

When there is a modification, it is determined, in step S202, whether or not the modified instance is completed. When there is a modified instance, the process proceeds with step S203.

In step S203, the modified instance is read from the edited document. In step S204, it is determined whether or not the modified instance read in step S203 has been registered in the index table 66. Only when the result of the above determination is affirmative, the index key of the instance of concern is read from the index table 66, and is written into a work table within the editing control device 60.

In step S206, it is determined whether or not the process for the instance of concern is completed. When the result of the above determination is NO, the sequential index key is read from the instance of concern in step S207. Then, it is determined, in step S208, whether or not there is the index key in the work table. Only when there is no index key in the work table, the index key is registered in the work table so as to indicate that the index key has not been registered in step S209. Thereafter, an indication indicating the existence of an index key is given to the index key of concern in the work table in step S210, and the process proceeds with step S206.

When the process for the instance of concern is completed in step S206, it is determined in step S212 whether or not the index registration is completed. When the index registration is not completed, index keys are successively read from the work table in step S213. Then, it is determined, in step S214, whether there is the indication indicating the presence of an index key with respect to the index key of concern. When the result of this determination is YES, it is determined, in step S215, whether or not there is an indication indicating that the index key has not been registered. Only when the result of the step S215 determination is YES, the index key of concern and the identifier ID added to the instance are registered in the index table. When it is determined, in step S215, that there is no index key indication, the index key of concern is deleted from the index table 66 in step S217. When there is no indication that the index key has not been registered, or when steps S16 and S217 are executed, the process proceeds with step S212. When it is determined that the index registration is completed, the process proceeds with step S202.

in the above-mentioned manner, as shown in FIG. 27B, the above identifiers IDn and IDm are registered in a column "term" in the index table 66 if there is a character string "term" in the modified instance (identifiers IDn and IDm).

FIG. 29 is a flowchart of a retrieval process executed by the editing control device 60. In step S230, an index key is specified. In step S231, the identifier ID of the instance is read from the index table 66 by using the specified index key. In step S232, it is determined whether or not the identifier ID is read. When the result of this determination is YES, the instance of the above identifier ID is read from the document in step S233.

It is determined, in step S234, whether or not the retrieval is completed. When the retrieval is not completed, the contents of the instance read by means of the index key are retrieved in step S235. Then, it is determined, in step S236, whether or not there is anything related to the index key. Only when there is anything related to the index key, a desired corresponding process is performed. Then, the process proceeds with step S234.

As described above, in the retrieval, the identifier of the instance in the index table, and full text search is carried out for the instance of the retrieved identifier ID. Hence, the retrieval can be efficiently performed at higher speed.

The present invention is not limited to the specifically disclosed embodiments, and variations and modifications may be made without departing from the scope of the present invention.

What is claimed is:

1. A structured database system enabling a plurality of operators to share a structured document through a check-in or check-out of the structured document, said structured database system comprising:

a plurality of instances each defining an element of a structured document, wherein each instance is settable to an editable state and an edit inhibited state with respect to respective ones of a plurality of operators; a plurality of edit blocks, each edit block storing a plurality of edit block pointers;

a plurality of storage blocks, each storage block storing a plurality of storage block pointers designating respectively corresponding instances of said plurality of instances and said plurality of edit block pointers, of each edit block, indicating connections to respectively corresponding storage blocks;

a plurality of storage blocks, each storage block storing a plurality of storage block pointers respectively associated with said plurality of instances and said edit block pointers indicating connections to a respectively corresponding storage blocks;

selecting means for selecting an edit block, of said plurality of edit blocks, in response to the check-in of the structured document by a first operator of said plurality of operators, thereby designating remaining operators of said plurality of operators, the plurality of edit block pointers of the selected edit block thereby indicating the connections to respectively corresponding storage blocks and the respectively associated plurality of instances;

means for setting the corresponding, selected instances to the editable state with respect to the first operator and to the edit inhibited state with respect to the remaining operators of the plurality of operators; and deselecting means for deselecting the selected edit block in response to a check-out of the structured document by the first operator, and for setting the corresponding, deselected instances to the editable state with respect to all operators.

2. The structured database system as claimed in claim 1, wherein each of the instances further comprises a control information and an information body.

3. The structured database system as claimed in claim 2, wherein the information body further comprises a character string of real information.

4. The structured database system as claimed in claim 2, wherein each of the plurality of instances further comprises means for indicating an external file for introduction into the structured document.

5. The structured database system as claimed in claim 4, wherein the external file further comprises a graphic image.

6. The structured database system as claimed in claim 4, wherein the external file further comprises a text file.

7. The structured database system as claimed in claim 4, wherein the external file further comprises a spreadsheet.

8. The structured database system as claimed in claim 2, wherein for each instance of the plurality of instances the control information further comprises:

a plurality of identifier IDs each corresponding to each instance for identifying the contents thereof, a plurality of numbers each corresponding to each of the plurality of instances for identifying version information of the contents of the instance; and