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chapter 10

# Including CourseBuilder Interactions and Controls

THE COURSEBUILDER EXTENSION FOR DREAMWEAVER is a “must have” for learning application developers. This extension began as a software package, called Attain Objects for Dreamweaver, that was available for purchase. Now Macromedia generously gives this extension away on the Macromedia Exchange. CourseBuilder enables you to quickly and easily add learning interactions to your Web pages. CourseBuilder creates multiple choice, text entry, drag and drop, and other types of assessment interactions using a wizard interface. This extension enables you to create interactions that would take hours or days to do by hand in Dreamweaver alone with HTML and JavaScript.

Another advantage of using CourseBuilder is it enables your team to have consistent code. Reusing proven CourseBuilder interactions is better than having individual team members create interactions by using many different methods. Having consistent code makes it easier to troubleshoot problems you might run into when implementing your learning application.

This chapter covers the basics of inserting and editing CourseBuilder interactions and controls. Chapter 11, “Conquering CourseBuilder’s Action Manager,” goes into more depth on customizing interactions to work in unique ways. Chapter 12, “Scoring an Assessment and Hiding the Answers,” explores gathering scores from CourseBuilder interactions and scoring a quiz.

In this chapter, you will understand the following:

- How to insert and edit CourseBuilder interactions and controls
- How to configure the General tab of a CourseBuilder interaction
- How to configure Multiple Choice, Drag and Drop, Explore, and Text Entry interactions
- How to configure Button, Timer, and Slider controls

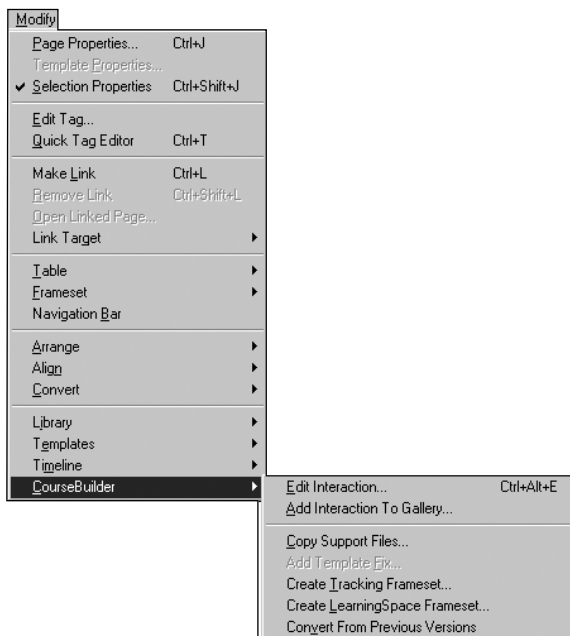
## Exploring CourseBuilder

Installing the CourseBuilder extension in Dreamweaver adds the CourseBuilder object to the Learning tab of the Insert bar. If you didn’t install CourseBuilder in Chapter 2, “Assembling the Team and Collecting the Tools,” you’ll want to return to the Manage Extensions section of that chapter and install CourseBuilder now.

After you install the CourseBuilder extension, you're ready to create new Web pages and insert the interactions. Installing the CourseBuilder extension adds three major commands to Dreamweaver:

- **A new Insert bar category**—The Learning tab enables insertion of a CourseBuilder object into a Web page. You can use the CourseBuilder object from the Learning tab of the Insert bar or select the CourseBuilder Interaction command from the Insert menu.
- **The CourseBuilder submenu**—Added to Dreamweaver's Modify menu, shown in Figure 10.1, this submenu contains commands to control CourseBuilder interactions.
- **The Using CourseBuilder command**—Available under the Help menu, this command gives you access to the extensive CourseBuilder help that's available.

CourseBuilder's strength is the JavaScript functions that control interactions.



