

MECHANISM FOR ELECTRONIC DISPLAY DEVICES

RELATED APPLICATION INFORMATION

[0001] This application is a divisional application of U.S. patent application Ser. No. 11/112,183, filed Apr. 22, 2005, entitled "COMPUTING DEVICE FOR DISPLAYING CONTENT IN PAGES OR IN SEQUENCE," which is a continuation of U.S. patent application Ser. No. 09/854,316, filed May 11, 2001, now U.S. Pat. No. 6,943,773, entitled "PAGE FLICKING MECHANISM FOR ELECTRONIC DISPLAY DEVICES THAT PAGINATE CONTENT," all of the aforementioned priority applications being hereby incorporated by reference in their entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to displays for computer devices. In particular, the present invention pertains to a page flicking mechanism for a display of a computer device.

BACKGROUND OF THE INVENTION

[0003] Flexible display technology is an advancing area in the field of computing devices. Many applications are being planned and designed to incorporate flexible display technology. Currently, products described as "electronic paper" or "e-paper" are being integrated with computing tablets, handheld computers and other computing devices. Consumer applications for flexible display technology includes electronic books and magazines.

[0004] Electronic book applications are currently popular for computing devices such as handheld computers and laptops. In general, electronic books are documents formatted to be paginated on the display of the computing device. A user can scroll the display to view different portions of the same page. The user can also select to view other pages. To make selections for other pages, the user typically has to select a user-interactive feature, such as an icon on the display, or a mechanical button. The page that appears after the user's selection coincides with a page stored as the next or adjacent page to the existing page appearing on the display. If the user wishes to scroll through many pages, the user is required to make repeated entries into the user-interactive feature, or perhaps make one sustained entry.

SUMMARY OF THE INVENTION

[0005] A computing device is provided that is capable of displaying paginated content on a display. A deflective input mechanism is incorporated with the computing device. A user can deflect the input mechanism to signal a page flick. A processor of the computing device configures the pagination appearing on the display in response to the deflection of the input mechanism.

[0006] The processor may cause the display to present several pages of the content in succession as the response to the deflection of the input mechanism. The pages appearing on the display may also skip with reference to a predetermined order of each page in the paginated content.

[0007] The deflective input mechanism may be integrated or otherwise include the display of the computing device. In one embodiment, the display is formed of flexible "electronic paper", to enable bending or flexing by the user. A sensor of the input mechanism may measure a deflection of the display in order to signal the processor a deflection value. To accom-

modate the display, other components of the computing device, such as the PCB, the digitizer and the housing, may also be deflectable.

[0008] Another embodiment may include a deflective sensor device that is coupleable to one of the flexible components of the computing device. The sensor device may be integrated with a deflective housing or PCB to measure the deflection caused by the user.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Embodiments of the invention are illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings. Like reference numerals are intended to refer to similar elements among different figures.

[0010] FIG. 1 is a top view of a computing device including a flexible display that can be deflected to enable flicking by a user, under an embodiment of the invention.

[0011] FIG. 2 is a top view of a computing device including a flexible housing portion to enable flicking by a user, under another embodiment of the invention.

[0012] FIG. 3 is a top view of a computing device assembly including a flexible attachment to enabling flicking by a user, under another embodiment of the invention.

[0013] FIG. 4 is a block diagram illustrating components for use with an embodiment of the invention.

[0014] FIG. 5 is a top view of a computing device illustrating a configuration for a sensor device, under an embodiment of the invention.

[0015] FIG. 6 is a top view of a computing device illustrating another configuration for a sensor device, under an embodiment of the invention.

[0016] FIG. 7 is a side cross-sectional view of the computing device in FIG. 6, cut along lines U-U, under an embodiment of the invention.

[0017] FIG. 8 is an illustrative cross-sectional view of the sensor device of FIG. 6, cut along lines W-W, with the sensor device being in an un-deflected position, under an embodiment of the invention.

[0018] FIG. 9 illustrates the sensor device of FIG. 8 in a deflected position, under an embodiment of the invention.

[0019] FIG. 10A-10C are illustrative diagrams of a display including discrete elements affected by a flicking of a user, under an embodiment of the invention.

[0020] FIG. 10A shows a display prior to receiving a page flicking input from a user.

[0021] FIG. 10B shows the display in flux, showing a flicked page on at least a portion of the display.

[0022] FIG. 10C illustrates the display after the page flick is completed.

DETAILED DESCRIPTION OF THE INVENTION

[0023] Embodiments of the invention describe a page flicking mechanism for a computing device that displays paginated content. In the following description, for the purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, that the present invention may be practiced without these specific details. In other instances,