# DISPLAYING APPARATUS AND CONTROL METHOD

## BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a displaying apparatus and a control method for a displaying apparatus. More particularly, the present invention relates to a displaying apparatus and a control method for a displaying apparatus, which can provide a user with a feeling as if the user is turning pages of a book.

2. Description of the Related Art

When reading a book by acquiring electronic data, a user operates the displaying apparatus to display the acquired electronic data. The conventional displaying apparatus updates display data, such as a page of the electronic book, by scrolling the screen or switching the display.

A person generally reads a book made by the medium of paper. Thus, it is required to give the feeling of turning pages to the user of the displaying apparatus when the displaying apparatus updates the display data

## SUMMARY OF THE INVENTION

Therefore, it is one of the objects of the present invention to provide a displaying apparatus and a control method for the displaying apparatus, which are capable of overcoming the above drawbacks accompanying the conventional art. The above and other objects can be achieved by combinations described in the independent claims. The dependent claims define further advantageous and exemplary combinations of the present invention.

According to the first aspect of the present invention, a displaying apparatus includes a frame, a display panel, which is provided on a surface of said frame, a bend member, which is provided at an edge of the surface and bended by an external force, a deformation volume detector for detecting deformation volume at said bend member, and a display controller for controlling display of said display panel.

In the first aspect of the present invention, said display controller may control an updating speed of the display data displayed in said panel display. In this case, said bend member is operable to bended at least in two directions, and said deformation volume detector may further detect a bend direction of said bend member, and said display controller may further acquire a plurality of display data, of which display order is predetermined respectively, and set whether each of the display data is updated either in the display order or in an inverse order of the display order, based on the bend direction detected by said deformation volume detector. The display order may be a numerical order with respect to the display data. The displaying apparatus may further comprise a plurality of bent members, and said display controller may further acquire a plurality of display data, of which display order is predetermined respectively, and set whether each of the display data is updated either in the display order or in an inverse order of the display order, based on which said deformation volume detectors are bended. Moreover, said display controller may acquire a plurality of display data of which display order is predetermined respectively, make a decision which parts of said bend member is bended, and select display data to be displayed firstly in said display panel, from the plurality of display data of which display order is predetermined, based on a result of the decision.

According to the second aspect of the present invention, a displaying apparatus comprises, a frame, a display panel, which is provided on a surface of said frame, a plurality of bend members, each of which is sheet-like, and which is stacked each other at an edge of the surface so that each of which is operable to be bended, and a display controller for setting display data to be displayed in said display panel from plurality of the display data, based on which said deformation volume detectors are bended.



According to the third aspect of the present invention, a displaying apparatus comprises, a display panel, a contact portion, including a planer with which an user has a contact; and a display controller for setting an update speed of display data that is displayed in said panel display based on a contact position of the user in said contact portion, and updating the display data based on the updating speed that has been set.

According to the forth aspect of the present invention, a displaying apparatus comprises a display panel and a display position controller for setting a display position of one of the display data in said display panel, based on a location in a display order of the one display data, selected from the plurality of data, of which display order is predetermined.

According to the fifth aspect of the present invention, a control method for a display apparatus, comprises steps of detecting a deformation volume of a bend member, which is provided at a vicinity of an outer edge of said display apparatus, and is bended by an external force; and controlling display of said displaying apparatus based on the deformation volume that is detected.

The summary of the invention does not necessarily describe all necessary features of the present invention. The present invention may also be a sub-combination of the features described above. The above and other features and advantages of the present invention will become more apparent from the following description of the embodiments taken in conjunction with the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a front view of a displaying apparatus **100** according to an embodiment of the present invention.

FIG. **2** is an A-A section view of the bend member **120***a* corresponding to the bend member **120***a* in FIG. **1**.

FIG. **3** is a functional configuration showing the displaying apparatus **100**.

FIG. **4** is a flowchart showing an operation of a display controller **140**.

FIG. **5** is a sectional view showing a configuration of a bend member **150***a* as a modification of the bend member **120***a*.

FIG. **6** is a flowchart showing the operation of the display controller **140** according to the present modification.

FIG. **7** is a front view showing a first modification of the displaying apparatus **100**.

FIG. **8** is a flowchart showing another operation of the display controller **140**.

FIG. **9** is a front view showing a second modification of the displaying apparatus **100**.

## DETAILED DESCRIPTION OF THE INVENTION

The invention will now be described based on the preferred embodiments, which do not intend to limit the scope of the present invention, but exemplify the invention. All of the features and the combinations thereof described in the embodiment are not necessarily essential to the invention.

FIG. **1** is a front view of a displaying apparatus **100** according to an embodiment of the present invention. The displaying apparatus **100** displays a plurality of display data sequentially by updating its display. On a surface of the frame **100***a*, the