

VERSION MANAGEMENT METHOD AND APPARATUS IN MULTI-WINDOW ENVIRONMENT

This application is a continuation of application Ser. No. 07/791 307, filed Nov. 14, 1991, now abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention.

The present invention relates to a method and apparatus for version management for performing an editing process of a plurality of versions in a multi-window environment.

2. Description of the Related Art

At the present time, there are requirements for tools for improving efficiency of development and for user interfaces which are easy to use. To answer such requirements, tools for managing versions and editors operable on multi-window environments have been provided.

The editing process using editors is often performed in a manner to initially generate a fundamental version and to subsequently derive versions with modification, addition and/or deletion of the content of the basic version. On the other hand, in the multi-window environment, a plurality of mutually distinct files are assigned to respective windows for displaying the contents thereof on a display screen simultaneously. This facilitates comparison and/or reference of the contents in the files.

Accordingly, it is desired to assign the windows in the multi-window environment to a plurality of versions generated from time to time and to display them simultaneously for facilitating comparison and for improving efficiency of the editing process when the editing process is performed using an editor operable in the multi-window environment.

However, the conventional version managing tools are not established by taking into consideration the convenience of use of the multi-window environment and thus assigns the same window for all versions as long as the file is the same. Therefore, for enabling simultaneous display on the different windows, it becomes necessary to use different file names for different versions and then assign different windows. Even when displaying the mutually distinct versions by using the different file names, data concerning the dependency and difference between the versions could be lost. This makes comparison between the versions difficult and requires complicated command inputs for performing a comparison.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a method and an apparatus for version management which enables editing of a plurality of mutually distinct versions in a multi-window environment wherein comparison and reference on the same display screen is facilitated.

Another object of the invention is to provide a method and an apparatus for version management that can reduce the buffer area required for the editing process.

A further object of the present invention is to provide a method and an apparatus for version management which does not require the same editing operation and can easily edit new versions.

In accordance with the present invention, there is provided a version management method for performing management of a plurality of versions of a data file in a multi-window environment, comprising the steps of:

- displaying the contents of the versions of the data file in respective windows on a display screen; the windows including a basic window for a major version and a window derived from the basic window or another derived window for a minor version, the derived window having its parent window from which the window is derived;
- retaining an identifier of the parent window and a differential operation history from the parent window with regard to the respective derived window in an operation history management table, the differential operation history representing contents of a version corresponding to the derived window different from that of the parent window, and automatically renewing the corresponding contents of the operation history management table when a new window for a new version is created as a derivative of one of the windows on the display screen by the user, and when the user's editing operation is done in one of the windows, modifying the contents of the corresponding version.

In accordance with the present invention, there is also provided a version management apparatus for performing management of a plurality of versions of a data file in a multi-window environment, the apparatus including a display for contents of the versions of the data file in respective windows on a display screen; the windows including a basic window for a major version and a window derived from the basic window or another derived window for a minor version, and the derived window having its parent window from which the window is derived. The version management apparatus includes an operation history management table for retaining an identifier of the parent window and a differential operation history from the parent window with regard to the respective derived window, the differential operation history representing a contents of a version corresponding to the derived window different from that of the parent window. The version management apparatus further includes a unit and means for automatically renewing the corresponding contents of the operation history management table when a new window for a new version is created as a derivative of one of the windows on the display screen by the user, and when the user's editing operation is done in one of the windows, modifying the contents of the corresponding version.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram, showing the construction of the first embodiment of the version management apparatus according to the present invention;

FIG. 2 is a flowchart showing a process of generating a window in the first embodiment;

FIG. 3 is a flowchart showing a editing process in the first embodiment;

FIG. 4 is a flowchart showing a process of selection of a new version in the first embodiment;

FIG. 5 is a flowchart showing another process of selection of a new version in the first embodiment;

FIG. 6 is an illustration showing a series of windows on which the processes of FIG. 4 or 5 are performed;