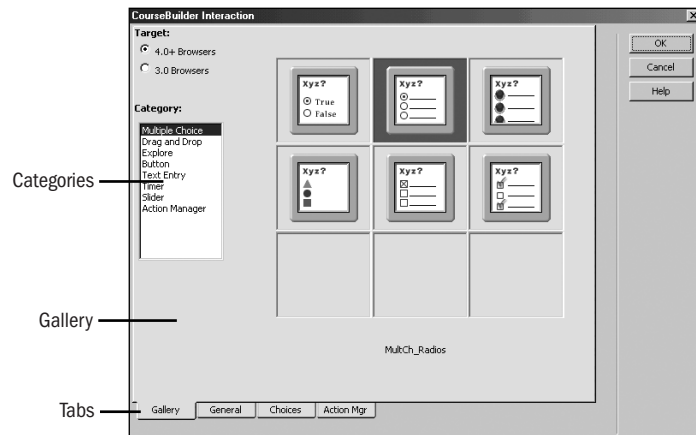
**Figure 10.1**

The CourseBuilder submenu in the Modify menu gives you access to CourseBuilder commands.

When you insert a CourseBuilder object into a Web page, you are presented with the CourseBuilder Gallery, shown in Figure 10.2. In the upper-left corner, you can select interactions that will work in 3.0 or 4.0+ browser versions. If you select 3.0 browsers, you can add only simple Multiple Choice and Text Entry interactions. For the examples in this chapter, select the 4.0+ Browsers radio button.

**Figure 10.2**

The CourseBuilder Gallery displays CourseBuilder interactions that work in 3.0 or 4.0+ browsers.



With the 4.0+ Browsers option selected, the CourseBuilder Gallery has eight categories: Multiple Choice, Drag and Drop, Explore, Button, Text Entry, Timer, Slider, and Action Manager. When you select one of the categories listed on the left side of the Gallery, the interactions available in that category appear on the right, represented by icons. When you select an interaction, the tabs to set up the interaction appear at the bottom beside the Gallery tab. The tabs vary according to the function of the interaction you select.

CourseBuilder objects are divided into two groups: interactions and controls. In the interactions group are the Multiple Choice, Drag and Drop, Explore, Text Entry, and Action Manager categories. These objects are useful in online learning applications as assessment questions and knowledge checks.

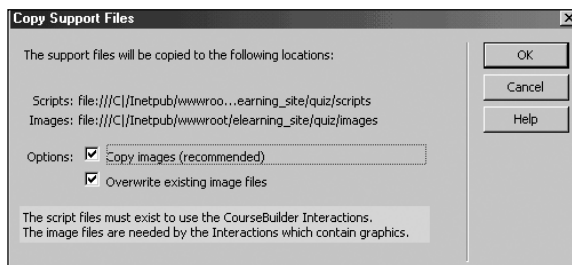
In the controls group are the Button, Timer, and Slider categories. These objects are useful as navigation controls, switches, and time-monitoring devices. This type of CourseBuilder interaction is more like a “gadget” that you add to your Web page.

## Copying Support Files

Before you insert a CourseBuilder interaction, you must save the Web page so that CourseBuilder can insert the correct hyperlinks. The first time you insert a CourseBuilder interaction into a Web page in your site, CourseBuilder prompts you to copy support files. The Copy Support Files dialog box is shown in Figure 10.3. The support files consist of a scripts directory, containing the external JavaScript files that make the CourseBuilder interactions function, and a directory of images, including placeholder graphics and images used for buttons and timers.

By default, CourseBuilder inserts the support file directories into the same directory where the current Web page is saved. That means if you add CourseBuilder interactions to multiple directories, the support file directories are added to each directory. Because you already have a scripts and an images directory in the root of your Web site, it’s more efficient to use those same directories instead of creating new ones.

In an online learning application project, you can modify the CourseBuilder preferences file, Preferences.txt, so that CourseBuilder looks for the support file directories in a single, standard location. The Preferences.txt file is stored in the Dreamweaver\CourseBuilder\Config directory.



