CHAPTER 9

Creating an Interactive Presentation

In This Chapter

Designing an interface

Using Guides

Using QuickTime VR

Using HTML in Director

Importing a PowerPoint presentation

Launching external movies

Creating a Director movie requires advance planning to ensure its success; planning ahead also reduces the amount of debugging and editing required throughout the development of the movie. This chapter examines the anatomy of a movie, from a planning point of view, by creating an interactive presentation. This chapter also shows you other ways to integrate the techniques and operations covered in previous chapters.

Designing an Interface

A powerful aspect of Director is its capability to create interactive multimedia applications that give users control over how they want to view the content. Of course, this makes creating your movies much more difficult because you have to consider these aspects:

- How to break down the content into parts that make sense to the user
- How the user navigates through the content
- How to avoid leading the user to a "dead end" from which the user can't return easily
- The number of levels the user will have to navigate

The complexity of these issues compounds as the amount of content included in your application grows larger. Here's a good rule of thumb for creating navigation: The user should not have to click more than three buttons to get to any of the content. If you have a large amount of content to include in your movie, keeping the navigation to three levels can be a daunting task.

Another big challenge when designing an interface is that it's almost impossible to predict how each individual will navigate through the content. Unless you are creating a computer-based learning application or a speaker-support presentation, you should generally avoid presenting your content in a linear fashion. On the other hand, if you have a lot of content, you need to be careful not to create a navigation scheme that looks like the cockpit of a 747 airliner, which simply overwhelms most users. A good interface takes a great deal of thought. If you are creating a multimedia application that contains a large amount of content, you should consider building a rough prototype of the interface and have it tested by your target users. You'll be surprised at some of the ways users want to navigate through the content.

Creating a flow chart

One of the best techniques for creating the navigation scheme for your movie is to create an outline. Most word processors have the capability to create outlines. The advantage to using an outline is that you can easily move subjects to different levels as well as insert new ideas as they occur to you. After you have created an outline, you should create a flow chart of the navigation structure. This gives you an easy way to visualize the navigation structure that the movie is to use. Figure 9-1 shows the flow chart that was created for the movie that you build in this chapter.

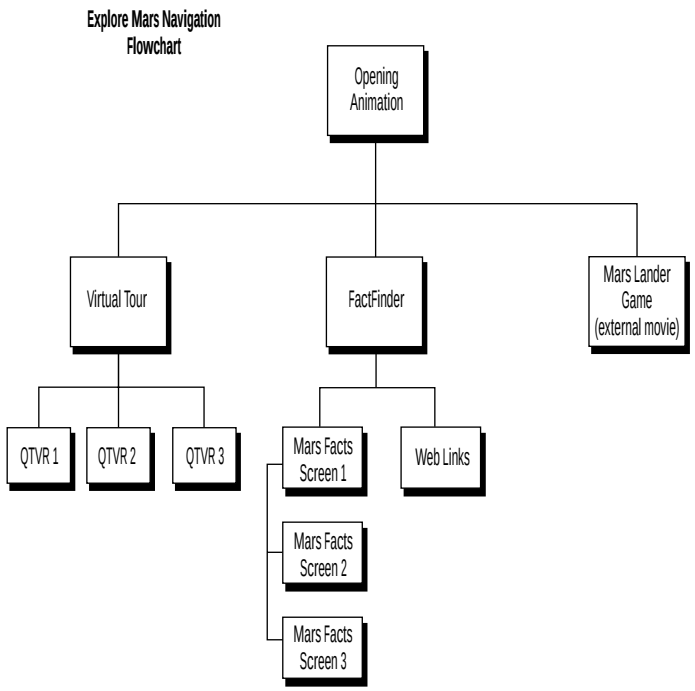

Figure 9-1: A flow chart provides a picture of the navigation that you'll use for your movie.

There are three levels of content in this movie. The first level is an animated opener that introduces users to the content and entices them to venture further into the movie. From the opening animation, the user can choose between three different sections: a QuickTime VR tour of Mars, a section that contains facts and figures about Mars, and a game called the Lander Pilot. The VR Tour and FactFinder screens each contain an introduction to the section and navigation elements that enable users to select any third level of content that most interests them. Because the Lander Pilot game does not have any third level content, there is no need to build an intermediate screen.

Even though the navigation for this movie is fairly simple, it's still a good practice to use a flow chart to visualize the navigation. This is especially important if more than one person is building the application, because it gives everyone a common reference and avoids a lot of confusion later in the project. It also provides an excellent starting point for the next step in the process of building an interactive application — designing the look and feel of the user interface.

Designing the navigation

After you have created a navigation flow chart, the next step is to determine how the user navigates to and from each section. The best way to begin is to determine how the navigation structure works. In this situation, we broke down the navigation into two main areas that serve very distinct functions:

- The first level of navigation enables the user to jump to the top level of any section from almost any point in the movie. This is accomplished by creating a static area at the top of the screen that's visible during most of the movie. This area contains buttons that go to the top level of each section — the Virtual Tour, FactFinder, and Mars Lander Game. This area also contains a text header that labels each section.
- There are two second-level areas — the Virtual Tour and FactFinder — with options from which the user can choose that lead to third-level content. The navigation elements that enable the user to view the content contained in these sections are located on the left side of the screen.

This approach enables a user to navigate through the content in a very nonlinear fashion, and it also ensures that a user is never more than three mouse clicks away from any other third level of content.

We intentionally added two elements that present navigation problems into this project. The Mars Lander game is actually a separate Director movie. Although it would be possible to re-create the Navigation bar at the top of the original movie for the Lander Pilot game, it would be very distracting when a user is playing the game. To solve this problem, users drop back into the original movie when they quit the game, to the same place where they chose to play the game.

The other navigation problem is in the Mars Facts level located below the main level of the FactFinder. The Mars Facts section is actually a PowerPoint presentation that contains three different screens. Because there are only three screens at this level, it shouldn't be too disturbing to the user to navigate sequentially through the section. After the user navigates to the Mars Facts section, you introduce Next and Previous buttons that enable the user to move forward and back through the three screens.

Laying Out the Project

Now that the navigation issues are solved, it's time to begin laying out the interface. You assign areas on the screen real estate that are dedicated to particular functions; for instance, you should assign a part of the screen as the place where the Quit button is located. Having a main navigation element move to a different position throughout a movie is not very user friendly.

When you need to use a secondary level of navigation specific to a section, you still want to present that navigation in a consistent manner. In the VR Tour and FactFinder sections you build later in this chapter, there is a secondary level of navigation buttons that lead to the third level of content. Even though the buttons in each of these main levels leads to a different third-level section, you place them in the same area of the screen and give them an identical look and feel. The only aspect that is different for each of these buttons is the label that informs the user where the button leads when the user clicks it.

Carving up the screen

Before you begin creating the movie in Director, you need to carve up the screen, defining the areas of the screen that hold your navigation elements, content, and any special elements in your movie. This can be done with the old No. 2 pencil as a rough sketch (that's usually the best place to begin), but Adobe Photoshop is an excellent tool for this process. Chances are that you need to create at least some artwork to be used in your movie with an external graphics editor, so you might as well take advantage of Photoshop's rulers and guides to precisely align the elements designed for the layout of the elements. This approach offers several advantages — the biggest one is that you can actually create the art elements for your movie at the same time as you lay out the project.

At the very least, you probably want to design several layouts in a graphics editor that shows what the screens in your movie look like at each level of navigation, as shown in Figure 9-2. If you are creating a large project that involves several team members, you might want to lay out every screen in your graphics editor before it is built in Director. This gives everyone working on the project an exact picture of every screen layout to be produced for the movie.

Figure 9-2: Using guides in Photoshop enables you to easily carve out the space needed for the individual elements to appear in your movie.

Creating graphics factories

A Director movie can contain hundreds and, oftentimes, thousands of individual graphic elements, especially if you are using multistate buttons and animation composed of many small pieces. Keeping track of all of these elements and ensuring that they are consistent with each other can be one of the most difficult aspects of creating a Director movie.

Using a graphics editor, such as Adobe Photoshop, that enables you to store graphic elements in layers, makes your life much easier. You can break down your art elements into different categories, or *factories*—such as headers, buttons, labels—and then you can create a file for each category that contains all the individual elements needed for each category. Use this technique to create a file that contains each button state as a separate layer. Not only does this help you manage the files, but it also enables you to preview each state of the button (before you bring it into Director) by turning on and off the different layers that contain the state of the button.

After you've created your layered Photoshop documents, you can copy and paste each layer into Director; or better yet, you can use the PhotoCaster Xtra by Media Lab to automatically import each layer of your Photoshop document into Director as individual cast members.

Getting organized in Director

The movie you build in this chapter is actually quite small compared to most Director projects, but there are still over 100 individual elements that make up the final version of the movie. Piling all of these elements into a single Cast window makes creating a movie a very frustrating experience, and you can end up wasting your valuable time trying to find cast members instead of concentrating on the creative aspects of the movie. A better approach is to create several Cast windows that contain specific types of elements that will be used in the movie. There are no hard and fast rules as to how you should structure the Cast windows — whatever method works best for you is fine. The movie you build in this chapter contains the Internal and three additional Cast windows. A description of the Cast windows and a brief explanation of their content is as follows:

- **Internal:** Use the Internal Cast window to store the text, bitmap, and video cast members that are the actual content elements for the VR Tour and FactFinder sections.
- **Interface:** The Interface Cast window contains all the graphic and text cast members that make up the navigation for the movie, including all the buttons, Section headers, button labels, button sound, and navigation bar graphics.
- **Behaviors:** This window contains (obviously) the behaviors and Lingo scripts in the movie.
- **PowerPoint:** This Cast window contains all the cast members that are created when you import the PowerPoint presentation into Director.

Build a directory structure on your hard drive that mirrors the Cast windows used for your movie to store all of the elements to import into Director. This not only keeps you more organized, but it also speeds up importing the elements into Director. You need to be careful about linked media such as digital video — it's easy for Director to lose track of a linked file that is not located at the same level as the movie. You should keep files that will be externally linked at the same directory level as the Director movie. Alternatively, you can group all the digital video files together in a subfolder within the same directory.

You might be wondering why we didn't put the PowerPoint cast members in the internal Cast window with the rest of the content elements. When you import a PowerPoint file, Director creates individual cast members for each line of text, transition, and graphic element of the original PowerPoint presentation. This can be quite a few cast members. Having the PowerPoint cast members contained

in a separate Cast window makes it easier to identify the elements used for the PowerPoint presentation.

You learn how to import a PowerPoint presentation and incorporate it into an existing movie later in this chapter. Now that you have a basic understanding of navigation structure and content, it's time to begin creating the movie in Director.

Dissecting the movie

If you are experienced in Director, you probably already have begun forming a mental picture of the structure of the movie you are about to create. At this point, open the final version of the movie and spend a little time getting familiar with the components before beginning to build the movie.

The explore_complete.dir movie is a completed version of the movie you build. You can find this movie on the CD-ROM in the folder EXERCISE:CH09 (EXERCISE\CH09).

You also want to make sure that QuickTime 4.1 is installed on your computer. If you don't have QuickTime installed, use the QuickTime 4.1 installer on the CD-ROM in the GOODIES:QUICKTIME (GOODIES\QUICKTIME) folder.

Looking Over the Project

1. Open the explore_complete.dir movie in Director. Rewind the movie and play it.
2. Spend a few minutes navigating through all the sections of the movie to familiarize yourself with the way the navigation functions.
3. When you feel comfortable with the way the movie works, click the Quit button. The movie stops playing, but Director is still open.
4. Open the Score window. The first 10 sprite channels are colored orange (see Figure 9-3). These sprite channels contain the main navigation elements for the movie. The sprites that begin in sprite channel 12 are secondary navigation elements. Sprites starting in channel 24 are content elements that are specific to each section of the movie.

When creating movies in Director, carve up the Score window by dedicating certain channels for specific types of elements. For example, sprite channels 1 through 10 could be used for the navigation elements, and content could always begin in channel 15. This makes it easier to locate an individual element later in the project, because you have a general idea of the channel in which it is located. This is a very useful technique to employ if several authors are working on the same project.

