KEYBOARD FORMED FROM TOUCH DISPLAY PANEL, METHOD OF IMPARTING A KEYBOARD INPUT FUNCTION TO A TOUCH DISPLAY DEVICE, AND DEVICE HAVING A KEYBOARD OR HAND-WRITING INPUT FUNCTION AND AN IMAGE OUTPUT FUNCTION

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a keyboard device, and particularly to a keyboard formed from a touch display panel, a method of imparting a keyboard input function to a touch display device, and a device having a keyboard or hand-writing input function and an image output function.

[0003] 2. Description of the Prior Art

[0004] Conventionally, information storage or retrieve or communication with a computer is performed by means of an external keyboard or mouse. The function of input of a keyboard has been defined when the keyboard is produced, and users can not define them by themselves except only a few functional keys. Accordingly, it can not satisfy most people nowadays. There are a lot of innovative external models and ergonomic improvements for keyboards, but few variations with respect to the design of the keyboard structure per se. Furthermore, each key of the existing commercial keyboard is unalterably defined to a certain function with a constant symbol printed thereon. For example, marks "F1", "F2", "F3", etc. are always printed on the functional keys F1, F2, F3, etc. Even users assign them for other functions respectively, the marks are still "F1", "F2", "F3", etc., and users must deliberately remember the function of each key, for purpose of handiness.

[0005] With respect to conventional touch display devices, only a few simple icons may be provided on the display for users to press for input. Often, no additional picture or image is provided to be displayed simultaneously with these icons on the display. Therefore, the functions of the conventional touch display devices are limited.

[0006] Therefore, there is still a need for a novel product having a keyboard and/or mouse input function, and also an image output function, executed by a touch display panel or touch display panels.

SUMMARY OF THE INVENTION

[0007] An objective of the present invention is to provide a keyboard formed from a touch display panel, a method of imparting a keyboard input function to a touch display device, and a device having a keyboard or hand-writing input function and an image output function, in which, users may define keys or connect a plurality of such keyboards in series to form a larger keyboard for having more key functions, as desired.

[0008] The keyboard formed from a touch display panel includes a touch display panel unit and a circuit board. The circuit board comprises a signal input/output device for signal input/output, a memory for storing a driving program and an operating program, and a microprocessor for executing the driving program to drive the touch display panel unit, executing the operating program to allow the touch display panel unit to display a keyboard layout image, and through the signal input/output device outputting a signal corresponding to the keyboard layout image in accordance with the position on the touch display panel unit being touched for a performance of a keyboard input function.

[0009] The method of imparting a keyboard input function to a touch display device includes steps as follows. A computer comprises a CPU (central processing unit) and a touch display device driving program is provided. At least a touch display device is provided to be connected with the computer and be driven. An operating program is executed using the CPU to define the at least a touch display device to display a keyboard layout image, thereby to execute a keyboard input function corresponding to the keyboard layout image in accordance with the position on the at least a touch display device being touched.

[0010] The device having a keyboard or hand-writing input function and an image output function includes a computer which comprises a CPU, a touch display device driving program, and a memory; a display device connected with the computer for displaying an image outputted from the computer; and at least a touch display device connected with the computer for serving the keyboard or hand-writing input function, wherein the touch display device displays a keyboard layout image defined by an operating program executed in the computer for executing a keyboard input function corresponding to the keyboard layout image being touched.

[0011] These and other objectives of the present invention will no doubt become obvious to those of ordinary skill in the art after reading the following detailed description of the preferred embodiment that is illustrated in the various figures and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. **1** is a schematic diagram illustrating the method of imparting a keyboard input function to a touch display device according to the present invention;

[0013] FIG. **2** is a schematic diagram illustrating an embodiment of the keyboard formed from a touch display panel according to the present invention;

[0014] FIG. **3** is a schematic diagram illustrating an embodiment of switching between the keyboard function and the display function through a hot key in the present invention;

[0015] FIG. **4** is a schematic diagram illustrating an embodiment of an integrated keyboard formed by connecting a plurality of touch display devices in series in the present invention; and

[0016] FIG. **5** is a schematic diagram illustrating an embodiment of a keyboard layout image defined on the touch display panel of a touch display device by a user.

DETAILED DESCRIPTION

[0017] The keyboard formed from a touch display panel according to the present invention is a multi-input display device. FIG. **1** is a schematic diagram illustrating the method of imparting a keyboard input function to a touch display device according to the present invention. The method includes providing a computer **10**. The computer **10** includes a CPU **12** and a touch screen driving program **14** stored in the computer **10**. At least a touch display device **16** is also provided. The touch display device **16** connects with the computer **10** and is driven. An operating program is executed in the computer to define the touch display device **16** to display a keyboard layout image, such that when the keyboard layout image displayed by the touch display device **16** is touched, a