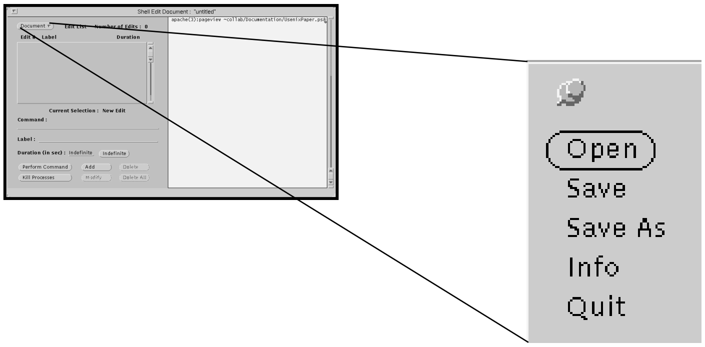


```
apache(3):pageview ~collab/Documentation/UsenixPaper.ps&
```

Duration (in sec) : Indefinite

Figure 6-55 The ShellEdit Document Menu

Note – You do not need to close your current edit list when you open a new one. When you open the new edit list, it replaces the old one on the edit panel. If your old edit list was unsaved, ShellEdit remembers the edit list and then asks you to save it when you quit.

Finishing up

When you have completed building your ShellEdit edit list, you can move on to working with another media editor or begin to assemble your presentation using the TimeLine editor, covered in *Chapter 7, Building Multimedia Documents (TimeLine Editor)*.

To solve the other latency problem, where a command's stated duration and actual duration do not match, you need to do a simple calculation to time how long the process actually takes. The reason it is important to know exactly is so you can design accurate time lines. To time command execution, follow these steps:

1. Highlight the edit.
2. Click on ***Indefinite*** to ensure that the command has time to execute.
3. Click on ***Modify*** to register the change.
4. Now, have a stopwatch ready, and restart the sequence by clicking on ***Perform Command***. See how long it takes to accomplish the task. Then, stop by clicking on ***Kill processes***.
5. Add the launch time to your original duration, then enter this sum in ***Duration***.
6. Click on ***Modify*** to register the change.

Naming, Saving, Opening, and Closing Edit Lists

After you are satisfied with your shell edits, you are ready to name and save then in an edit list. Like all the MAEstro editors, you use the *file browser* to name, save, and open edit lists. To open the *file browser*, use the selections under the ***Document*** menu as shown in Figure 6-55. If you need more information, see *Chapter 1, Introduction to MAEstro*.

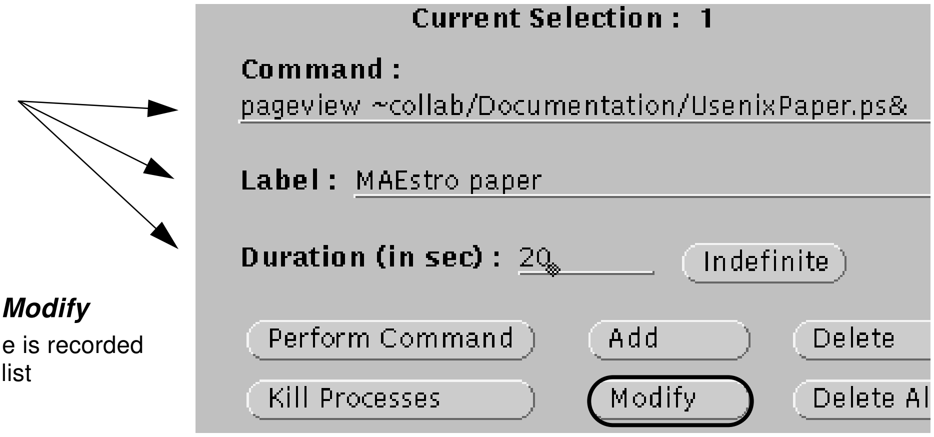
processor speed, memory size, and swap space. In practical terms, without changing any of these physical factors, you can correct latencies.

