019] FIG. 3 is a schematic diagram showing a corresponding cursor movement representative of an increasing speed in response to a user sliding touching contact with a pre-defined surface of the touch sensitive user input device;

[0020] FIG. 4 is a schematic diagram showing a corresponding cursor movement representative of a decreasing speed in response to a user sliding touching contact with a pre-defined surface of the touch sensitive user input device;

[0021] FIG. 5 is a schematic diagram showing a corresponding cursor movement change of direction in response to a user sliding touching contact through a pre-defined stop zone in the surface of the touch sensitive user input device;

[0022] FIG. 6 is a schematic plan view of the touch sensitive user input device in an alternate embodiment showing the user input device as part of a touch sensitive display screen in a portable electronic device;

[0023] FIG. 7 is a schematic functional block diagram of a portable electronic device embodying the touch sensitive user input device of the present invention.

WRITTEN DESCRIPTION OF PREFERRED EMBODIMENTS

[0024] Turning now to the drawings and considering the invention in further detail, a first embodiment of a touch sensitive element arranged as a touch sensitive user input