**Figure 10.3**

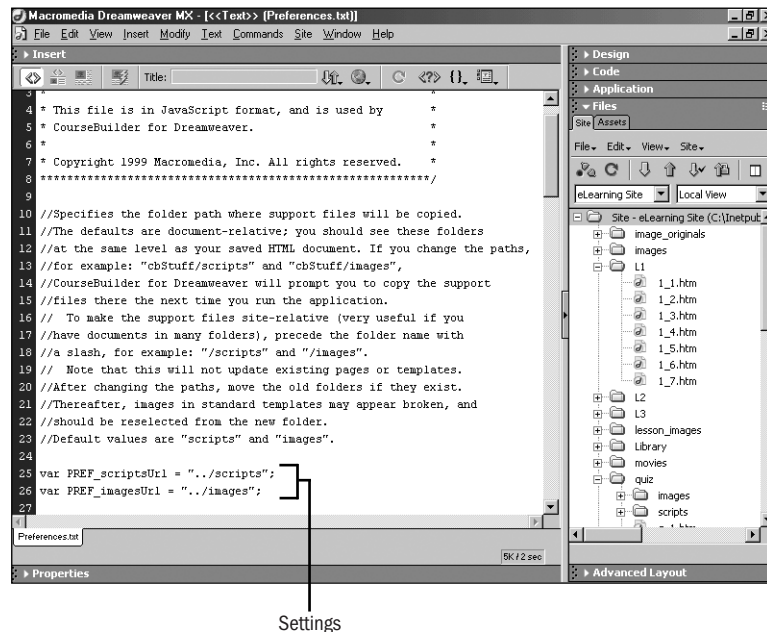
The Copy Support Files dialog box prompts you to copy the external JavaScript files and images necessary for CourseBuilder interactions to work.

To edit Preferences.txt, you can open the file in a text editor or in Dreamweaver, but it's best to use Dreamweaver, shown in Figure 10.4, because the formatting is easier to read. Dreamweaver uses this file to set various CourseBuilder preferences, and you might want to explore this file further after you are more experienced with CourseBuilder. For now, simply modify the first two preference variables in the file: PREF\_scriptsUrl and PREF\_imagesUrl.

The online learning application site you are creating is designed to contain all the content Web pages in lesson directories under the root directory. The PREF\_scriptsUrl and the PREF\_imagesURL variables are relative to the location where you save the Web pages containing the interactions. To link to the images directory and the scripts directory, the URLs will be ../scripts and ../images. The ../ means to go up one directory level and points to the site root when used in one of the lesson directories. Change PREF\_scriptsUrl to ../scripts and change PREF\_imagesURL to ../images. Then CourseBuilder creates a new directory within your existing images directory to store all the images it adds. Save your changes to the Preferences.txt file and restart Dreamweaver.

**Figure 10.4**

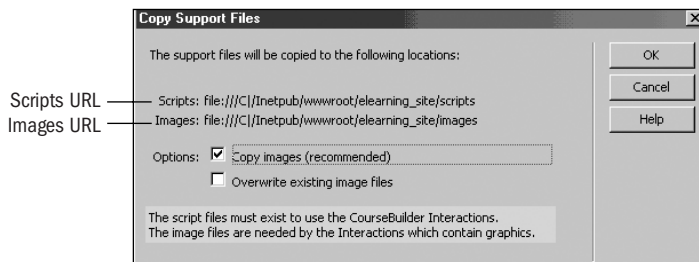
Modify CourseBuilder preferences by editing the Preferences.txt file in Dreamweaver.



Every time you insert a CourseBuilder interaction, CourseBuilder checks to see whether the support file directories exist. Instead of waiting for CourseBuilder to prompt you, however, you'll create these directories now by using the Copy Support Files command:

1. Create a new Web page, save the file, and name it. If you changed your Preferences.txt, you'll need to place your Web page in a directory beneath the site root (maybe a directory called quiz). Now that you have established the location of the current Web page, CourseBuilder will know where to place the support files relative to this file.
2. Create the support file directories with the Copy Support Files command (Modify, CourseBuilder, Copy Support Files).
3. The Copy Support Files dialog box appears, as shown in Figure 10.5. The URL should point to directories in the site root if you've modified the Preferences.txt file correctly. Click the OK button to copy the scripts and images to CourseBuilder. You can leave the Overwrite Existing Images check box unchecked.
4. Examine the scripts and images directories in the Site panel or Site window. The new files should be present.

Now you have added single copies of the files necessary for CourseBuilder to work. You should not have to add these files again while developing this site, as long as any files containing a CourseBuilder interaction are saved in the subdirectories (lesson1, lesson2, quiz, and so on) off the site root.



## Power User Tip

In the first paragraph, the Preferences.txt file states that you can make your directories site-root relative. A *site-root relative directory* begins with a slash and indicates that instead of being relative to the current page, the URL is relative to the site root. Site-root relative addressing is useful when working on large projects, but for the URLs to work, you must always view Web pages through a Web server. I find it easier to preview the Web sites I create on my computer instead of through the server (either local to My Computer or somewhere else).