There are two situations where you are probably experiencing launch-time latency. The first is when you notice a difference between the time you specified, and the actual time it takes to execute a command (execution starts too late, ends too soon). The second is when it appears your command has failed to execute at all (assuming you tested it and it worked in the shell window). You can compensate for latency by modifying the duration.

Compensating for Launch Times

To change the duration, highlight the edit, and either enter a new time, or click on ***Indefinite***. Choosing ***Indefinite*** (or some sufficiently large number) solves the problem of the apparently failed command. This is because sometimes the duration specified is so short that the command never gets a chance to launch. Click on ***Modify*** to record your change. You may want to verify your change by using ***Perform Command***. Figure 6-54 shows how to change the duration setting. It also shows how to change the command and label.

1. Change:
- command
- label
- duration



Current Selection : 1

Command : pageview ~collab/Documentation/UsenixPaper.ps&

Label : MAEstro paper

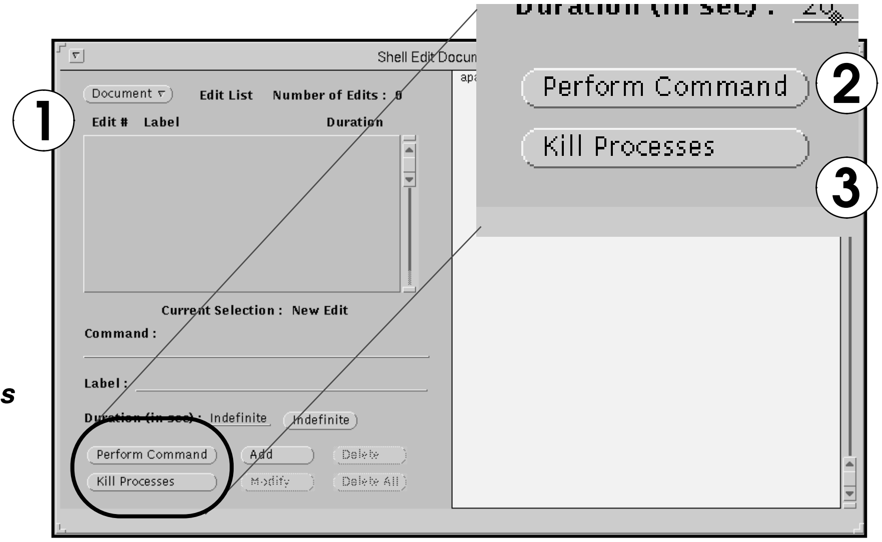
Duration (in sec) : 20

2. Click on *Modify*

The change is recorded to the edit list

Figure 6-54 Modifying an ShellEdit Entry

To execute (or *play*) a shell edit, use the ***Perform Command*** button. If your edit as a specific duration, execution automatically stops at that point. If you have designated ***indefinite*** duration, you must click on ***Kill Processes*** to halt execution. Figure 6-53 shows the location of the play controls and the steps used.