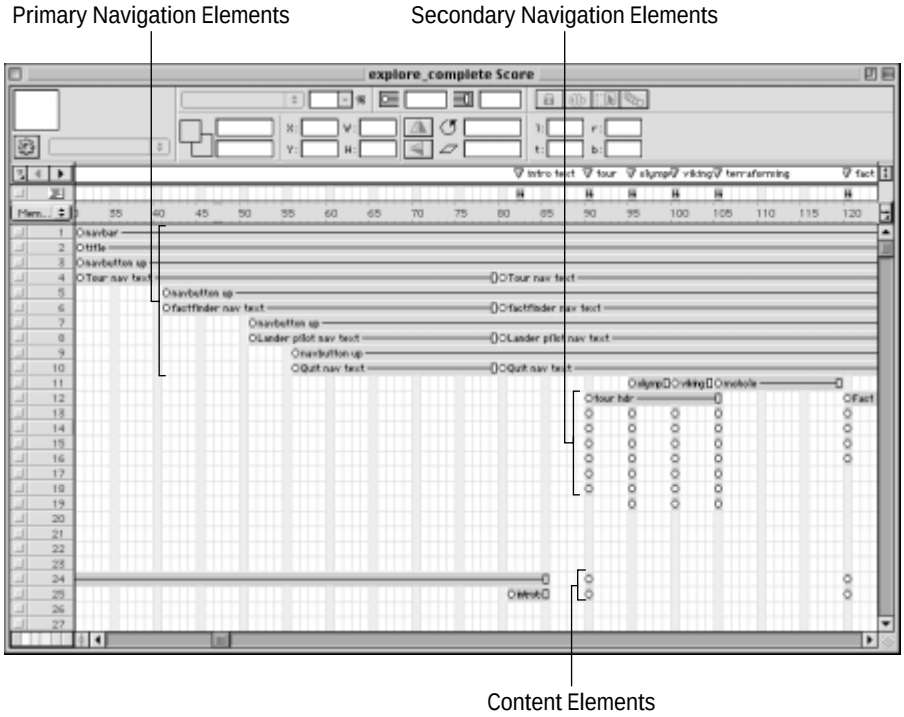

Figure 9-3: The Score is divided into different sections that contain specific types of elements used for the movie.

Creating the Opening Animation

When building an interactive presentation, an important component is the introduction. This is the first thing users see when they launch the application, so it needs to set the scene for the movie as well as entice users to explore the content.

The opening animation for the movie you build in this chapter is very simple. It serves as a way to introduce the navigation bar that's used throughout the rest of the movie. Because the main goal of this movie is to give you an overall approach to building an interactive application, we didn't want you to spend a large amount of time creating a complex animation for the opening sequence. You will probably want to create a more complex and compelling opening animation sequence when you are creating your own interactive presentations.

If your movie has a story line, you could create an animated opener that sets the scene for the story line that runs through the movie. Many games take this approach, using a very sophisticated opening animation that leads you to the point in the story where the game begins. If you create a large opening animation that takes several minutes to view, make sure that you give the user the opportunity to jump to the main content at any time. You might think the animation you created is very compelling, but you can never predict how much patience the user has. You might end up frustrating your users if they are forced to sit through the opening animation every time they run your movie. You can always create a button that plays the opening animation from any point in the movie.

Avoid using digital video for an opening animation, because a certain percentage of your users might not have the capability to play digital video. If you do want to use digital video, you should create an alternate version of the opener that can automatically play in place of the video if the user doesn't have video capability.

In the following exercise, you begin building the opening animation sequence for the movie. Most of the steps are a review of some of the things that you learned about animating sprites in Chapter 3. The big difference is that you're going to set guides in Director to make it easier to align two of the sprites on the Stage.

For this exercise, use the explore1.dir Director movie. You can find this movie on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder. Save this movie to a folder on your hard drive so that you can add to it in other exercises in this chapter.

Building the Opening Animation

1. Open the explore1.dir movie, and then open the Cast window.
2. Click the Select Cast button in the Cast window and choose the Interface Elements cast. Select the cast member named navbar and drag it into sprite channel 1 of the Score window so that it begins in frame 5. Drag the title cast member into the score so that it's directly below the navbar sprite in channel 2, as shown in Figure 9-4.

If you hold down the Option (Ctrl) key while you click the Select Cast button, the new Cast window opens over the existing one.

3. Open the Property Inspector, shown in Figure 9-5, and click the Guides and Grids tab to display the Guides and Grid window. Make sure that the Visible and Snap to Guides check boxes are enabled.

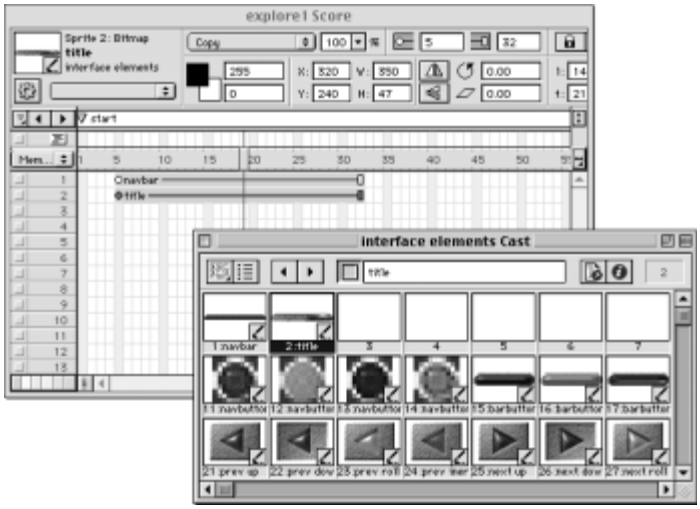

Figure 9-4: Drag the navbar and title cast members into the Score as shown.

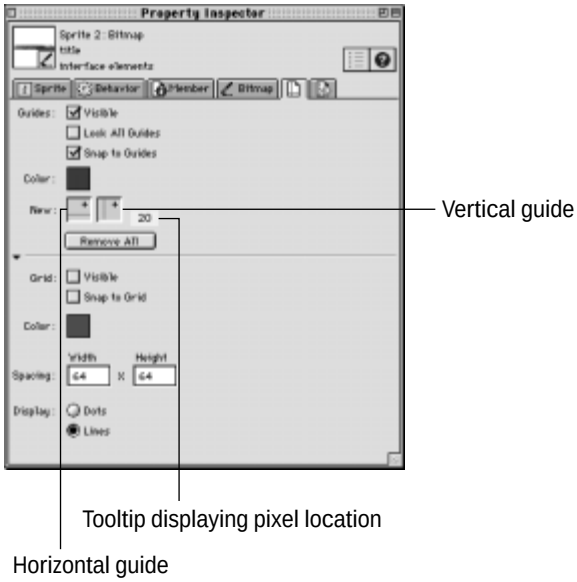

Figure 9-5: Use guides to accurately place sprites on the Stage.

4. Place a horizontal guide onto the Stage by dragging from the Horizontal Guide onto the Stage. Note that the pixel location of the guide dynamically updates in the Property Inspector window. When the Guide is 20 pixels from the top of the Stage, let go of it. Place a second horizontal guide so that is 44 pixels from the top of the Stage.
5. Repeat Step 4 to place a vertical guide so that it is 50 pixels from the left edge of the Stage by dragging from the Vertical Guide onto the Stage. Place another vertical guide 80 pixels from the left edge of the Stage.
6. On the Stage, position the Title sprite so that the upper left corner of the sprite snaps to the outermost horizontal and vertical guides. Then position the navbar sprite so that the upper-left corner of the sprite aligns with the innermost horizontal and vertical guides.
7. Drag the tail of the navbar sprite so that the sprite ends in frame 30. Repeat this step with the title sprite.
8. Open the Cast window and make sure that the Internal cast is visible. Drag the mountains cast member into channel 25 of the Score so that it begins in frame 2. Then drag the tail of the mountain sprite so that it extends to frame 79.

You need to have the mountain sprite visible on the Stage until the playback head reaches this frame (79) in order to add another element to the opening animation in a later exercise.

9. On the Stage, drag the mountain sprite so that the bottom of the sprite is even with the bottom of the Stage. At this point, your scene looks similar to the one shown in Figure 9-6. Press Command+L (Ctrl+L) to lock the sprite.

The mountains cast member contains an alpha channel that enables it to fade into the background.

10. In the Score window, Shift-click the navbar and title sprites, and then hold down the Option (Alt) key and drag a copy of the sprites until they are located just to the right of the original navbar and title sprites. The new sprites should extend from frame 30 through frame 56.

In the next step, you animate the navbar and title sprites. You created a copy of the sprites so that you have a backup of them in their final position, just in case something goes wrong with the animation you are going to create.

11. Click the tail of the navbar sprite in frame 30, and choose Insert ➪ Keyframe, or press Command+Option+K (Ctrl+Alt+K), to insert a keyframe. Then repeat this step for the title sprite channel 2.
12. Click the First frame (frame 5) of the navbar sprite, and then on the Stage, drag the sprite so that it disappears behind the mountains. You should see an animation path that shows the motion of the sprite.

Figure 9-6: The scene should now look similar to the one shown here.

13. In the Score window, click in the first frame of the title sprite, and then enter **–90** in the Sprite Rotation field of the Score window. This value rotates the sprite 90 degrees counterclockwise, as shown in Figure 9-7.

14. Make sure that only the first keyframe for the title sprite is selected, and drag the sprite completely off the left side and down toward the bottom half of the Stage.

Tip

You might want to zoom out the Stage so that you can see where you positioned the title sprite off the Stage.

15. To have the mountains transition from black, make sure that the Score window is open, and then double-click frame 2 of the Transition channel. Select a transition from the list.

16. Save the movie as **explore2.dir**. Rewind the movie and play it back.

If the animation plays too slowly, increase the tempo by double-clicking in the Tempo channel and adjusting the tempo speed. You also might want to adjust the Sprite Tweening to make the animation move more smoothly. Click the sprite to select it, open the Sprite Tweening dialog box either by choosing Modify ➪ Sprite ➪ Tweening or by pressing Command+Shift+B (Ctrl+Shift+B), set the parameters that you want in the dialog box, and then click OK to return to Director's main window. When you are satisfied with the animation, save the movie again as explore2.dir.

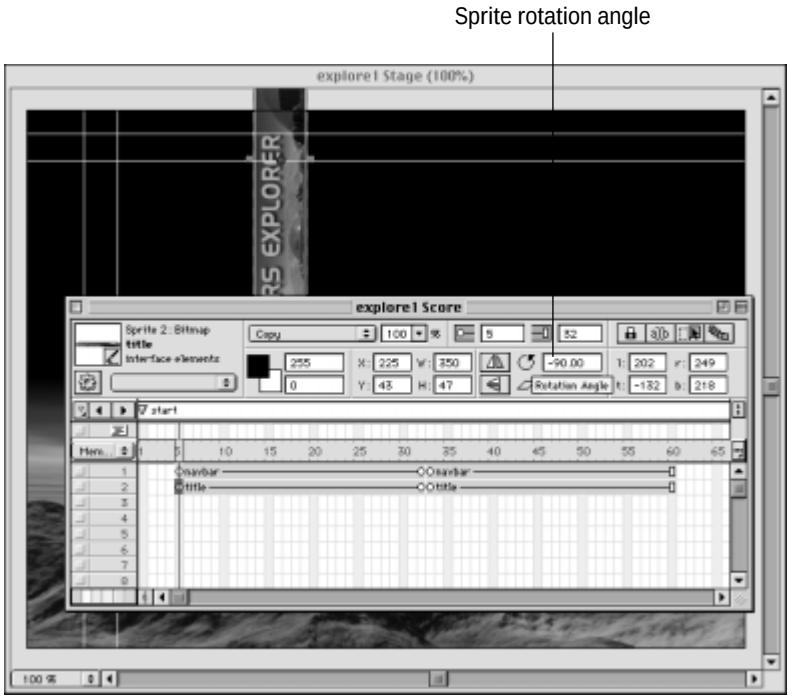

Figure 9-7: Set the rotation angle of a sprite by entering a number in the Sprite Rotation field.

