

CLAIMS

【Claim 1】 A foldable display device comprising:

a display unit for outputting an input signal by sensing a user's touch and including first and second display areas split spatially or visually by folding;

a folding sensor unit for sensing full folding, full unfolding and intermediate folding of the display unit and outputting a state signal related to a folding level of the display unit, the intermediate folding being a process of connecting the full unfolding with the full folding; and

a controller for displaying digital contents on the display unit, controlling a screen displayed on the display unit by receiving the input signal, and monitoring a state of the display unit by receiving the state signal from the folding sensor unit,

wherein the controller controls the entire of the screen displayed on the display unit by means of the input signal when the digital contents are displayed on the display unit in the state of full unfolding (hereinafter, 'first mode'), and controls the screen of the display area where the user's touch is sensed from the first and second display areas when the state of full unfolding has been switched to the state of intermediate folding (hereinafter, 'second mode').

【Claim 2】 The foldable display device according to claim 1, wherein the controller maintains a screen of the display area where the user's touch is not sensed from the first and second display areas.

【Claim 3】 The foldable display device according to claim 1, wherein the controller displays a size ratio of text and image displayed on the first and second display areas in the second mode equally to a size ratio of text and image in the first mode.

【Claim 4】 The foldable display device according to claim 1, wherein the controller controls the screen of the second display area to correspond to only the input signal received through the second display area among the input signals in the second mode.

【Claim 5】 The foldable display device according to claim 4, wherein the controller displays a graphic effect, which indicates that the screen of the first display area is not controlled, on the first display area with respect to the input signal received through the first display area in the second mode.

【Claim 6】 The foldable display device according to claim 4, wherein the second display area is a display area of which size is relatively greater than that of the first display area.

【Claim 7】 The foldable display device according to claim 4, wherein a position of the first display area and a position of the second display area are set previously.

【Claim 8】 The foldable display device according to claim 1, wherein the controller executes the second mode when the state of full unfolding has been switched to the state of intermediate folding and the state of intermediate folding has been maintained for a predetermined time.

【Claim 9】 The foldable display device according to claim 8, wherein the controller displays a graphic effect, which indicates that the second mode has been executed, on the display unit.

【Claim 10】 The foldable display device according to claim 1, wherein the controller does not display the same portion of the contents on the first and second display areas even though an input for moving the screen of the display area is received in the second mode.

【Claim 11】 The foldable display device according to claim 1, wherein the contents are a plurality of sequential images, and the controller displays at least two or more sequential images among the plurality of images in the first mode and displays at least one or more images on each of the first and second display areas in the second mode.

【Claim 12】 The foldable display device according to claim 1, wherein the controller executes the first mode when the state of intermediate folding has been switched to the state of full unfolding after executing the second mode.

【Claim 13】 The foldable display device according to claim 12, wherein the controller displays the contents on the display unit on the basis of the screen displayed on the first display area in case of the second mode.

【Claim 14】 The foldable display device according to claim 12, wherein the controller displays the contents on the display unit on the basis of the screen displayed on the second display area in case of the second mode.

【Claim 15】 The foldable display device according to claim 11, wherein the controller ends only the content of the display area where the user's touch is sensed from the first and second display areas and maintains the screen of the content displayed on the other display area when the user's input is an input for ending the contents in the second mode.

【Claim 16】 A method for controlling a foldable display device, which comprises a display unit for outputting an input signal by sensing a user's touch and including first and second display areas split spatially or visually by folding and a folding sensor unit for sensing full folding, full unfolding and intermediate folding of the display unit and outputting a state signal related to a folding level of the display unit, the intermediate folding being a process of connecting the full unfolding with the full folding, the method comprising the steps of:

(a) displaying digital contents on the display unit in a state of the full unfolding, and executing a first mode for controlling the entire of a screen displayed on the display unit by means of the input signal;

(b) monitoring the state of the display unit by receiving the state signal from the folding sensor unit; and

(c) executing a second mode for controlling the screen of the display area where the user's touch is sensed from the first and second display areas when the state of full unfolding has been switched to the state of intermediate folding.

【Claim 17】 The method according to claim 16, wherein the step (c) includes maintaining a screen of the display area where the user's touch is not sensed from the first and second display areas.

【Claim 18】 The method according to claim 16, wherein the step (c) includes displaying a size ratio of text and image displayed on the first and second display areas equally to a size ratio of text and image in the first mode.

【Claim 19】 The method according to claim 16, wherein the step (c) includes executing the second mode when the state of full unfolding has been switched to the state of intermediate folding and the state of intermediate folding has been maintained for a predetermined time.

【Claim 20】 The method according to claim 16, further comprising the step (d) of executing the first mode when the state of intermediate folding has been switched to the state of full unfolding.