Number of Edits : 0

Current Selection : New Edit

Duration (in sec) : Indefinite

1. Click on the edit
Highlights to select for preview

2. Click on *Perform* to start preview

3. Click on *Kill Processes* to stop preview
Needed to halt edits with indefinite duration

Figure 6-53 Previewing Edits in ShellEdit

Correcting Latency Problems using Duration

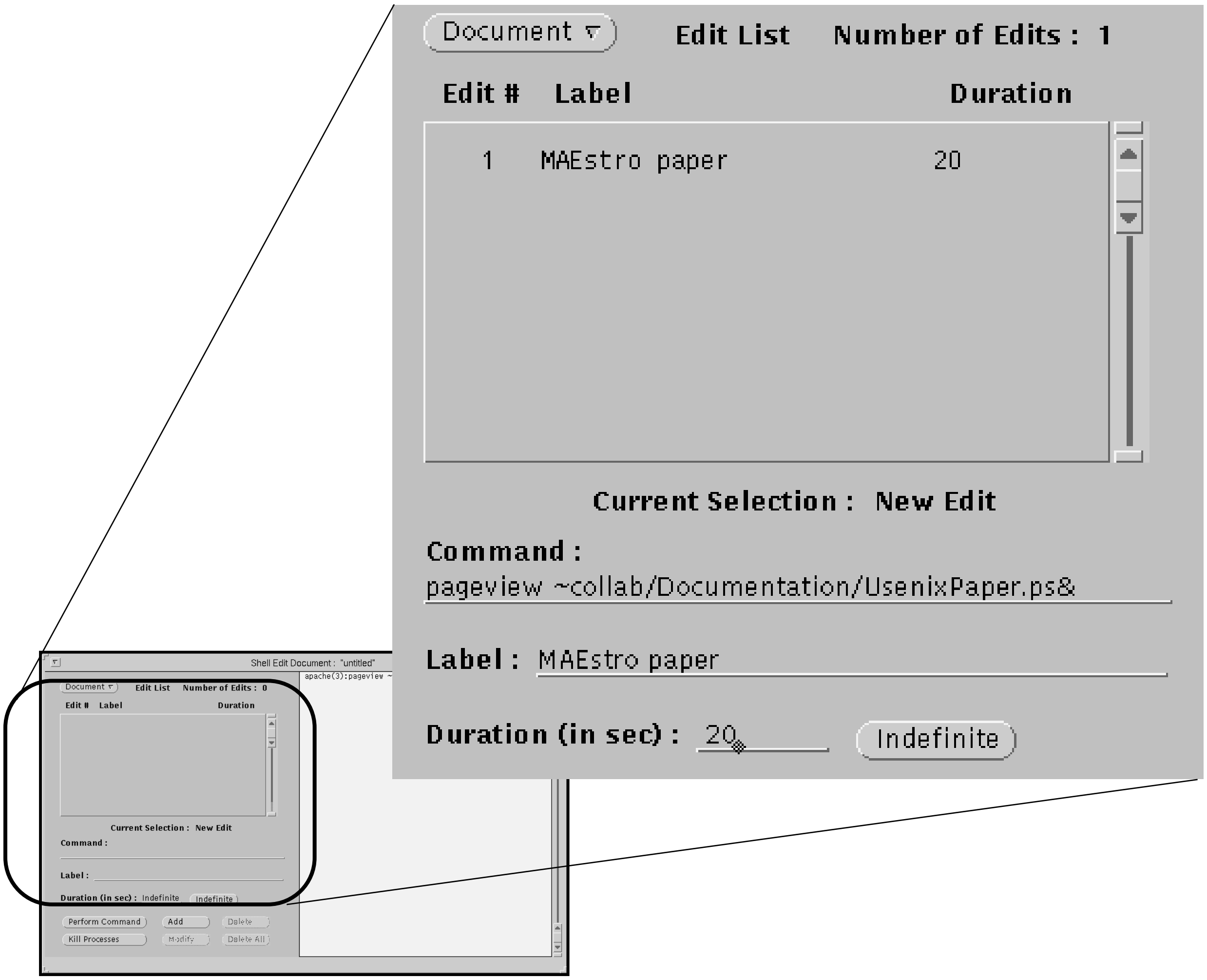
There are three modifications you can make to a shell edit: the duration, the label, and the command itself. This section focuses on duration first, then Figure 6-53 shows how to modify the label and command.

The Effects of *Duration*

When you execute a UNIX command, it may not appear that anything is happening right away. You may have seen this when invoking the editors; they do not always appear immediately. This latency is due to launch time. Launch time is the time from when you press the carriage return to the time the action occurs. It depends on things like

Playing the Edit

After you have created an edit from your UNIX command, you may want to test its characteristics as an edit. The characteristics were set when you saved and labeled the command. Figure 6-52 shows how the edit panel looks after creating the PostScript example edit.