If you adjusted the tempo for the animation, you'll probably want to set the tempo back to a more normal speed (15 to 30 fps) in frame 31. This setting ensures that any other animations that occur later on in the movie play as you expect them to. You can always set a new tempo speed at other points in the movie, if necessary.

Tweaking sprites

Evenly spacing a series of sprites on the Stage by hand can be a time-consuming chore, even if you are using grids. You can use the Sprite Inspector and do the math to calculate the offset, but why do that when you don't have to? Director's Tweak window enables you to quickly create an even offset for a series of sprites.

Now that you've introduced the navigation bar, you need to add the navigation buttons. You use the Tweak tool to quickly create an even offset for each of the buttons. Then you adjust the starting points of the sprites to have them appear on the Stage one at time.

Using the Tweak Window to Offset Sprites

1. Open the explore2.dir movie in Director and make sure that the Score window is active.
2. Click the tail of the navbar sprite in frame 56, and drag it to frame 79 to extend the sprite. Repeat this step for the title sprite in channel 2.

If you didn't make copies of the sprites earlier, you could Option+drag (Alt+drag) the last keyframe of the original sprites to frame 79. This would extend the sprite the same way as the previous method.

3. Open the Cast window and select the interface elements cast. Locate the navbutton up cast member and drag it into frame 31 of sprite channel 3 of the Score window. Drag the tail of the sprite to frame 79.
4. Make the Stage active, and press Command+Option+S (Ctrl+Alt+S) to open the Property Inspector. Make sure that the navbutton up sprite is selected, and enter **115** into the X position and **78** into the Y position, as shown in Figure 9-8.

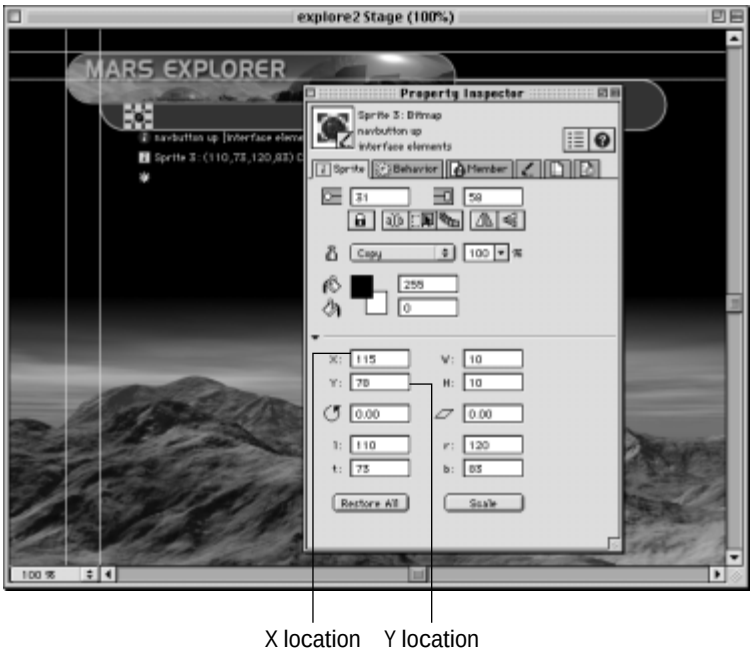

Figure 9-8: Use the Sprite Inspector to set the location of a sprite.

5. Select the navbutton up sprite in the Score window and Option+drag (Alt+drag) a copy of the sprite to channel 5. Be sure to leave an empty channel between the two sprites. Later you'll insert the text label for the button in the empty channel.

6. Move the Score window down so that the navbutton sprite is visible on the Stage (it's on top of the sprite in channel 3), and then open the Tweak window by choosing Modify ➪ Tweak or by pressing Command+Shift+K (Ctrl+Shift+K). Enter **125** in the Horizontal change field and click the Tweak button (see Figure 9-9).

There is a major difference between the Sprite Inspector and the Tweak window. The Sprite Inspector fields show actual sprite position on the Stage. Use the Tweak window to enter the *change* in position that you want to make by typing a number in one of the offset fields, that is, from where it is now and where it will be after the change is made.

7. Option+drag (Alt+drag) a copy of the sprite in channel 5 to channel 7, and click the Tweak button. Option+drag (Alt+drag) a copy of the sprite in channel 7 to channel 9, and click the Tweak button again. Your scene and Score windows look like the ones shown in Figure 9-10. The four button sprites are now on the Stage and are evenly spaced.

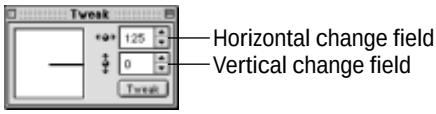

Figure 9-9: Use the Tweak window to offset a sprite.

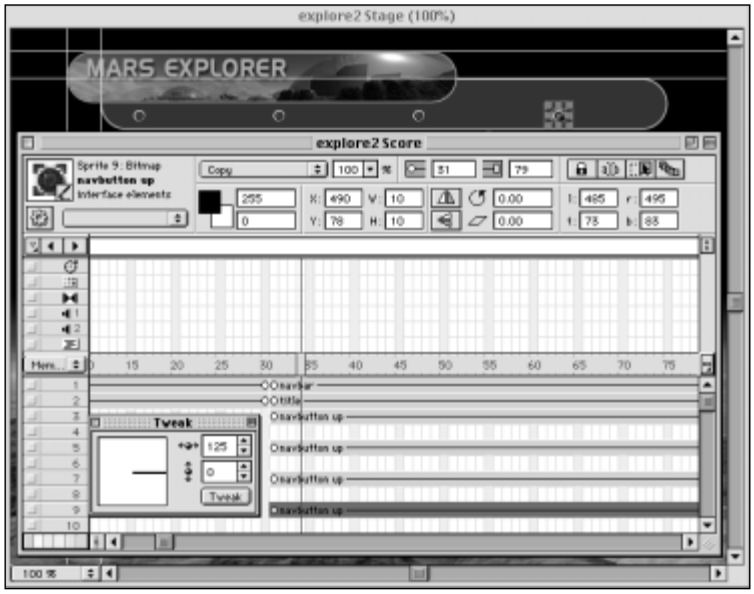

Figure 9-10: The four button sprites are offset evenly.

8. To have the buttons appear on the screen one at a time, click the first frame of the sprite in channel 5 and drag it 10 frames to the right. Repeat this step with the sprites in channels 7 and 9, but move these sprites to the right 20 and 30 frames, respectively.
9. Save the movie as **explore3.dir**, and then rewind and play it. Note that the buttons appear on the Stage one at a time.

After you have used the techniques explained in the preceding exercise a few times, you'll be able to offset a series of sprites in far less time that it takes to read through the exercise.

Animating with a behavior

When you looked at the completed version the explore movie, you might have noticed that the text labels for the main navigation buttons appeared to be typed one character at a time onto the screen. You create this effect by using a Library Palette behavior appropriately called the Typewriter Effect. Director's Library Palette contains many behaviors that are used to animate sprites. These behaviors enable you to create animated effects that would have taken far longer to create in earlier versions of Director. It's well worth your time to become familiar with all of the animation behaviors found in the Library Palette. Knowing how the behaviors work will enable you to create better movies in less time.

Appendix B contains a description of all the behaviors found in the Library Palette.

All that's left to do to complete the opening animation is to add the text labels for the navigation buttons and have them appear to type onto the screen. In the preceding exercise, you left an open sprite channel between each of the navigation buttons — this is where you insert the label cast members for each button. Because all the navigation buttons use a single cast member, it is easy to apply the wrong Go To marker parameter when you apply the button navigation behaviors later.

To make life easier, we name the text cast members used for the button labels after the section of the movie to which the button jumps. This reduces the chances of making a mistake when you apply the button behaviors, because you can look at the sprite directly below the button to know to which section the button should jump.

Animating the Text Labels

1. Open the explore3.dir movie that you saved in the preceding exercise in Director. Make sure that the Score and Cast windows are visible.
2. Select the interface elements cast and locate the cast member called Tour nav text (it should be in cast slot 41). Drag the cast member into the Score so that it begins in frame 31 of sprite channel 4.

3. Repeat Step 2, placing the cast members named factfinder nav text, Lander pilot nav text, and Quit nav text into the open sprite channel located after each navigation button sprite.
4. Adjust the length of the sprites so that they all end in frame 79. The Score now looks like the one shown in Figure 9-11.

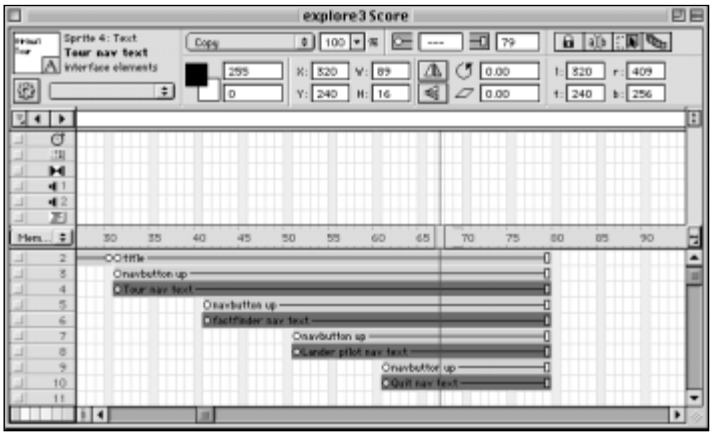

Figure 9-11: The text sprites are located below the button sprite that they label; the lengths of the sprites have been adjusted.

5. In the Score window, Command+click (Ctrl+click) the four text sprites. Then apply the Background transparent ink to them from the Ink pop-up menu in the Score window.
6. Make sure that the sprites are still selected, and open the Sprite Inspector. Enter **125** for the X coordinate and **70** for the Y coordinate. All four text sprites are now next to the first navigation button.
7. In the Score, select the factfinder nav text sprite, and then open the Tweak window. Enter **125** into the horizontal offset field.
8. Repeat Step 7 with the other two text sprites, entering **250** and **375** into the horizontal offset field, respectively.
9. Select the four nav text sprites in the Score window, and apply the Typewriter Effect behavior, using the behavior pop-up menu. The Parameters dialog box appears (see Figure 9-12). This behavior enables you to control how the behavior is activated, how long it pauses before typing the next character, and what sound, if any, and the channel that sound plays in. For this use of the behavior, the only parameter you want to adjust is the time to wait parameter. Set it to **0** so that the text types on as fast as possible.

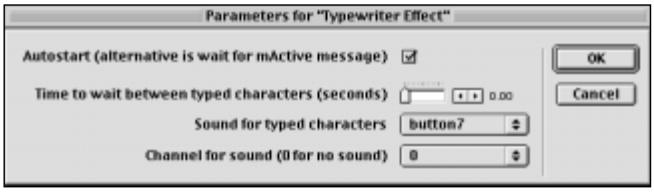

Figure 9-12: Set parameters for the Typewriter Effect behavior to control the way the text types on the screen.

The Typewriter Effect behavior was originally located on the Library Palette in the Text category. We brought it into the Cast window for you to save time.

10. Save the movie as **explore4.dir**, rewind the movie, and play it back. The text now types onto the screen.

The Typewriter Effect behavior reads the text of the cast member to which it has been applied into memory. It then adds the text one character at a time, until the text string is completely typed. If you stop the movie before that text has completely typed on the screen, the text cast member will contain only the characters that have been typed in when the movie was stopped. This problem only occurs while you are creating the movie in Director, not when it's played back as a projector or Shockwave movie.

It's a good idea to make a backup cast member of the text member to which you apply the behavior. If you stopped the movie before the text finished typing onto the screen, replace the cast members by using backup cast members of the four text labels located in the interface elements Cast window. You can find the backup cast members beginning in slot 101.

