

the ends of the segments in the vertical and horizontal projection pane area. Needless to say, the present invention can adopt another display method such as a change of the color or segment type as far as the method allows identifying a selection state.

[0068] The word processing application program 403 analyzes the position and size of an object contained in each page of document data, and draws a projected image (synonymous with a projected figure) on the basis of the analyzed object position and size.

[0069] The word processing application program 403 draws information on the vertical direction of an object as a horizontally projected image on the basis of the analyzed position and size of the object contained in each page. The word processing application program 403 draws information on the horizontal direction of an object as a vertically projected image.

[0070] <Pane-Information Storage Table>

[0071] The main pane-information storage table 712, horizontal projection pane-information storage table 713, and vertical projection pane-information storage table 714 are called pane-information storage tables at once. FIGS. 8A to 8C show examples of the pane-information storage tables.

[0072] The main pane-information storage table 712 holds, for each figure (object), page information 811 representing a page in which the figure is contained, a figure ID 812 unique to the figure, and an X-coordinate 813 and Y-coordinate 814 of the position of the figure in the main pane. Further, the main pane-information storage table 712 holds a width 815 and height 816 of the figure, and a selection flag 817 representing that the figure is selected. Coordinate values described in the main pane-information storage table 712 are based on the upper left corner of each object as a reference, but the setting of coordinates is not limited to this reference.

[0073] The horizontal projection pane-information storage table 713 holds, for each figure (object), page information 821 representing a page in which the figure is contained, and a figure ID 822 unique to the figure. The horizontal projection pane-information storage table 713 also holds an X-coordinate 823 and Y-coordinate 824 of the position of the figure in the horizontal projection pane tab area, and a selection flag 825 representing that the figure is selected. Note that the X-coordinate indicates the position of a horizontally projected image in the horizontal projection pane tab area by using the upper left corner 611 as the origin of coordinate of the main pane. For example, since the horizontally projected figure 613 laid out in the horizontal projection pane 602 of FIG. 6 is located at an X-coordinate "45" measured from the origin of coordinate 611, the horizontal projection pane-information storage table 713 stores "45" in the X-coordinate field. Since the figure 612 in the main pane 601 corresponds to the horizontally projected figure 613 and is located at an X-coordinate "10" measured from the origin of coordinate 611, the main pane-information storage table 712 holds "10" in the X-coordinate field. That is, coordinate values managed in the respective tables of FIGS. 8A to 8C indicate actual display positions, and even corresponding figures (e.g., the figure 612 and horizontally projected figure 613) have different X-coordinate values. For this reason, the X-coordinate value in the horizontal

projection pane-information storage table 713 is different from that of a corresponding figure in the main pane-information storage table 712.

[0074] The vertical projection pane-information storage table 714 holds page information 831 representing a page in which each figure (object) is contained, and a figure ID 832 unique to the figure. The vertical projection pane-information storage table 714 also holds an X-coordinate 833 and Y-coordinate 834 of the position of the figure in the vertical projection pane tab area, and a selection flag 835 representing that the figure is selected. Note that the Y-coordinate indicates the position of a vertically projected image in the vertical projection pane tab area by using the origin of coordinate 611 of the main pane. Thus, the Y-coordinate value in the vertical projection pane-information storage table 714 is different from that of a corresponding figure in the main pane-information storage table 712. In other word, the Y-coordinate value in the vertical projection pane-information storage table 714 indicates an actual display position measured from the origin of coordinate 611, similar to the X-coordinate.

[0075] The main pane-information storage table 712 is a list of pieces of object information extracted from each page data of a document data file except the contents and types of objects. In some cases, the origin of coordinates, the coordinate values, the size unit, and the like may be different from those of page data.

[0076] <Processing in Opening Document Data File>

[0077] An example of processing procedures by the word processing application program 403 will be explained. FIG. 18 is a flowchart showing processing procedures when the word processing application program 403 according to the present invention opens a designated document data file. Note that the CPU 200 shown in FIG. 2 performs the processes of steps in flowcharts described in this specification.

[0078] When the user activates the word processing application program 403, designates a document data file, and designates opening of the file, the word processing application program 403 executes processing to display the three-dimensional view 600 shown in FIG. 6 in steps S1801 to S1811.

[0079] In step S1801, the word processing application program 403 substitutes 1 into a program counter (variable reserved in the memory) N for counting the number of pages of the document data file 500. The counter N is used to process all pages which form a document data file.

[0080] In step S1802, the word processing application program 403 loads 1-page data of the target Nth page in the document data file (also called document information) 500 having a plurality of pages. The loaded data are all data necessary for a preview, such as the sizes and position coordinates of various figures drawn in each page, the text character string, and the text decoration format. Note that 1-page data are obtained by recognizing the position and size of an object upon generation of the object in each page, and the RAM 202 or the like holds the information. The word processing application program 403 reads out the above-described pieces of information from a storage unit such as the RAM 202.