**Figure 10.5**

Check that the Copy Support Files dialog box lists the correct URLs for the common scripts and images directories.



## Adding the Template Fix

When you insert a CourseBuilder interaction into a Web page, CourseBuilder adds a JavaScript function call to the <body> tag. The JavaScript code calls the MM\_initInteractions() function, which sets up the CourseBuilder interactions on the page. The problem appears when you add a CourseBuilder interaction to a Web page based on a template; you cannot edit the <body> tag in these pages. CourseBuilder solves this problem by installing the Add Template Fix command.

You need to create a template that includes the template fix code for use with CourseBuilder interactions. Open one of your templates, select the Add Template Fix command (Modify, CourseBuilder, Add Template Fix), and then save the template with another name. The Add Template Fix dialog box appears, as shown in Figure 10.6.

Click the Add button to add the initialization code to both the current page and the parent template file. From now on, all pages using this template will have the initialization code in the <body> tag. The code looks like this:

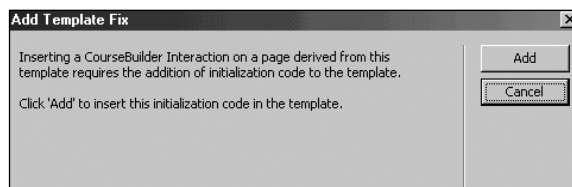
```
<body bgcolor="#FFFFFF" text="#000000" leftmargin="0" topmargin="0" marginwidth="0" marginheight="0" onLoad="MM_initInteractions">
```

## Examining Browser Compatibility

Macromedia engineers have invested their talents in making CourseBuilder functionality as cross-browser compatible as possible. You should be aware of functionality issues of the interactions you insert into your learning application. Table 10.1 lists compatibility issues with the two major browsers, Netscape Navigator and Microsoft Internet Explorer.

**Figure 10.6**

Add necessary JavaScript code to the template by using the Add Template Fix command.



**Table 10.1** CourseBuilder Interaction Compatibility with Different Browsers

CourseBuilder Interaction	Netscape 4	Netscape 6	Internet Explorer 4+
Multiple choice with form elements	OK, but Reset button does not reset radio buttons, and disabling interaction does not prohibit the user from selecting radio buttons or check boxes.	OK	OK
Multiple choice with graphic elements	OK	OK	OK
Drag and drop	OK, but do not insert in layer.	Does not work.	OK
Explore	OK, but do not insert in layer.	Does not work.	OK
Button	OK	OK	OK
Text entry	OK, but disabling interaction does not prohibit the user from entering text.	OK	OK
Timer	OK, but limited to one per page.	OK	OK

*continues*







**Table 10.1** Continued

CourseBuilder Interaction	Netscape 4	Netscape 6	Internet Explorer 4+
Slider	OK, but limited to one per page. Do not set a background color in the slider layer.	Does not work.	OK
Action Manager	OK	OK	OK

## Inserting a Multiple Choice Interaction

The first interaction you'll try is in the Multiple Choice category. There are six different types of multiple-choice questions listed in Table 10.2.

**Table 10.2** Multiple Choice Category Interactions

Icon	Interaction Name	Description
	True/False	Two radio buttons enabling the learner to select true or false as an answer.
	Radio buttons	Multiple radio buttons enabling the learner to select a single answer.
	Image radio buttons	Multiple button images that act like radio buttons, enabling the learner to select a single answer.
	Image buttons	Multiple button images enabling the learner to select multiple correct answers.
	Check box buttons	Multiple check boxes enabling the learner to select multiple correct answers.
	Image check box buttons	Multiple button images that act like check boxes, enabling the learner to select multiple correct answers.

The Multiple Choice interaction can be sorted into two groups: answer selections that act like radio buttons and answer selections that act like check boxes. These two common form elements function in slightly different ways. Radio buttons act as a group, presenting mutually exclusive values. You should use radio buttons when a question has a single answer. Check boxes function independently, with each check box toggling an answer value on and off. You should use check boxes when a question has multiple answers.

Follow these steps to insert a CourseBuilder interaction into the Web page you created earlier, 1.html in the Quiz directory:

1. Place the cursor in the Content layer on the left side of the Document window.
2. Click the CourseBuilder object in the Learning tab of the Insert bar, or use the CourseBuilder interaction command (Insert, CourseBuilder Interaction). The CourseBuilder Gallery appears.
3. Be sure 4.0+ Browsers is selected as the Target.
4. Select the Image Radio Buttons multiple choice interaction.