Building the Navigation Elements

Carefully structuring the Score and Cast windows in combination with a good naming convention for the cast members saves hours of creation time. Defining sections of the Score that contain the various elements, such as buttons, headers, and content, speeds up the development and makes it much easier to update your movies months later.

It doesn't matter how you structure your movies. For instance, you might prefer to have the navigation elements begin in Sprite channel 50; the important thing is to use techniques that work for you and stick with them. Developing a consistent approach to the way you structure your movies is the main goal.

Laying out the primary navigation elements

Now that you have the opening animation sequence finished, it's time to add the navigation elements to the rest of the movie. At this point, you want to start thinking about the structure of rest of the movie and the navigation behaviors you're going to be applying to the buttons. The first step is to add markers to the movie that define where each section of content begins.

Although it's possible to add additional markers to the movie at any time, you are much better off if, early in the project, you add as many of the necessary markers as you can. This enables you to use the markers to jump easily to each section of the movie and add content. The other advantage is that most of the navigation behaviors that ship with Director generate a list of the markers in the movie as a parameter. When you apply the behavior, you can choose which marker you want the movie to jump to from a pop-menu contained within the behavior.

Before beginning, review the Navigation flow chart shown in Figure 9-13. This helps you, first, to determine how many content screens to insert into each main section of the movie. Then you add markers that define the beginning of each section.

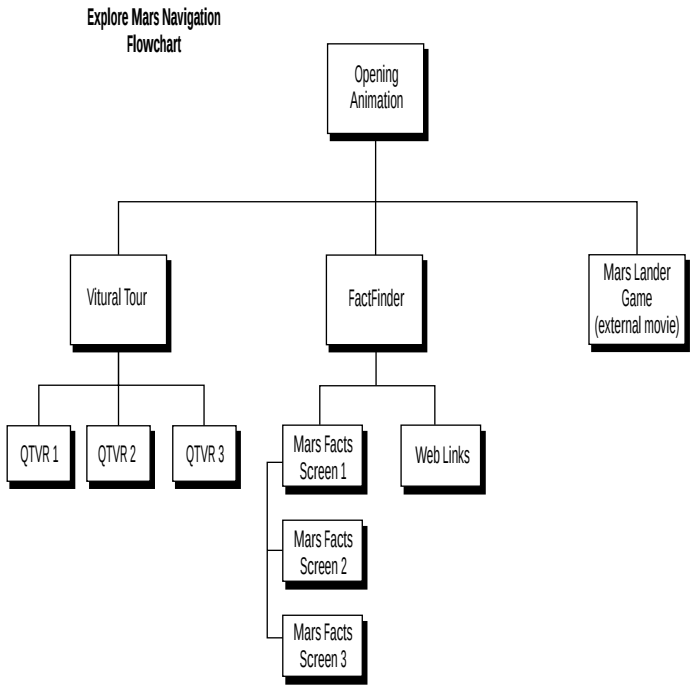

Figure 9-13: The flow chart helps you easily determine where to put the markers in your movie.

Adding the navigation markers

With the exception of the Mars Pilot Game (which will be a separate Director movie), each box in the flow chart represents a point in the movie that you want to loop on a frame. Each of these frames in the movie enables users to view content or to make a decision about the next section of the movie that they want to view. Adding a marker that has the same name of each box in the flow chart makes it easy to define each section of the movie.

Because you already know how to add sprites to the Stage, we saved you some time by placing the sprites on the Stage that are used for the second-level navigation of the movie. We also added a text cast member that appears at the end of the animation sequence that gives a brief explanation of the movie.

For the next exercise, you use the explore5.dir Director movie, which is on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder.

Adding the Markers

1. Open the explore5.dir movie in Director, and then make sure that the Score window is active. Note that a marker named intro text has been added to frame 82. This is where the movie pauses to let users select what section of the movie that they want to explore.
2. Click in the marker channel in frame 90, at the insertion point type **tour**.
3. Add the following markers to the indicated frames: frame 95 = **olympus**, frame 100 = **viking**, frame 105 = **terraforming**, frame 120 = **fact**, frame 125 = **ppt1**, frame 130 = **ppt2**, frame 135 = **ppt3**, frame 140 = **HTML**, frame 150 = **quit**. When you've finished this step, your Score looks like the one shown in Figure 9-14.

When you add a new marker that's close to an existing one, it's often difficult to type in a name for the new marker. To avoid this problem, add a marker in a section of the Marker channel that has no other ones near it, type in the name for the marker, and then drag it to the frame of the movie where you want the marker to be located.

4. Save the movie as **explore6.dir**. Drag the Score window down so that the markers and the top of the Stage are both visible.
5. Press Command+left arrow (Ctrl+left arrow), and the playback head jumps to the next marker. If you press Command+right arrow (Ctrl+right arrow), the playback head jumps to the preceding marker.

You can also use the Markers window to navigate between markers, add new markers, and edit existing ones. Choose Window ➪ Markers, or press Command+Shift+M (Ctrl+Shift+M), to select the Markers window.

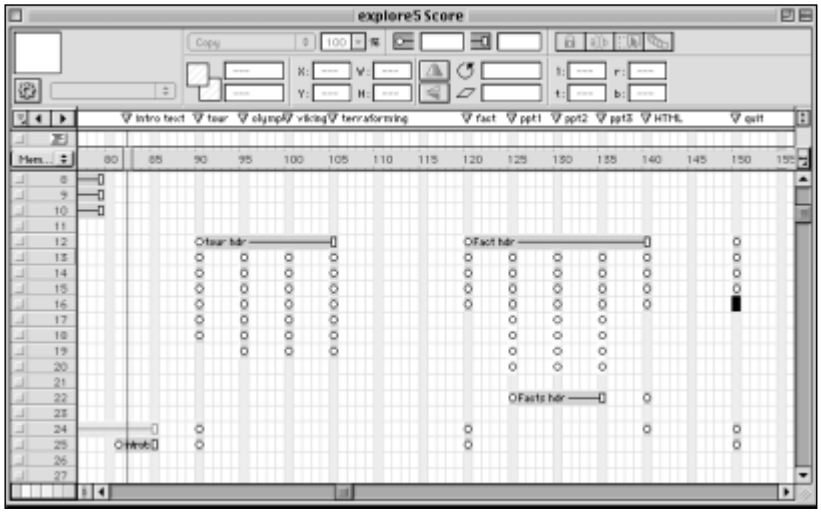

Figure 9-14: The Score window with the markers added

The movie eventually will loop on each frame that has a marker. You could have put all of the markers next to each other in the Score, but this makes it difficult to see the names of the markers. Because the navigation jumps to each marker and then loops on the frame, it doesn't matter where they are placed in the movie. So, you might as well spread them out so that's it easier to read the labels.

After you add the markers, you need to extend the button, label, and navigation bar sprites so that they appear in every frame on which the movie loops. When you perform this operation, you want to take into consideration the behaviors and other scripts that are going to be applied to the sprites. Sprites that have the same behavior applied to them throughout the movie, such as the navigation buttons, should be extended the entire length of the movie. This approach enables you to apply the behavior to the sprite once, and it also saves a lot of debugging if you have to modify the behavior, because it is applied to a single sprite instead of to several copies of the sprite.

Extending the Navigation Sprites and Color Coding the Score Window

1. In Director, open the explore6.dir movie that you saved in the preceding exercise. Make sure that the Score window is active. Scroll the Score window so that frames 30 to 80 are visible.
2. Command+click (Ctrl+click) the sprites that begin in frame 31 and are located in channels 1, 2, 3, 5, 7, and 9 to select them. With the sprites selected, enter **140** in the End Frame field located at the top of the Score window (see Figure 9-15). This extends the selected sprites to frame 140, which is the last frame in the movie that needs to have these sprites visible on the Stage.

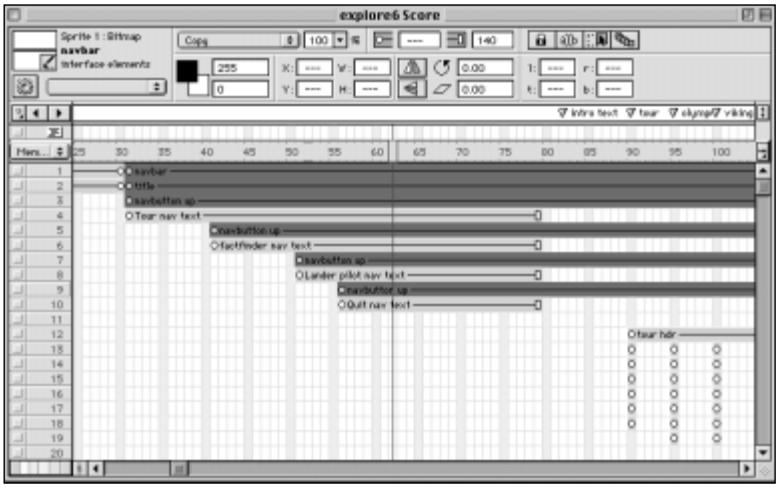

Figure 9-15: Select sprites and type a frame number in the End Frame field to extend them.

3. Because the text label sprites have the Typewriter Effect behavior applied to them, you don't want to extend them the entire length of the movie or else the effect keeps repeating itself. Select the text label sprite in channel 4, and then Option+drag (Alt+drag) a copy of the selected sprite next to the original one. Repeat this step for the text label sprites in channels 6, 8, and 10.
4. Command+click (Ctrl+click) duplicate versions of the text label sprites in channels 4, 6, 8, and 10, and then click the Behaviors pop-up menu (see Figure 9-16) in the Score window and choose the clear all behaviors option.

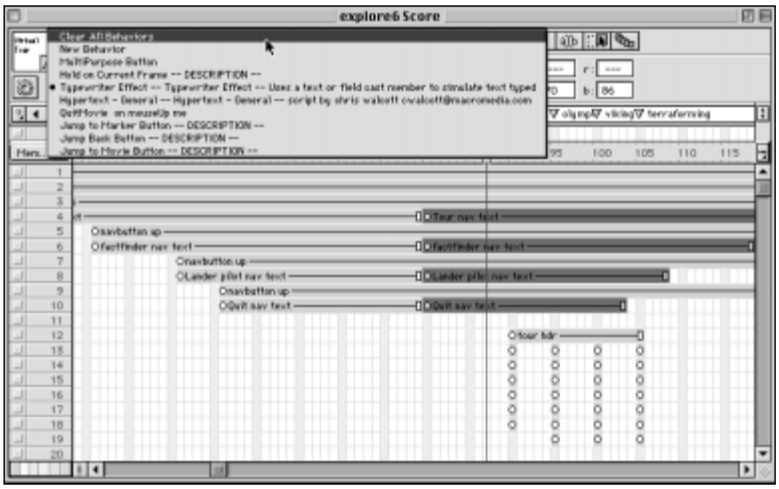

Figure 9-16: Add or delete behaviors to sprites from the Behaviors pop-up menu in the Score window.

5. With the text label sprites still selected, extend them to frame 140, as you did in Step 2 with the other navigation sprites.

6. Apply a color to the sprites in channels 1 through 10 to make it easier to identify the navigation elements. Click in the sprite channel 1 label on the left side of the Score window. Then hold the Shift key down and click in the sprite channel 10 label, as shown in Figure 9-17. This selects all of the sprites in channels 1 through 10. Select a color from the swatches located in the lower left corner of the Score window.