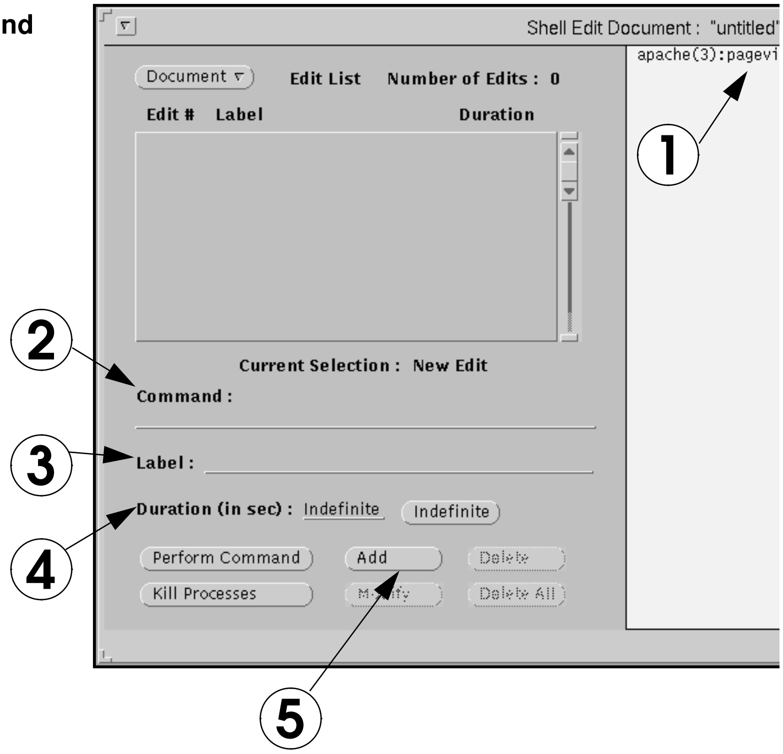
Edit #	Label	Duration
1	MAEstro paper	20

Command : pageview ~collab/Documentation/UsenixPaper.ps&

Label : MAEstro paper

Duration (in sec) : 20

Figure 6-52 The Edit Panel after an Edit has been Added to the List.



1. Highlight and copy command
Use the Copy key (L6)

2. Paste in command
Use the Paste key (L8)

3. Label edit
Type descriptive name
or key word

4. Set duration for edit
Defaults to indefinite
duration if no time
typed in

5. Add edit to list
A numbered entry for
edit appears on list

Shell Edit Document : "untitled"

```
apache(3):pagevi
```

Edit List Number of Edits : 0

Edit # Label Duration

Current Selection : New Edit

Command :

Label :

Duration (in sec) : Indefinite

Figure 6-51 Selecting a ShellEdit Command and Adding it to a List

---

REMEMBER – If you do not need to test a command, you can simply type the command directly into the space labeled *Command* (number 2 in Figure 6-51).

