

element that is associated with the fourth object. The third visual element is then dropped onto the fourth visual element of the video display in response to the user using the input device. When the input device is the mouse having the first and second buttons, the dragging of the third visual element and dropping of the third visual element is performed using the second button. A menu of operations that the user may perform with the third object and the fourth object is displayed on the video display in response to the dropping of the third visual element. The system determines if any of the operations displayed on the menu have been selected by the user and determines the identity of any such user-selected operation. The system then performs the selected operation.

In accordance with still another aspect of the present invention, the first type of drag and drop operation is performed in response to the user using a first button of a two-button mouse to interact in the first drag and drop operation. The first type of drag and drop operation includes a drag portion and a drop portion. A default operation is performed after the drop portion of the first drag and drop operation.

A second drag and drop operation is then performed. The second drag and drop operation also has a drag portion and a drop portion. The second drag and drop operation is performed in response to the user using the second button of the mouse to interact with the system in the second drag and drop operation. After completion of the drop portion of the second drag and drop operation, a menu is displayed in the video display which lists choices of operations that the user may select to be performed as a result of the second drag and drop operation. The system determines which of the operations displayed on the menu is selected by the user and performs a selected operation.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram of a two-button mouse used in the preferred embodiments of the present invention.

FIG. 2 is a diagram depicting graphic elements displayed on a video display.

FIG. 3 is a block diagram of data processing systems suitable for practicing the preferred embodiments of the present invention.

FIG. 4 shows a typical word processing window, a pointer and an insertion point as they are seen on a display screen by a user in the first preferred embodiment of the present invention.

FIG. 5 shows a word processing document, as viewed on the display screen, after a user selects a string of text in the first preferred embodiment of the present invention.

FIG. 6 shows a word processing document, as viewed on a display screen, after the user positions the pointer over the selected text in the first preferred embodiment of the present invention.

FIG. 7 shows a word processing document, as viewed on a display screen, after a user presses the predefined mouse button while the pointer is positioned over a selected text in the first preferred embodiment of the present invention.

FIG. 8 shows a word processing document, as viewed on a display screen, after a user has dragged the insertion point to the location of the document where the selected text is to be moved in accordance with the first preferred embodiment of the present invention.

FIG. 9 shows a word processing document, as viewed on a display screen, after a user has dragged the insertion point

to a location outside of the selected text and released the predefined mouse button in accordance with the first preferred embodiment of the present invention.

FIG. 10 shows a word processing document, as viewed on a display screen, after a user has dragged the insertion point to a location outside of the selected text and released the predefined mouse button while depressing the Alt key, causing text manipulation options to appear in the first preferred embodiment of the present invention.

FIG. 11 is a detailed flow diagram of a text manipulation process which moves text from one location to another in a document in accordance with the first preferred embodiment of the present invention.

FIG. 12 is a flowchart showing the steps performed in a conventional drag and drop operation in accordance with the second preferred embodiment of the present invention.

FIG. 13 is a flowchart showing the steps showing the steps performed by the second preferred embodiment of the present invention in an enhanced drag and drop operation.

FIG. 14 shows an example context menu for an expanded drag and drop operation in the second preferred embodiment of the present invention.

FIG. 15 is a flowchart illustrating the steps performed by the target object in an enhanced drag and drop operation in the second preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

A first preferred embodiment of the present invention provides a method and system for directly manipulating text in a word processing environment or the like in a fashion that requires little effort on the part of the user. For example, the user may drag and drop text in order to move the text to new locations. In accordance with a second preferred embodiment of the present invention, the user is provided with the option of providing an expanded drag and drop operation in which the user selects and performs one of several different operations, rather than merely performing the default operation or employing difficult to use modifier keys to perform a limited number of operations. In this second preferred embodiment, the user also has the option of performing a conventional drag and drop operation. The drag and drop operations are not limited to text manipulations.

FIG. 1 shows an example of a two-button mouse that is suitable for performing a drag and drop operation. The two-button mouse 10 includes a left button 12 and a right button 14. A roller ball (not shown) is provided on the underside of the mouse 10 to generate directional commands as the mouse rolls along a flat surface.

As is illustrated in FIG. 2, the movement of the mouse is translated into the movement of the cursor 16 on a video display 18.

FIG. 3 shows a block diagram of an illustrated data processing system for practicing the preferred embodiment to the present invention. The data processing system 36 includes a central processing unit (CPU) 38, a memory 40, a keyboard 42, a video display 44 and the conventional two-button mouse 10. Those skilled in the art will appreciate that another style mouse, such as the three-button mouse, may be used with the present invention as well. The memory 40 holds code for a word processing (WP) program 47. In addition, for each drag and drop operation performed in the second preferred embodiment of the present invention, code for the source object 46, code the target object 48 and code for the operating system 50 are stored within the memory 40.