

controller senses all of the sensing lines in parallel. Thereafter, the next driving line is driven, and the charge on the next driving line intersecting sensing lines through the sensor and the sensing controller senses all of the sensing lines in parallel. This happens sequential until all the lines have been driven. Once all the lines have been driven, the sequence starts over (continuously repeats). In most cases, the lines are sequentially driven from one side to the opposite side.

[0041] The sensing controller 42 includes one or more sensor ICs that measure the signal form each lines and report their findings or some form thereof to a host controller. The sensor ICs may for example convert the analog signals to digital data and thereafter transmit the digital data over a serial bus to a host controller. Any number of sensor ICs may be used. For example, a single chip may be used for all lines, or multiple chips may be used for a single or group of lines.

[0042] The lines are generally disposed on an optical transmissive member. In most cases, the optically transmissive member is formed from a clear flexible material such as thin glass or flexible plastic. The member preferably is a sheet of polyethylene terephthalate (PET), and this member may be a flexible sheet of another suitable material, e. g., polycarbonate polyester, polyvinyl chloride, polyether sulfone, polyimide polyether imide, cellulose triacetate and polyethelene naphthalate. The lines and conductive areas preferably comprise indium tin oxide (ITO) or conductive ink, most preferably silver epoxy conductive ink, and this conductive ink preferably is deposited by screen printing or ink-jet printing. In addition, the sensor ICs of the sensing controller can be electrically coupled to the leads using any suitable techniques.

[0043] The distribution of the lines may be widely varied. For example, the lines may be placed everywhere in the touch screen. The lines may be placed randomly or in a particular pattern. The position of the liners may depend on the coordinate system used. Moreover, any number of lines may be used. It is generally believed that the number of lines depend on the desired resolution of the touch screen. The number of lines within each layer may be identical or different. The number of lines is typically determined by the size of the touch screen as well as the desired pitch and line widths of the lines.

[0044] What mentioned above are just primarily example of multi-touch technique used in flexible multi-touch panel, there are still many techniques can be used in flexible multi-touch panel, such as, dispersive signal technology, electromagnetic induction technology, surface wave technology, acoustic pulse recognition, strain gauge, optical technology or other suitable technology. Any touch screen technique or formation which is configured to detect a plurality of simultaneous touching positions and has a flexible property is suitable to implement in the present invention.

[0045] Referring to FIG. 1, a flexible multi-touch screen device is a system of one embodiment of the present invention includes a flexible display 11. In certain embodiments of the present invention, the existence of flexible display which is a display that facilitates folding. Flexible display may be an OLED display, PLED display, active matrix liquid crystal display, passive matrix liquid crystal display, electrophoretic display, cholesteric liquid crystal display, polymer dispersed liquid crystal, nematic liquid crystal display, Gyricon or display with flexible characteristic, which may be transparent or non-transparent, 3D or 2D. Accordingly, flexible may include any suitable substrate 12 such as plastic, thin metal, thin glass,

or material that is flexible, Substrate preferably comprises a sheet of polyethylene terephthalate (PET). In lieu of PET, substrate may be a flexible sheet of another suitable material, e. g., polycarbonate polyester, polyvinyl chloride, polyether sulfone, polyimide polyether imide, cellulose triacetate and polyethelene naphthalate.

[0046] The image displaying program in display controller is a program for generating image each to be displayed on the flexible display and the flexible display on the basis of image data. According to this program, an image including a user character is displayed on the flexible display, for example. The coordinates detecting program in touch screen controller is a program for detecting coordinates data input from the touch panel in response to an operation of the touch panel by the user. In a case that the user simultaneously points two points on the touch panel, for example, coordinates of the two touching positions are detected by touch screen controller through the coordinate data.

[0047] The flexible multi-touch screen device is flexible screen utilizing multi-touch panel 10 and the flexible display is provided with a touch panel cover the surface.

[0048] The positional relationship calculating program is a program for calculating, in response to a simultaneous touch operation of the touching points by the user, a positional relationship between the points. Or, this may be a program for calculating a touching state of the two points by the user. That is, according to this program, at least one of a distance between the two points touched by the user and an angle of a line connecting the two points is calculated. Here, the angle of the line connecting the two points is an angle formed by the line connecting the touched two points and a reference line (horizontal line, for example). Furthermore, as to the direction of the angle of the line connecting the two points, the left direction, that is, a counterclockwise direction, for example, is set to a plus direction. It is noted that the angle of the line connecting the two points may be referred to as an angle between the two points. When (X1,Y1) and (X2,Y2) are detected as the coordinates of the two points, the distance L between the two points and an angle [theta] between the two points are calculated by Pythagoras' Theorem. Furthermore, in this embodiment, according to this program, a central point of the touched two points (central coordinate) is also calculated. These distance, angle and central coordinates value, etc. between the two points are calculated every time a unit of time elapses, such as each frame or every predetermined number of frames.

[0049] The movement detecting program is a program for detecting traveling of the touching. The movement calculation is a calculation set for controlling a traveling of the user character and the traveling of the user character is determined on the basis of this movement calculation. The movement calculation includes a plurality of elements relating to movements. In this embodiment, a travel speed, a turning angle, acceleration, direction, etc are prepared as the movement calculation. For example, the movement calculation is set on the basis of at least one of the distance between the two points and the angle of the line connecting the two points. Specifically, out of the movement calculation of the user character, the travel speed is set on the basis of the distance between the two points and the turning angle is set on the basis of the angle of the line connecting the two points. Furthermore, in this embodiment, a display position of the user character as the movement calculation of the user character is set on the basis of the central coordinate between the two points.