Testing and Bundling Commands

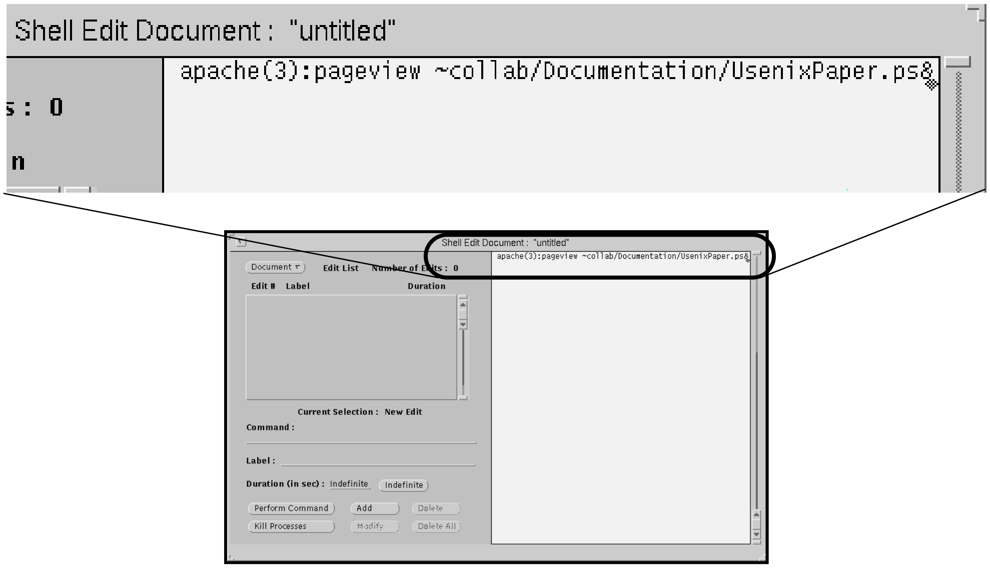
ShellEdit's shell window operates just like any other shell window. When you enter the command into the window, and press the carriage return, the command executes. If your command line does not produce the desired results, continue to revise the command until you have it working properly.

If you need to use more than one command to accomplish your task, you can string UNIX commands together by using a semicolon between them (with no intervening carriage returns). Or, if you are proficient at shell programming, you may also create command scripts in a file, using the entire sequence as one edit.

Selecting and Adding Edits to the List

Once you have written and tested a command in the ShellEdit shell window , you are now ready to select it as an edit and add it to an edit list. This procedure uses the edit half of the control panel. You do this by highlighting the working command line, copying it to the edit panel, and labeling it. As always, you should try to select a label that suggests the nature of the edit. Then you can set the duration and add it to your edit list by clicking on ***Add***. Figure 6-51 shows these steps.

command before committing it as an edit. However, if you are sure your command works, you can enter the command directly into the edit panel where it says *Command*. Figure 6-50 shows how to enter a command in the shell window. The example command, `pageview`, opens up the named file, called `UsenixPaper`, which is a PostScript document. (`Pageview` is a UNIX program for to displaying PostScript documents and graphic files on the screen.)



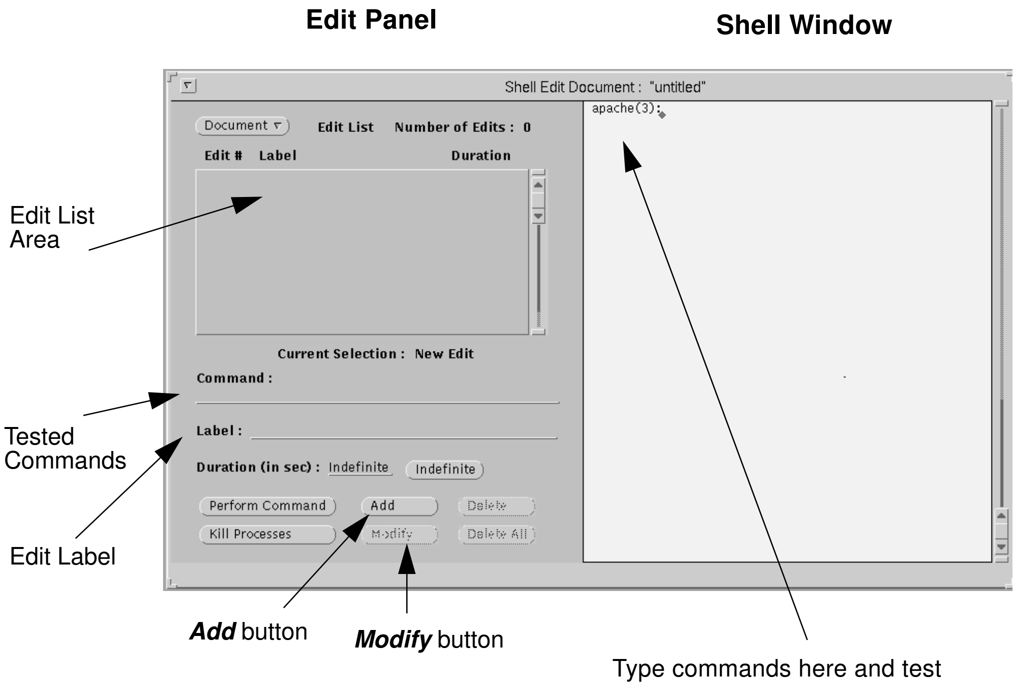
```
apache(3):pageview ~collab/Documentation/UsenixPaper.ps&
```

