

[0055] Some of the foregoing embodiments also include at least one control operable to horizontally move content displayed and at least one control operable to vertically move content displayed, where the vertical and horizontal controls operate substantially independent of one another. In some these embodiments, at least one of the at least one the vertical controls is located at a right or left edge of the enclosure, and at least one horizontal control is located at a bottom edge of the enclosure. Depending on the application these controls may be touch sensors and/or mechanical controls. The touch sensors typically detect patterns of touch such as, but not limited to, sliding or tapping touch along at least a portion of the touch sensor. Embodiments may be configured such that engagement of the horizontal or vertical controls move the content displayed in the display, respectively, horizontally or vertically. In other embodiments, engagement of at least a portion of the horizontal or vertical controls, such as tapping or sliding on a touch sensor, controls a function of the portable electronic display device. In embodiments having a touch screen display, a function of the portable electronic display device may be similarly controlled. Typical functions controlled include scrolling and selecting displayed content.

[0056] Yet other embodiments of the present invention may include a touch-pad located on a back-side of the enclosure or on a pivoting joint joined to the enclosure. A cover may be joined to any of the foregoing embodiments, whereby the touch-pad, in some embodiments, is located, instead, upon an exposed side of the pivoting joint. The touch-pad may respond to touch patterns similar to the touch screen or touch sensors, in some applications.

[0057] The foregoing embodiments may also include a user engageable context modifier switch, which makes the display device responds differently to the first patterns of touch when a context modifier switch is engaged by the user. In some embodiments, a context modifier switch could be implemented as modifier spot in at least one portion of a touch sensor. Any practical number of modifier spots or context switches may be implemented, depending on the needs of the application. Other embodiments of the present invention exist that instead of including a display, use the prescribed touch sensor configuration aspects in a hand-held remote control, where any detected patterns of touch are communicated as control commands to a remote controlling means.

[0058] A method of implementing a mobile information service is also provided. One embodiment of the method includes the steps of providing to a customer the wireless enabled, hand-held electronic display device, where the service provider establishes wireless communications between the wireless hand-held device and an information server, which established wireless communications can communicate information from the information server to the wireless hand-held device. The service provider charges the customer an access fee for this service. Some other embodiments further include the steps of running a web browser on the wireless hand-held device for interacting with the information, and controlling a web browser function by engaging the at least one touch sensor. Additional steps, in alternative embodiments, include the step of charging to the customer an initial sign-up fee and/or a fee for the wireless hand-held device, and may also include the step of configuring the wireless hand-held device to automatically download the

information from the information server, the information being available for later viewing by the customer.

[0059] A method for controlling displayed information on a portable electronic display device is also provided according to the principles of the present invention. An embodiment of the method includes the steps of configuring a touch sensor located at an edge of the portable electronic display device to detect a first pattern of touch, and detecting a pattern of touch and responding by either controlling a function of the portable electronic display device or by changing the content displayed in the display.

[0060] Alternative embodiments of the method further include the steps of detecting another pattern of touch on at least one portion of the touch sensor, and responding to the detection of the pattern of touch by controlling another function of the portable electronic display device or by changing the content displayed in the display. Typical functions include, for example, a web browser function.

[0061] Other features, advantages, and object of the present invention will become more apparent and be more readily understood from the following detailed description, which should be read in conjunction with the accompanying drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0062] The present invention is best understood by reference to the detailed figures and description set forth herein. Embodiments of the invention are discussed below with reference to the Figures. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes as the invention extends beyond these limited embodiments.

[0063] The embodiments of the present invention incorporate novel, carefully balanced combinations of pixel count ranges, pixel density ranges, and overall device size, as well as man-machine-interface innovations, so as to optimize the Web experience on pocket-size devices while keeping the devices relatively affordable.

[0064] Some “counter-common-wisdom” aspects of the present invention’s display-related innovations are addressed first. The carefully balanced combinations of pixel count, pixel density, and device size introduced by the present invention allow users to see much more of a typical Web page in one glance than is possible on most of today’s conventional handheld devices—while still keeping the device pocket-size (i.e. as small as today’s typical PDAs), still displaying Web page content crisply and at a large enough scale that even small text is legible (e.g. about as legible as it would be when rendered on a desktop computer monitor), and using relatively affordable display components. By contrast, all known conventional hand-held devices either display too little of a typical Web page (inducing a constrained “looking through a straw” experience), or they render Web content at a scale that makes text on many Web pages too small to comfortably read when displayed at the display’s native resolution, or the device is too large to be considered pocket-size.

[0065] A generally accepted target window size for many Web content developers is 800×600 pixels, although Web