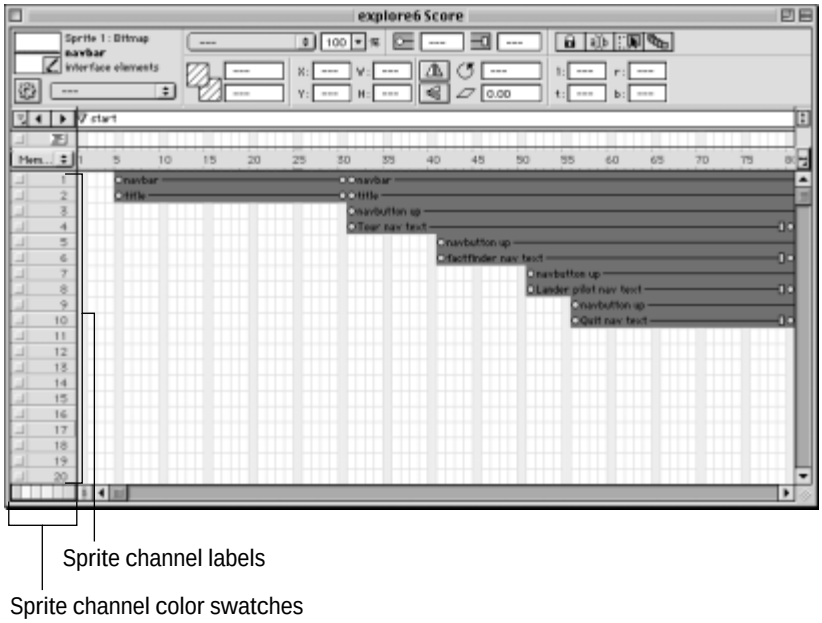

Figure 9-17: Click in the sprite channel label to select all of the sprites in the channel.

7. Save the movie as **explore7.dir**.

Color coding the sprite channels is just one more technique that you can use to organize your movies, enabling you to spend less time building and debugging the movie, giving you more time to focus on the creative aspects of your movies.

Adding the Navigation Behaviors

Carefully structuring the way sprites are arranged in the Score makes the process of adding the behaviors and other scripts that add interactivity to your movie much easier. Another simple technique you can use to streamline building your movies is to drag all the behaviors found in the Library Palette into a Cast window before you begin applying them. When you drag a behavior from the Library Palette onto a sprite, Director places a copy of the behavior in the first available cast member slot of the current Cast window. Having behaviors spread throughout different Cast windows won't affect the way the movie plays back; however, it does make it more difficult to find them again if you want to drag a behavior onto another sprite. Storing the behaviors in a separate Cast window makes it easier to locate them when you want to modify or apply the behaviors to other sprites that are added to the movie. The behaviors contained in the Library Palette that you're going to use in the movie have already been added to the behavior Cast window.

For the following exercises, you can use the explore7.dir movie you saved in the preceding exercise, or you can use the explore7.dir movie on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder.

Adding the Loop on Frame Behavior

1. Open the explore7.dir movie in Director, making sure that the Score Window is open.
2. Click in frame 82 of the script channel under the marker named intro text. Choose the Hold on Current Frame behavior from the Behavior pop-up menu in the Score window.

You can find the Hold on Current Frame behavior in the Navigation category of the Library Palette.

3. Add this behavior to the other frames in the movie that contain markers (except the marker named start). Alternatively, you can copy the first behavior that you applied and paste in into the other frames.
4. Save the movie as **explore8.dir**.

Next you're going to add a behavior to the navbutton sprites on the main navigation bar that enables the buttons to become highlighted when the mouse rolls over them, display a down state and play a sound when clicked, and then jump to a specific section of the movie. The behavior you use is the MultiPurpose button behavior that you used in Chapter 7 to create multistate buttons. This behavior was custom built into Lingo to combine the features of several different behaviors found in Director's Library Palette into a single behavior.

Adding the Main Navigation Behaviors

1. Open the explore8.dir movie in Director, making sure that the Score window is visible. Open the Cast window and choose the behaviors cast.
2. Scroll the Score window so that the navbutton up sprite that begins in frame 31 of sprite channel 3 is visible.

Remember that earlier in the movie, you added the sprite that serves as the label for the button in the sprite channel below the button.

3. Drag the MultiPurpose Button behavior from the behavior Cast window onto the navbutton up sprite that begins in frame 31 of channel 3. The Parameters dialog box for the behavior appears, as shown in Figure 9-18.
4. As long you haven't moved any of the nav button cast members in the Cast Window the default cast members listed for the different states should be the correct ones. Make sure that the cast members used for the button states match the ones shown in Figure 9-18; if not, select the correct cast members from the pop-up menus for each parameter.

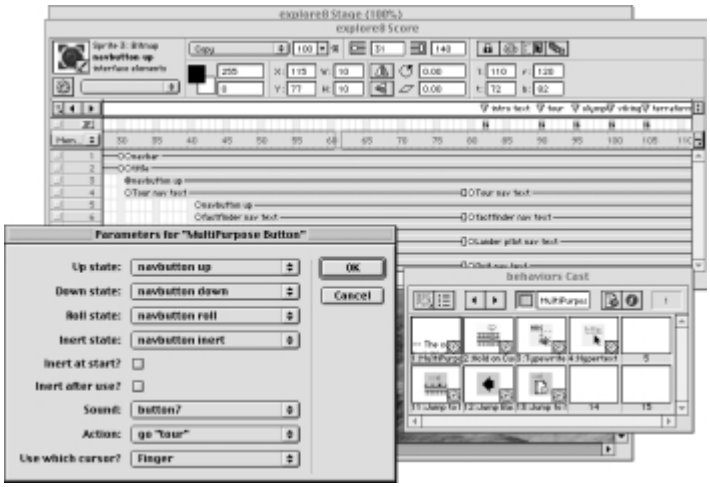

Figure 9-18: Make sure that cast members used for the button state parameters are the ones shown in this figure.

5. Select the "tour" marker from the Action pop-up menu. There is only one sound in the movie, so the button7 sound parameter is correct. If you want to use a cursor other than the finger for the rollover state, select a different cursor from the Use which cursor? pop-up menu.

6. Repeat Steps 3, 4, and 5 for the navbutton sprites in channels 5, 7, and 9. Select these parameters from the Action pop-up menu: channel 5 = "Fact"; channel 7 = nothing; channel 9 = nothing.
7. Save the movie as **explore9.dir**, and then rewind the movie and play it. Click the each of the buttons to make sure that they display the correct cast members for each state, that the sound plays, and that the first two buttons go to the correct markers.

For the time being, the Lander Pilot and Quit buttons perform no action. Both of these buttons require a different type of behavior that you add in exercises later in this chapter.

Using the Jump to Marker behavior for the Quit button

There are many situations that will arise in your movies in which you want the user to jump to another section of the movie and then return to the point in the movie from which the user came. In the movie that you're building in this chapter, the Quit button on the main navigation bar needs to have this kind of functionality. When the user presses the Quit button, the user should have the option either to terminate the application or to change his or her mind and continue viewing the movie. If the user chooses to continue viewing the movie, it's a good practice to return to the screen that the user was viewing previously.

Director has several built-in behaviors that can be applied to a button that keep track of the frame where the movie was when the user pressed the button. The Jump to behaviors function like the Back and Next buttons in a Web browser, enabling a user to backtrack through the screens that they have viewed previously. These behaviors are very useful for a complex movie that has a large amount of interactive content. You can create a set of buttons that will automatically step the user through the sequence of screens that they chose to view in the movie or movies. You can also use these behaviors to create hyperlinks that branch to a deeper level of content contained in any movie, and then jump back to the original movie at the frame that the user was viewing previously.

The behaviors that perform these operations are in the Navigation category of the Library Palette. They are called the Jump Forward, Jump Back, Jump to Marker, and Jump to Movie behaviors.

In the next exercise, you add functionality to the Quit button on the main navigation bar of the explore9.dir movie. When the user clicks the Quit button, a screen asks whether to terminate the application or continue viewing the movie. Director's built-in Jump to Marker behavior enables a user to jump to the Quit screen. If the user decides to continue viewing the movie instead of terminating it, the user can click a button that returns the user to the frame in the movie where the user clicked the Quit button. This behavior stores the frame number that the user was viewing when the user clicked the Quit button. If the user presses the Cancel button, the user returns to the frame in the movie that the user was viewing previously.

A discussion about quitting

Unless you are building a multimedia application that you're sure will be viewed only by experienced computer users, you may want to consider not having the Quit button actually terminate the application. If the user accidentally clicks the Quit button, but hasn't actually finished viewing the movie, the user will have to relaunch the application. In most cases, you want give the user a *second chance* to decide to actually terminate the application or continue viewing the movie. Although this technique requires the user to make an extra mouse click to quit the movie, it's generally a good approach, especially if your application is being designed for less-experienced computer users.

One method to prompt the user when the Quit button is clicked is to build an alert dialog box, which gives the option to terminate the movie or continue playing it. Creating these kinds of dialog boxes requires some pretty complex Lingo scripting in combination with Director's MUI (Macromedia User Interface) Xtra. The MUI Xtra enables you to create dialog boxes that have the same look, feel, and functionality as the operating system's dialog boxes. You can learn more about creating custom dialog boxes with the MUI Xtra in Chapter 23.

If you're not very comfortable with Lingo—or you don't want to have a dialog box appear that looks like it's part of the computer's operating system—you can build an interim screen in the movie that asks the user if he or she wants to terminate the application or continue viewing the movie. The advantage to this approach is that it enables you to use the same look and feel as the rest of the movie. This interim screen is also a good place to include the credits for your movie.

Adding the Jump to Marker Behavior

1. In Director, open the explore9.dir movie that you saved in the preceding exercise, making sure the Score window is open. Then select the behaviors Cast window.
2. Locate the Jump to Marker behavior and drag it onto the navbutton up sprite in channel 9.

The Jump to Marker behavior is located on the Library Palette in the Navigation category.

3. In the Parameters dialog box, choose the Quit marker from the On mouseUp, jump to marker menu, set the Jump Mode to Play and Return, and make sure that the Remember Current Marker for Back button? box is checked, as shown in Figure 9-19.

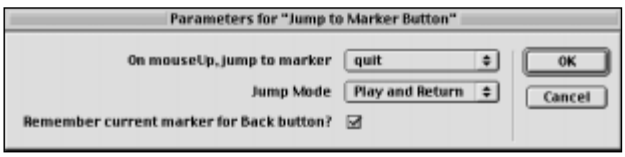

Figure 9-19: The parameters are correctly set for the behavior.

4. With the Score window active, press the Tab key. This action advances the movie to the last frame that has a sprite in it (the Quit screen in this case). Drag the Score window so that the two buttons labeled Cancel and OK are visible on the Stage.

5. Select the button labeled Cancel, locate the MultiPurpose Button behavior in the behaviors Cast window and drag it onto the sprite. Select the following cast members for the button state parameters: Up state = GlassButton up; Down state = GlassButton down; Roll state = GlassButton roll; Inert state = GlassButton up. The sound parameter should be correct, because there is only one sound in the movie. You want to make sure that the nothing is chosen for the action parameter. Use the default Finger cursor if that is the one that you're using for the other buttons.

6. Drag the Jump Back button behavior from the behavior Cast window onto the sprite. This behavior intercepts a message sent from the Jump to Marker behavior applied to the Quit button that keeps track of the frame number the movie was in when a button that contains a Jump to behavior is clicked.

Director's built-in behaviors contain detailed descriptions of the functions that the behavior will perform. To see this information, double-click the behavior in the Cast window; this activates the Behavior Inspector. The information about the behavior is in the Description pane of the Behavior window. If you click the Script button in the Behavior Inspector, you will find that the Lingo script usually contains commented information that goes into greater detail about the behavior's functionality.

7. Save the movie as **explore10.dir**. Rewind the movie and play it. Click the Quit button on the main navigation bar. When the Quit screen appears, click the Cancel button. Try this from several different frames of the movie and note that you are brought back to the exact frame in the movie that you were in when you clicked the Quit button.

The Jump to Marker and Jump Back button behaviors are designed to work together. If you apply the Jump to Marker behavior to a button, you have to apply the Jump Back button behavior to the button that is used to jump back to the previous frame of the movie that was being viewed.

You can have this same functionality if you want to jump between several movies by using the Jump to Movie behavior in combination with the Jump Back button behavior. You learn how to use this technique later in this chapter.

Terminating the application

Director has two Lingo commands that you can use to terminate the application: Quit and Halt. The Quit command stops the movie and terminates the Director application. This can be very frustrating while you are building the movie, because you have to relaunch Director each time you click the button that has the Quit command applied to it.