Figure 6-50 A Command Written in the ShellEdit Shell Window

This PostScript example shows two things. One is how you can use a UNIX command line as an edit, which can then be used directly in a time line. In this case, you have a richer choice of text and graphic display alternatives, augmenting the editor, QuoteMaker, which can only work with ASCII text. The second thing shown by the example is how ShellEdit supports MAEstro's goal of extensibility by allowing you to incorporate applications that are not currently a part of the MAEstro application suite into your time line.

Parts of the Control Panel

The control panel for ShellEdit has two parts: the shell window and the edit panel. Figure 6-49 shows these parts and the other major functions available.



```
apache(3):
```

Figure 6-49 Major Parts of the ShellEdit Control Panel

Entering Commands

There are only a few steps to creating an edit, as described earlier in Figure 6-48. The first step is to enter a command. You typically use the shell window for this purpose, so that you can enter and test the

---

Note – Unlike the other MAEstro's editors, ShellEdit requires an understanding of UNIX commands. Since an introduction to UNIX is beyond the scope of this manual, talk with your system administrator if you are unfamiliar with UNIX and want to try something with ShellEdit; it may just require learning a few commands.

If you want to learn more about UNIX and how to use UNIX commands, there are many introductory books available. One that is particularly good is *UNIX Survival Guide* by Tim Parker (Addison-Wesley, 1990).

Invoking ShellEdit

To invoke ShellEdit, type the following command in your shell window:

```
ShellEdit&
```

After a few seconds the ShellEdit shell window and edit panel appear on your screen as shown earlier in Figure 6-47. To avoid screen clutter, you can close ShellEdit to an icon, also shown in Figure 6-47.

Note – This chapter assumes your are starting from the beginning with ShellEdit. If you already have an edit list you wish to work with, skip ahead to the section on *Naming, Saving, Opening, and Closing Edit Lists*

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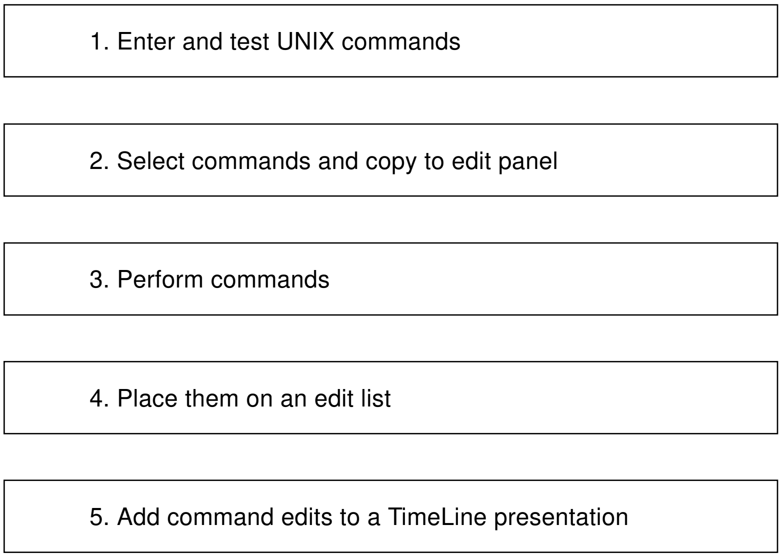
you have software that controls a source of information not covered by existing MAEstro applications, ShellEdit can control your software so that it can be included in your multimedia documents.

