

number of frames is allocated to low pressure-sensing values, so the higher the pressure-sense value, the longer the time for unit movement of the cursor becomes.

[0044] In addition, the subject of selection is not limited to items within a menu. For example, an icon or mail address or the like may also be selected depending on the pressure-sensing value. By specifying a certain icon, it is possible to select a program, command, file or the like associated with that icon. In addition, by specifying a mail address, it is possible to select a specific home page on the World Wide Web on the Internet or the like associated with that mail address.

[0045] Icons, mail addresses or the like may be specified by using the pressure-sensitive controller to specify icons, mail addresses or the like appearing in order on the monitor, or by using the pressure-sensitive controller to specify icons, mail addresses or the like that are highlighted in order on the monitor.

[0046] FIG. 5 is a perspective view showing the controller 200 connected to entertainment system 500. The controller 200 is removably connected to the entertainment system 500, and the entertainment system 500 is connected to television monitor 408.

[0047] The entertainment system 500 reads the program for a computer game from recording media upon which that program is recorded and by executing the program, displays characters on the television monitor 408. The entertainment system 500 has various built-in functions for DVD (Digital Versatile Disc) playback, CDDA (compact disc digital audio) playback and the like. The signals from the controller 200 are also processed as one of the aforementioned control functions within the entertainment system 500, and the content thereof may be reflected in the movement of characters and the like, on the television monitor 408.

[0048] While this depends also on the content of the computer game program, controller 200 may be allocated functions for moving the characters display on the television monitor 408 in the directions up, down, left or right.

[0049] With reference to FIG. 6, here follows a description of the interior of the entertainment system 500 shown in FIG. 5. FIG. 6 is a block diagram of the entertainment system 500.

[0050] A CPU 401 is connected to RAM 402 and a bus 403, respectively. Connected to bus 403 are a graphics processor unit (GPU) 404 and an input/output processor (I/O) 409, respectively. The GPU 404 is connected via an encoder 407 for converting a digital RGB signal or the like into the NTSC standard television format, for example, to a television monitor (TV) 408 as a peripheral. Connected to the I/O 409 are a driver (DRV) 410 used for the playback and decoding of data recorded upon an optical disc 411, a sound processor (SP) 412, an external memory 415 consisting of flash memory, controller 200 and a ROM 416 which records the operating system and the like. The SP 412 is connected via an amplifier 413 to a speaker 414 as a peripheral.

[0051] Here, the external memory 415 may be a card-type memory consisting of a CPU or a gate array and flash memory, which is removably connected via a connector 511 to the entertainment system 500 shown in FIG. 5. The controller 200 is configured such that, when a plurality of

buttons provided thereupon are pushed, it gives instructions to the entertainment system 500. In addition, the driver 410 is provided with a decoder for decoding images encoded based upon the MPEG standard.

[0052] The description will be made now as to how the images will be displayed on the television monitor 408 based on the operation of controller 200. It is assumed that data for objects consisting of polygon vertex data, texture data and the like recorded on the optical disc 411 is read by the driver 410 and stored in the RAM 402 of the CPU 401.

[0053] When instructions from the player via controller 200 are provided as an input to the entertainment system 500, the CPU 401 calculates the three-dimensional position and orientation of objects with respect to the point of view based on these instructions. Thereby, the polygon vertex data for objects defined by X, Y, Z coordinate values are modified variously. The modified polygon vertex data is subjected to perspective conversion processing and converted into two-dimensional coordinate data.

[0054] The regions specified by two-dimensional coordinates are so-called polygons. The converted coordinate data, Z data and texture data are supplied to the GPU 404. Based on this converted coordinate data, Z data and texture data, the GPU 404 performs the drawing process by writing texture data sequentially into the Ram 405. One frame of image data upon which the drawing process is completed, is encoded by the encoder 407 and then supplied to the television monitor 408 and displayed on its screen as an image.

[0055] FIG. 7 is a top view of controller 200. The controller 200 includes a unit body 201 on the top surface of which are provided first and second control parts 210 and 220, and on the side surface of which are provided third and fourth control parts 230 and 240 of the controller 200.

[0056] The first control part 210 of the controller is provided with a cruciform control unit 211 used for pushing control, and the individual control keys 211a extending in each of the four directions of the control unit 211 form a control element. The first control part 210 is the control part for providing movement to the characters displayed on the screen of the television receiver, and has the functions for moving the characters in the up, down, left and right directions by pressing the individual control keys 211a of the cruciform control unit 211.

[0057] The second control part 220 is provided with four cylindrical control buttons 221 (control elements) for pushing control. The individual control buttons 221 have identifying marks such as "○" (circle), "×" (cross), "△" (triangle) and "□" (quadrangle) on their tops, in order to easily identify the individual control buttons 221. The functions of the second control part 220 are set by the game program recorded upon the optical disc 411, and the individual control buttons 221 may be allocated functions that change the state of the game characters, for example.

[0058] For example, the control buttons 221 may be allocated functions for moving the left arm, right arm, left leg and right leg of the character.

[0059] The third and fourth control parts 230 and 240 of the controller have nearly the same structure, and both are provided with two control buttons 231 and 241 (control