Instead of the Quit command, use Lingo's Halt command. The Halt command functions similarly to the Quit command by terminating the application when the movie is played as a projector, but it does not terminate the Director application while you're building the movie.

Now you need to add a behavior to the OK button located on the Quit screen that terminates the application. To accomplish this, you apply the MultiPurpose button behavior to the OK button, and then you build a custom mouseUp event that uses Lingo's Halt command to terminate the application.

Adding the Halt Command to the OK Button

1. Open the explore10.dir movie that you saved in the preceding exercise, and make sure that the Score window is active.
2. Press the Tab key to advance to the last frame in the movie, and drag the Score window so that the button labeled OK is visible on the Stage. Click the Behavior icon on the Toolbar to activate the Behavior Inspector.
3. Click the Behavior pop-up button and choose the MultiPurpose button behavior from the list. In the Parameters window, choose the same cast members for the buttons states that you applied to the Cancel button in the preceding exercise, and then click OK to return to the Behavior Inspector. Figure 9-20 shows the correct parameter settings that should be applied to the behavior.

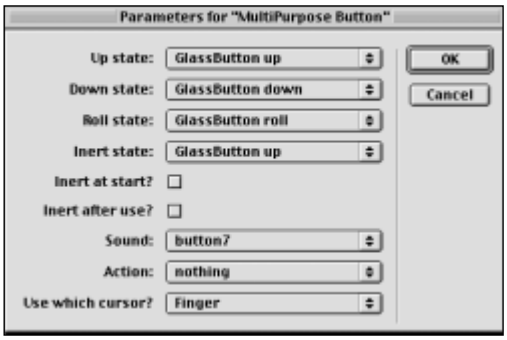

Figure 9-20: Choose the same parameters as shown in this figure.

4. Make sure that the behaviors Cast window is open, and then click the Behavior Inspector to make it active. If the window is blank, reselect the OK button sprite.
5. Click the Behavior pop-up button, and choose the New Behavior option. A dialog box appears, prompting you to name the behavior; name it **QuitMovie**.

6. Make sure that the Events and Actions pane is open in the Behavior Inspector. Click the Event button, and choose the mouseUp event. Then click the Action button and choose Navigation ➪ Exit. Figure 9-21 shows how the behavior should appear in the Behavior Inspector window.

Figure 9-21: The Event and Action have been added to the QuitMovie behavior.

The Exit option uses the Lingo Halt command. Don't confuse this with the Lingo command called exit that is used to exit a handler. If you open the script for this behavior, you will see that Director is using the Halt command.

7. Save the movie. Rewind the movie and play it. Click the Quit button and then click the OK button. The movie should stop playing and return you to Director's main window.

When you build a new behavior with the Behavior Inspector, the cast member that's created is stored in the first available slot of the active Cast window. Having the behaviors Cast window active when you built the behavior ensured that the cast member would be stored in the same Cast window as the other behaviors used in the movie.

Building the QuickTime VR Tour

You use Apple's QuickTime VR (QTVR) technology to create photorealistic virtual environments that are platform independent. This exciting new technology is beginning to see widespread use both on the Web and in stand-alone applications such as games. There's even a QTVR that was taken on the planet Mars (definitely one of our favorite QTVR movies).

There are three types of QuickTime VR media: Panoramas, Objects, and Scenes. Each media type and their uses are as follows:

- A QTVR *panorama* enables you to view a scene — usually a landscape or a room in a house or building — from a variety of angles. Most panoramas are created using a full 360-degree view, giving the illusion that you're standing in the center of the scene. View a panorama by dragging the mouse in the direction that you want to view. When you move the mouse to a different quadrant of the window, the cursor changes to indicate the direction that you are moving in the scene.
- A QTVR *object* enables you to view a three-dimensional object, such as a car or a computer monitor, from a variety of angles. Rotate an object by clicking the mouse button on the object and dragging it in the direction that you want to view it.
- A QTVR *scene* is usually a collection of panoramas, objects, and other media, such as Web links, and static images, such as maps, that are combined into one movie. Each of these individual components is called a *node*. A QTVR scene contains hot spots — areas that link the nodes together. When the mouse passes over one of these hot spots, it changes to a finger, indicating that you can perform some action in the panorama. For example, you could have a panorama of a living room, and when the mouse passes over the door to the kitchen you can have a hot spot that enables the user to click on the door and view another panorama of the kitchen.

Director fully supports the three QuickTime media formats. There are several Lingo commands that you can use to control various functions of the QTVR movies, such as the playback quality, size, and zoom settings.

You learn more about Director's QTVR Lingo commands in Chapter 19, where you'll use Lingo to add functionality to a multinode QTVR scene.

Although you have a quite a bit of control over the way QuickTime VR files are used in your movies, Director does not have the capability to create the actual QTVR panoramas, objects, and scenes. You need to create them in another application, such as Apple's QuickTime VR Authoring Tool, and then import them into Director.

For users to view QTVR movies, they need to have QuickTime installed on their systems. If you're distributing your movies on CD-ROM, you should look into licensing QuickTime from Apple so that you can include a QuickTime installer with the your interactive applications. Another approach is to create a Lingo script that detects whether QuickTime is installed on the user's system. If it's missing, you can have an alert box appear, asking users if they want to download it from the Web. Director then can launch the user's browser to download the QuickTime extensions. This technique works for projectors as well as for Shockwave movies, as long as the user has a Web browser and a connection to the Internet.

Remember that large QTVR movies (especially complex scenes) can be very resource intensive. If your Director movies will be viewed on slower computers, you may want to avoid using complex QTVR scenes in your applications.

You can learn more about Apple's QuickTime VR technology, and see several QTVR examples at their Web site at `http://www.apple.com/quicktime`

Importing QuickTime VR movies into Director

There's no big mystery to importing QuickTime VR movies into Director. QTVR movies appear to Director as a QuickTime movie, and you import them the same way as any other digital video file. Remember that QTVR movies are linked files, so the QTVR movies should be in the same folder as the Director movie. You also want to make sure that you include the original QTVR files if you are distributing your Director movies as projectors.

In the next exercise, you import and place three QTVR files — olympus.mov, viking.mov, and mohole.mov — into the explore11.dir movie, which is on the CD-ROM. This movie has all the elements in it that you added in the previous exercises, except that we added the navigation behaviors to the second-level navigation elements.

You need to have QuickTime 3.0 or greater installed on your system for the next exercise. The QuickTime installer for both the Macintosh and Windows is on the CD-ROM in the GOODIES:QUICKTIME (GOODIES\QUICKTIME) folder.

The explore11.dir and three QTVR files olympus.mov, viking.mov, and mohole.mov are on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder. You may want to copy these files to a folder on your hard drive before beginning the following exercise.

Adding the QTVR Movies

1. Open the explore11.dir movie in Director. Press Command+3 (Ctrl+3) to display the internal Cast window.
2. Choose File ➪ Import or press Command+R (Ctrl+R). When the Import dialog box appears, select the olympus.mov, viking.mov, and mohole.mov files, and then click OK to import the files and return to Director's main window.
3. In the Score window, click the Markers pop-up menu and choose the Olympus marker. Click Sprite channel 24, and drag the Olympus cast member into the core window or onto the Stage.
4. Open the Property Inspector and click the Sprite tab, make sure that the QTVR sprite is still selected, and position the sprite by entering **375** into the X field and **300** into the Y field of the Property Inspector window (see Figure 9-22).

Pressing the Tab key advances you to the next field in the Sprite Inspector. This technique works for most of Director's dialog boxes and tool windows that have multiple text fields.

Figure 9-22: Use the Property Inspector to position a sprite on the Stage.

5. Repeat Steps 3 and 4 for the viking and mohole QTVR cast members. Place the viking QTVR in the frame labeled viking and the mohole QTVR in the frame labeled terraforming.
6. Save the movie as **explore12.dir**, and then select the tour marker from the marker window and play the movie. Press the Olympus Mons button, and then drag the mouse on the VR.

Press the Shift key to zoom in on the VR. Press the Control (Alt) key to zoom out.

Displaying the controller in QTVR movies

You can set the properties of a QTVR movie to display a controller in the same way that you can with other digital video movies in Director by choosing the display controller option in the QuickTime Cast Member tab of the Property Inspector. You might want to display the controller if you want the user to be able to zoom in and out or view the hot spots. Although it's possible to use a key command to zoom, it might be easier for the user to use the zoom tools found on the controller.

You have to choose the Direct to Stage property to display a controller in a QTVR or digital video movie.

Another good reason to display the controller is to give users a short description of parts of the scene, or to inform them where a hot spot will take them if they click on it. It's possible to create QTVR movies that can display a text description of a hot spot in the controller bar. When you viewed the QTVR panoramas in the preceding exercise, you may have noticed that the cursor frequently changed to a finger. These are hot spots that we built into the panoramas that contain text descriptions of different elements in the scene. In the next exercise, you set the properties of the QTVR movies to display the controller, enabling users to view the text descriptions. You also set several properties that enable Director to preload the panorama into memory and play the QTVR movie at maximum speed.

Setting the QTVR Properties

1. Make sure that the explore12.dir movie that you saved in the preceding exercise is open in Director.
2. Open the Cast window, and select one of the QTVR cast members. With the cast member selected, click the Properties button in the Cast window. When the Property Inspector appears, click the QuickTime tab.
3. Click the Show Controller checkbox, set the Video property to Play Every Frame (No Sound), set the Rate property to maximum, and click the Enable Preload option. These settings optimize the playback of the QTVR panorama.

When the Enable Preload option is selected, Director loads the entire QTVR movie (or as much as of the movie as will fit into the available memory) when the movie starts playing so that there won't be a delay when the QTVR movie is displayed.

4. Repeat Step 3 for the other two QTVR movies.
5. Save the movie as explore13.dir, rewind the movie, and play it. Click the Virtual Tour button, and then select one of the QTVR panoramas. When you drag the mouse over a hot spot, note that a brief description of the hot spot appears in the controller.

Click the Arrow button in the controller to view the hot spots that are contained in a QTVR movie.

QuickTime VR can literally add another dimension to your Director movies. Use Lingo to add other features to your QTVR movies, such as custom control buttons, to have the panoramas automatically zoom in or out, and to control the playback quality. It would even be possible to have the text that was displayed in the controller of the panoramas be displayed in a Director text cast member.

Adding Content from Other Sources

If you're an experienced Director user, you've probably had to recreate from scratch a PowerPoint presentation to use in a movie, because it wasn't possible to import PowerPoint files.

Have you ever tired to create hyperlinks for a movie? In earlier versions of Director, it required a good working knowledge of Lingo to create them.

Director has solved most of these problems by enabling you to import PowerPoint presentations and HTML text into your movies. You may want to keep this a secret, though, because the world is full of poorly designed HTML pages and PowerPoint presentations that your client will want to use in a Director movie. All kidding aside, these features can really save a lot of movie-building time. The key to effectively using these types of media in Director is to try to control the initial design so that they fit seamlessly into your movies.

If you are planning to use PowerPoint or HTML text content in a Director movie, design a template that fits the look and feel of the movie and have whoever is creating the content use these templates. This will save you from a lot of headaches later.

Importing PowerPoint presentations

Importing a PowerPoint presentation into Director is a somewhat convoluted process. When you import a PowerPoint file using the Import PowerPoint File Xtra, Director takes all the individual elements (text, graphics, transitions, and so on) of the original PowerPoint file and converts them to individual cast members. Director then rebuilds the presentation in the Score window, using the converted cast members, and automatically applies a Wait For Mouse or Key Click Tempo setting for each slide. You define the way that Director will assemble the elements in the Score by means of the PowerPoint Import Options dialog box that appears after you have chosen a file to open (see Figure 9-23). The PowerPoint Import Options dialog box enables you to the set these options:

- Slide Spacing determines the number of empty frames in the Score between slides.
- Minimum Slide Duration determines the number of frames in the Score that a slide will use if it has no build or animation effects applied to it.
- If the presentation contains static build effects (such as text builds), Director will create a new slide for each effect. Item Spacing determines the number of empty frames between build slides.