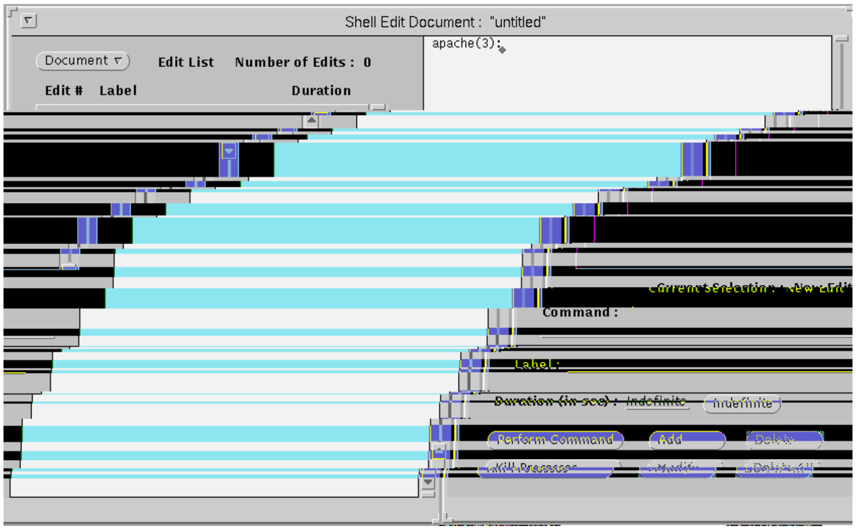
Like the other MAEstro editors, ShellEdit provide ways to create edits from source materials. In this case, however, the source materials are UNIX commands instead of more traditional media.

In general, ShellEdit operates like this. First you write and test one or more commands in the shell window. Next you select commands from the window and copy them into the edit panel. The edit panel allows you to perform the commands and place them onto a list as edits. Later you can use the TimeLine editor to incorporate these edits into a time line so that the commands perform as part of a presentation. Figure 6-48 shows the flow of steps.



1. Enter and test UNIX commands
2. Select commands and copy to edit panel
3. Perform commands
4. Place them on an edit list
5. Add command edits to a TimeLine presentation

Figure 6-48 Sequence of Steps for Using ShellEdit



Shell Edit Document : "untitled"

Number of Edits : 0

apache(3):

Current Selection : New Edit

Duration (in sec) : Indefinite

Figure 6-47 Example ShellEdit Control Panel and Icon

ShellEdit has two major purposes. The first is to provide control over any UNIX application. The second is to provide extensibility.

You can use ShellEdit to control any UNIX application so that it can be included into a time line. Some examples are:

- Opening PostScript documents
- Running Mathematica visualizations
- Launching animated sequences
- Controlling new kinds of external devices
- Triggering a laser printer to print documents as part of a presentation

ShellEdit is also a key part of MAEstro’s extensibility. Extensibility means the ability to use media sources that do not already have MAEstro media editors available. Using ShellEdit, you can control software and hardware that does not speak the MAEstro protocol. If

Chapter 6,
Working with UNIX Commands (ShellEdit)

This chapter describes how to use the ShellEdit media editor . ShellEdit is unique among the editors in that it accepts UNIX commands. This chapter begins by describing ShellEdit and explaining some of its uses. It then describes how to invoke ShellEdit and the parts of the control panel. The rest of the chapter shows the various functions of the control/edit panel, and explains how to perform these operations: entering commands, testing, playing (executing), correcting timing problems, and naming, saving, opening, and closing edits and lists.

About Shell Edit

ShellEdit is MAEstro’ s tool for selecting, timing, and executing UNIX shell commands that are later to be incorporated into a time line presentation. ShellEdit, like the other media editors, has a visual control panel. It consists of a shell window and edit panel side by side. Figure 6-47 shows an example ShellEdit control panel and icon.