- Fly Transition Item Spacing determines the number of frames in the Score that will be used to recreate any animated transition effects in a slide. Unfortunately, this setting is applied globally to all of the transitions in the file; however, you can adjust them individually in the Score window after the file has been converted.

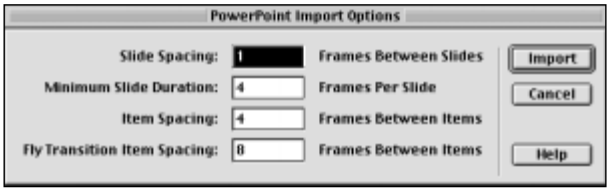

Figure 9-23: Use the PowerPoint Import Options to set frame duration for the slides and effects that Director will use to create the presentation in the Score window.

When Director imports a PowerPoint file, it creates a copy of the presentation file, which means that you can enhance the Director movie without affecting the original PowerPoint document. Use Lingo to add more interactivity to the presentation, such as enabling users to select which slides they want to view from a pop-up menu. You can also use any of the features in Director to add sophisticated interactivity, such as synchronized audio and animation.

In most cases, Director does a very good job of retaining the original look and feel of a PowerPoint presentation. Nevertheless, there are several caveats of which you need to be aware before importing a PowerPoint file:

- Director can import only version 4.0 PowerPoint files. If you are using a newer version of PowerPoint, you need to save the presentation as a PowerPoint 4.0 file.
- You can import a PowerPoint presentation into a new Director movie only. If you want to add a PowerPoint file to an existing movie, you need to create a new movie, import the file, and then copy and paste the Score data from the movie into the movie to which you are adding the presentation.
- When Director encounters a feature in a PowerPoint presentation that it doesn't support, such as certain transitions or fonts, it substitutes the closest matching feature. Both the user manual and Director's built-in help engine contain a detailed description of PowerPoint's features and how they are converted in Director. To view this information in Director's built-in help engine, type **PowerPoint** in the Find section, and then choose the Comparison of PowerPoint and Director Features category.
- You may run out of memory if you're importing a large PowerPoint file that contains several OLE objects, such as charts and graphs, or if the file contains many large bitmap images. If this is the case, you may want to divide the PowerPoint file into several smaller ones and import them individually.

The movie that you've been building in this chapter uses a simple PowerPoint presentation in the FactFinder section. In the next exercise, you import a PowerPoint presentation that we built for you into a new Director movie. Because you cannot import PowerPoint files directly into an existing movie, you will copy and paste the Score data into the explore13.dir movie that you saved in the preceding exercise.

You use a PowerPoint file named facts.ppt for this exercise, which is on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder.

Importing a PowerPoint File

1. Open Director and create a new movie.
2. Choose Xtras ➪ Import PowerPoint File. A dialog box appears, prompting you to locate a PowerPoint file. Select the facts.ppt file and click Open.
3. The PowerPoint Import Options dialog box appears, as shown in Figure 9-23. The only option you need to adjust is the Slide Spacing. Enter **1** in the Slide Spacing field. Because you are using the default Item Spacing of 4—forcing each slide to span 4 frames of the movie—you are left with one empty frame between slides, so each slide begins 5 frames from the previous one. This makes it easier to paste the slides into the explore.dir movie, because the markers that you placed in the movie that will contain the slides are spaced 5 frames apart. Click Import, and the file is imported into Director and the elements appear on the Stage and in the Score window, as shown in Figure 9-24.

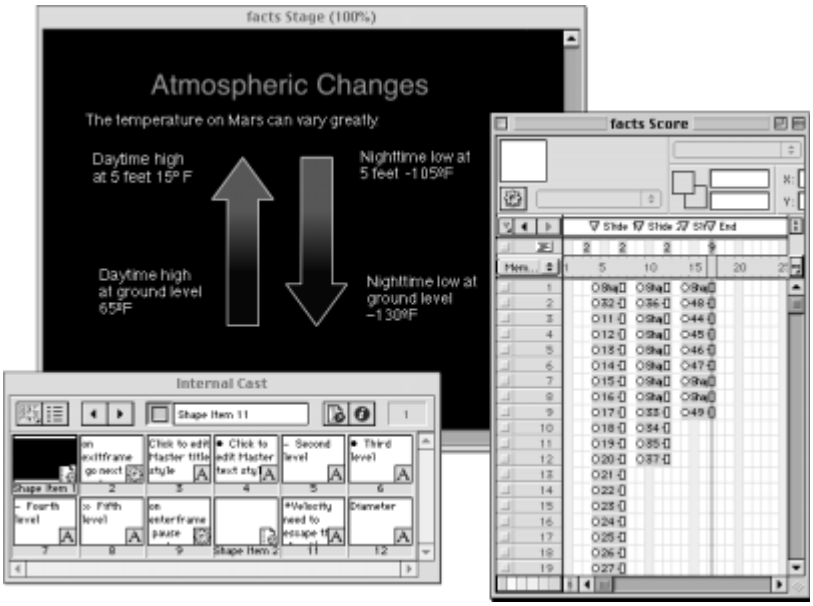

Figure 9-24: The converted PowerPoint file as it appears in Director.

After the file is imported, you will be alerted to reset the Stage size of your movie to match the size of the PowerPoint presentation. Because you will be copying the content into a new movie that is a different size, you can ignore this alert.

4. Save the movie as **facts.dir**. Rewind the movie and play it. Note that you can click the mouse or press any key to advance to the next slide. Take a few moments to explore how the movie is constructed by examining the Score and Cast windows.

Now that you have the PowerPoint file converted to a Director movie, you need to copy the contents of the facts.dir movie into the explore13.dir movie that you saved to your hard drive at the end of the QTVR exercise earlier in this chapter. The easiest way to accomplish this is to copy the Score data from the facts.dir movie, and then paste the data into the explore13.dir movie. When you paste the Score data from one movie into the destination movie, Director places all of the cast members that the sprites in the Score window are referencing into the active Cast window.

You may have noticed earlier that Director created 50 cast members when it converted the facts.ppt PowerPoint file. If you have the Internal or one of the other Cast windows active when you paste the Score data into the explore13.dir movie, the active Cast window will become quite a mess. To avoid this problem, you create a new Cast window, called PowerPoint, that will be active when you paste the score data from the facts.dir movie. This will make it much easier to identify the cast members that are used for the PowerPoint slides, because they will be contained in their own Cast window.

Inserting the PowerPoint Slides into an Existing Movie

1. With the facts.dir movie open in Director, make the Score window active so that all of the sprites that make up the three slides are visible.
2. Select all of the sprites, except the one called Shape item 11 in sprite channel 1, by clicking on the first sprite in channel 2, and then holding the Shift key down and clicking in frame 18 of sprite channel 23 (see Figure 9-25).

The sprite in channel 1 is a black rectangle that's used as a background for the slides. Because the movie into which you're going to paste these sprites already has a black background, this sprite is redundant and isn't needed.

3. Press Command+ C (Ctrl+C) to copy the sprites to the Clipboard.
4. Open the explore13.dir movie that you saved earlier in the chapter. Make the Cast window active. Click the Choose Cast button, and select the New Cast option. When the New Cast dialog box appears, name the Cast **PowerPoint** and make sure that the Internal Radio button is selected.
5. Close any other open Cast windows to make sure that the PowerPoint Cast window is active.

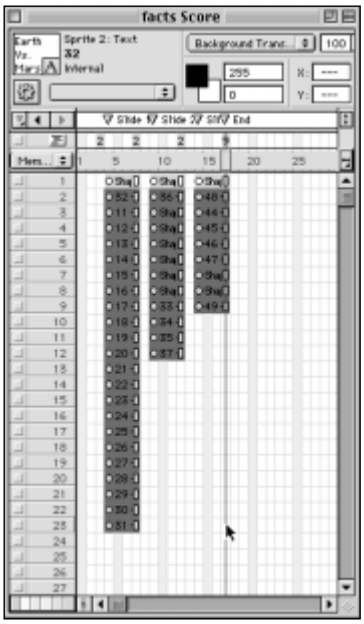

Figure 9-25: All of the sprites that you want to paste into the destination movie are selected.

6. In the Score window, click sprite channel 24 in the frame that contains the ppt1 marker. Choose Edit ➪ Paste Sprites. Director pastes the sprites from the Clipboard into the Score beginning from the selected point in the Score window. The cast members are pasted into the PowerPoint Cast window, as shown in Figure 9-26.

You might want to assign a color to these sprites to make it easier to identify them later. Make sure that the sprites are still selected in the Score window, and click on one of the color swatches located at the bottom-left corner of the Score window.

7. Save the movie as **explore14.dir**. Now you need to reposition all of the sprites so that they are located in the proper position on the Stage.

8. Make sure that all of the sprites that you pasted into the movie are still selected. In the Score window, put the playback head in the frame that's labeled with the ppt3 marker, and then drag the Score window so that the Stage is visible.

If you try to move the sprites on the Stage by dragging them, chances are that you'll only choose one sprite instead of all of them. The safest way to move the sprites so that they all stay selected is to use the Tweak window.

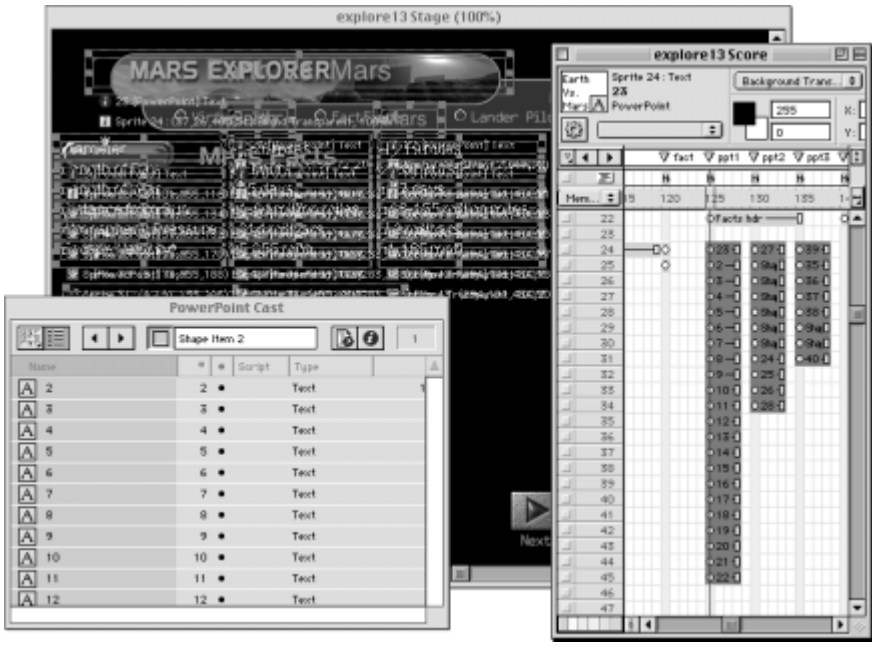

Figure 9-26: The sprites are pasted into the destination movie, beginning at the selected frame.

9. Open the Tweak window by pressing Command+Shift+K (Ctrl+Shift+K). Enter **125** into the Horizontal Offset field and **100** into the Vertical offset field to position the sprites close to the final position that you want. Fine-tune the position of the sprites by entering new numbers into the Horizontal and Vertical Offset fields until you are satisfied with the final position. The Stage should look similar to the one shown in Figure 9-27.

If you want to tweak a sprite in one direction only, make sure that you enter 0 in the other Offset field.

After you are satisfied with the position of the sprites, press Command+L (Ctrl+L) to lock them. This will prevent you from accidentally selecting and moving one of the sprites.

10. Save the movie, and then rewind it and play it. Click the Factfinder button, and then click the Mars Facts button. Click the Next and Prev button to view all three screens to make sure they are positioned correctly.

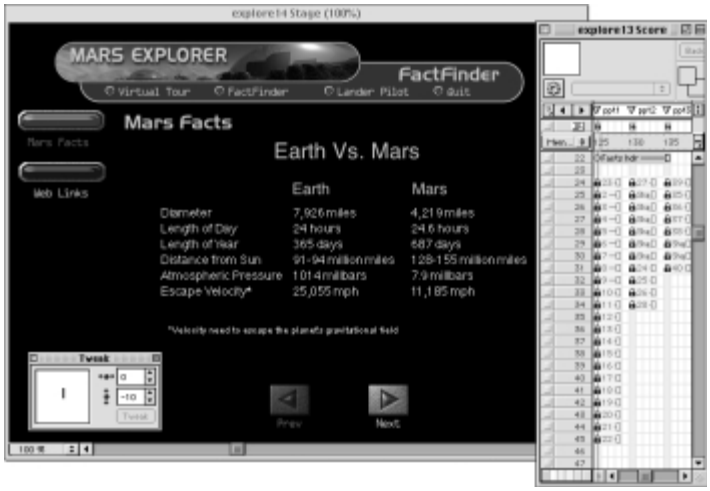

Figure 9-27: Use the Tweak window to adjust the position of the sprites so that they look similar to the figure.

Adding a PowerPoint file to an existing Director movie is a bit cumbersome. Carefully structuring the way that Director creates the sprites in the Score and creating a separate Cast window that will contain the cast members that are pasted into the destination movie will save you considerable time and headaches. Locking the sprites after they have been placed in your movies prevents you from accidentally bumping a sprite out of position.

Using HTML text in a movie

In today's world, almost every multimedia application has some type of Internet component to it. These components cover a wide range of possibilities, ranging from a simple link to a Web site to a multiuser CD-ROM game that connects to a server and enables you to compete online against other people from all over the world.

It's possible to create applications with Director that cover both ends of this spectrum. In this section, you learn the basics of Director's Internet capabilities by importing an HTML document that contains hypertext links to several different Web sites. Then you apply a built-in behavior to the HTML text that will launch a Web browser and display the chosen Web site when a user clicks a hyperlink.

When an HTML document is imported into a movie, it becomes a text cast member, giving you the same formatting control and options that you have with any other text cast member. Director recognizes most of the standard HTML tags and parameters, and approximates this formatting in the text cast member.

Director does not recognize the <APPLET>, <FORM>, <FRAME>, <INPUT>, or <IMAGE> HTML tags and ignores them when the file is imported. Director only imports the text that's contained in the HTML document. Because the listed tags are used for elements other than text, they are not supported.

If the HTML text cast member contains hyperlinks that you want to have available in your movie, you can set a property called Use Hypertext Styles. This property causes the hyperlinks in the cast member to be colored blue and underlined; visited links are colored red. If you want to use colors other than blue and red for your links, you need to use Lingo to set the colors.

In the next exercise, you import an HTML document called links.html, which contains several hyperlinks to the explore14.dir file to be used in the Links section of the movie. After importing the document, you apply Director's Hypertext-General behavior, which enables the hyperlinks in the document to function as they do in the original HTML file.

The links.html file that you need for this exercise is located on the CD-ROM in the EXERCISE:CH09 (EXERCISE\CH09) folder.

To test the functionality of the Hypertext links that you are adding to your movie, you need to have a Web browser with a connection to the Internet installed on your computer.

Importing HTML Text

1. Make sure the explore14.dir movie that you saved in the preceding exercise is open in Director. Open the internal Cast window.
2. Choose File ➪ Import or press Command+R (Ctrl+R). Locate the links.html document, double-click on it or click the Add button, and then click the Import button. A dialog box appears, prompting you to choose a format for the text document. Select the text option and click the OK button to import the file.
3. Locate the links cast member and double-click on it to open the cast member in the Text window. The text is colored green on a black background and the hyperlinks are blue and underlined. The text cast member is using the same formatting that was applied to the original HTML document.
4. Change the font to the embedded font used for the other text in the movie by selecting all of the text and choosing the font called *Optical C-Normal from the font menu, as shown in Figure 9-28.

The asterisk in front of the font name signifies that the font is embedded in the Director movie.

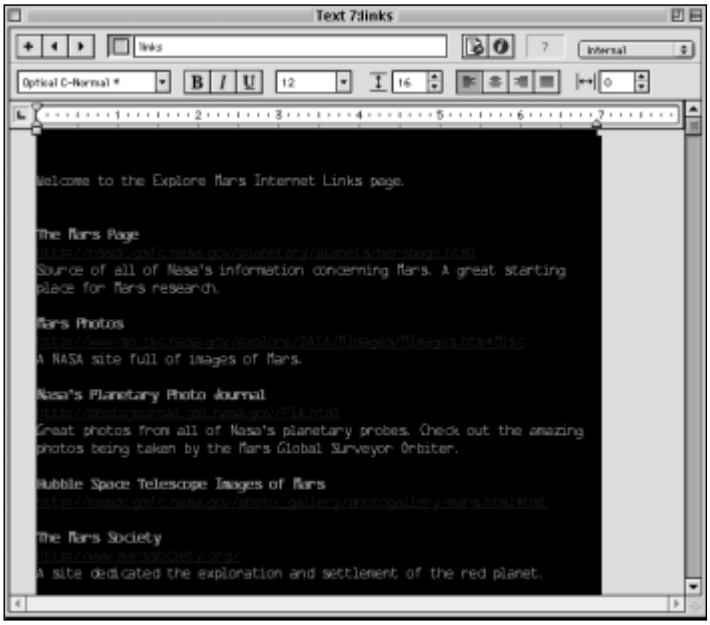

Figure 9-28: An embedded font has been applied to the text cast member.

5. Click the Properties button in the Text window. When the Property Inspector appears, set the Anti-Alias property to All Text.
6. Open the Score window and make sure that frame 24 in the sprite channel labeled with the HTML marker is visible. Hold down the Option (Alt) key and drag the links cast member into frame 24. This places the sprite in a single frame of the Score.
7. Close the Score window, make sure that the links sprite is selected on the Stage, and open the Sprite tab on the Property Inspector. Change the size of the sprite to 450 pixels wide by 325 pixels high by entering **450** and **325** into the Width and Height fields, respectively. Then drag the text sprite so that it's centered in the lower right quadrant of the Stage. When you are finished, the Stage should look similar to Figure 9-29.
8. With the sprite still selected, open the Property Inspector and click the Behaviors tab. Choose the Hypertext-General behavior from the Add Behavior pop-up menu. Click OK when the Parameters dialog box appears, asking if you want to use Hyperlink styles.

The Hypertext-General behavior is on the Library Palette in the Text category.

Figure 9-29: Position the links sprite similarly to the one shown in this figure.

9. Save the movie as **explore15.dir**, and then play it. Click on one of the hyperlinks. Your Web browser opens and displays the Web page that you chose.

You can also use the Hypertext-General behavior to send an e-mail message, go to an ftp site to download from the Internet, or execute a Lingo script. Any Hyperlink that contains the following URL schemes — `http://`, `https://`, `ftp://`, and `mailto:` — will work with this behavior. If you want to trigger a Lingo script with the behavior, the hyperlink must start with Lingo.

You can add Hypertext links to any text cast member by selecting the text that you want to contain the hyperlink, and then type in the URL for the link in the Hyperlink Data field of the Text Inspector.

Using Multiple Director Movies

If you are building large Director applications, you may want to consider breaking the project down into several different movies that are linked together. This modular approach is especially useful if several authors will be working on the project, reducing the development time needed to create complex Director applications.

This technique can also be used to create multimedia applications that are made up of separate modules that can be recombined to create customized versions of the application. For example, you can create a corporate sales presentation that will be used by several sales representatives. Each sales rep specializes in a separate product the company creates; therefore, each sales rep needs a customized version of the presentation. The main Director movie could contain content that every sales rep will need, such as a corporate overview and financial information. You then create separate movies for each product line, which are then linked to the main Director movie.

This type of modular approach not only enables you to quickly customize a presentation, but it's also a very efficient method for maintaining and updating content.

Launching an external Director movie

By now you are aware of the amount of control you have over the way a user can navigate through your movies. You can create navigation by using behaviors to jump to any frame or marker in the movie, and then keep track of the frames that user has visited to enable them to go back to any point in the movie. This same functionality can be used to jump to and from separate Director movies.

The Explore Mars Director movie that you've been building in this chapter only has one more piece of content to be added to complete the movie: the Lander Pilot game. This game is actually a separate Director movie called lander.dir. When the user clicks the Lander Pilot button on the main navigation bar in the Explore Mars Director movie, it launches the lander.dir movie. The lander.dir movie contains a button called Done that returns the user to the frame in the Explore Mars movie where the user clicked the Lander Pilot button.

In the next exercise, you apply the Jump to Movie behavior found on the Library Palette to the Lander Pilot button to launch the lander.dir movie, a small game in which the user gets to fly a rocket around the planet Mars. After finishing the game, the user can click the Done button and return to the frame in the Explore Mars movie where the user clicked the Lander Pilot button.

For the next exercise, you can use explore15.dir movie that you saved in the preceding exercise, or you can use the explore15.dir movie on the CD-ROM. You also need the lander.dir movie. Both of these movies are on the CD-ROM in the folder EXERCISE:CH09 (EXERCISE\CH09).

If you want to use the explore15.dir movie that you saved in the preceding exercise, you should copy the lander.dir movie into the folder on your hard drive that contains your explore15.dir movie.

Launching a Separate Movie

1. Open the explore15.dir movie in Director. In the Score window, make sure that the navbutton up sprite that begins in frame 51 of sprite channel 7 is visible.
2. Open the behaviors Cast window, locate the Jump to Movie button, and drag it onto the sprite. In the Open file dialog box, select the lander.dir movie and click the Open button. After you have chosen the lander.dir movie, you need to click the Cancel button to terminate this operation.

The Jump to Movie behavior is on the Library Palette in the Controls category.

3. The Parameters dialog box for the behavior appears, enabling you to set the following parameters for the behavior (shown in Figure 9-30):
   - The On mouseUp, go to movie parameter displays the path and destination movie.
   - You can enter a marker in the destination movie to which you want to jump.
   - Determine the Jump Mode. Go To does not retain the marker information of the current movie, whereas Play and Return stores the current marker information so that you can return to the same marker in the original movie.
   - The Remember current marker for Back button? option remembers the original movie for the Back button in the destination movie to use.

   Choose the Play and Return option from the Jump Mode pop-up menu and make sure that the Remember current marker for Back button? check box is enabled. Click OK to return to Director's main window.

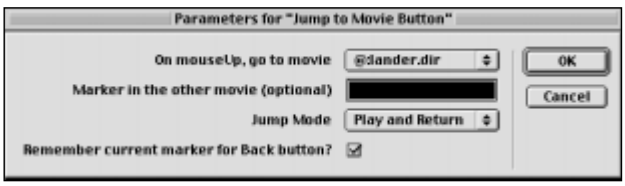

Figure 9-30: Set the parameters to control the way that the destination movie will be launched.

4. Save the movie as **explore16.dir**. Play the movie and click the Lander Pilot button. Have a little fun and play the game. When you've finished playing the game, click the Done button and note that you are returned to the same frame in the explore16.dir movie where you clicked the Lander Pilot button.

The Done button uses the same MultiPurpose button behavior that the buttons in the explore16.dir movie. We also applied the same Jump Back behavior to the Done button that you used for the Continue button in the explore movie. As you know, the Jump Back behavior stores the marker information, enabling the user to return to the previous marker.

The lander.dir movie is a slightly modified version of the Director movie that you'll create in Chapter 15, which teaches you how to use Lingo to control sprites.

Summary

This chapter discussed the following techniques:

- A flow chart that breaks down the individual components of a Director movie makes it much easier to identify the elements that you use for the movie, as well as aids you in structuring the navigation.
- Careful organization of the Score and Cast windows speeds up the production of your movies.
- Use Director's built-in behaviors to create complex navigation without having to program scripts in Lingo.
- Director supports a variety of external media, including QuickTime VR, PowerPoint files, and HTML text documents.
- You can link individual Director movies.

Chapter 10 discusses the tools and techniques used to create a better production process for your movies.

✦ ✦ ✦