After you select the interaction in the Gallery, the General, Choices, and Action Manager tabs appear along the bottom of the CourseBuilder Interaction dialog box. You can also see the question inserted into the Document window behind the CourseBuilder Interaction dialog box (you might have to move the dialog box out of the way). Usually, you can see the updates you make in the CourseBuilder Interaction dialog box as you set up the interaction.

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**Note**

The name of the icon appears when you place the cursor over the interaction icon in the Gallery.

## Using the General Tab

All CourseBuilder interactions have a General tab where you set the question stem, when the interaction will be judged, when the answer is correct, and whether you want to limit the time or tries for the question. The General tab also has an option to turn on Knowledge Track, the automatic tracking on the interaction to a learning management system (LMS). You'll learn more about this option in Chapter 15, "Using a Learning Management System."

Select the General tab in the CourseBuilder Interaction dialog box to display the General tab options, shown in Figure 10.7.

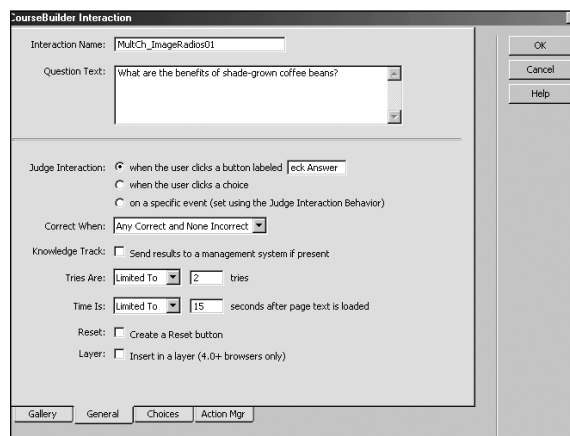
To configure the General tab for this multiple-choice question, follow these steps:

1. Leave the default name in the Interaction Name text box. This name is used only by CourseBuilder.
2. Enter the text for the question in the Question Text text box.
3. In this interaction, select the When the User Clicks a Button Labeled radio button, and enter **Check Answer** as the button label. The other settings in the Judge Interaction radio buttons enable you to judge the question when the user clicks a button, immediately when the user clicks a choice, or on some other event. The other event might be after an animation finishes or when the user places the cursor in a certain area of the screen.
4. The Correct When drop-down list box enables you to specify whether the user must select all the correct answers when there are multiple correct answers. For example, if you asked the question “What regions of the world grow coffee?” you could have the following possible answers: Africa, Antarctica, Greenland, and Indonesia. Both Africa and Indonesia are correct answers. Will you require the learner to select both answers or just one to have the question marked as correct?

For this interaction, you have only a single correct answer, so you can select either choice from the Correct When drop-down list

**Figure 10.7**

Each CourseBuilder interaction has General tab options containing the base items necessary for the interaction.



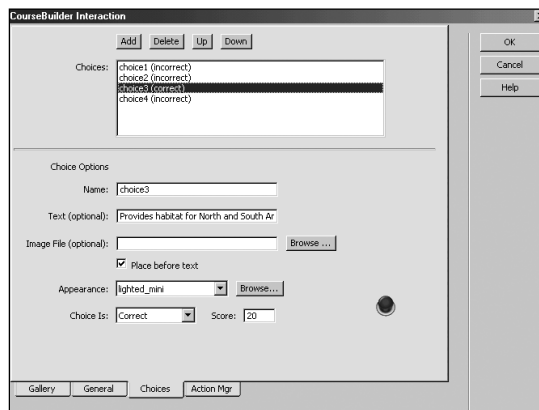
box. Both All Correct and None Incorrect or Any Correct and None Incorrect will cause the interaction to be scored correctly.

5. You can skip the Knowledge Track check box for now. You'll deal with this in Chapter 15.
6. In the Tries Are list box, select Limited To, and type **2** in the Tries text box. In the Time Is list box, select Limited To, and type **15** into the Time text box.
7. Select the check box next to Reset to add a reset button to the interaction. This button resets the interaction to its original state.
8. Leave the Layer check box unchecked. This interaction is already contained in a layer. If it was not, however, it's good to choose this setting so that you can easily position the interaction. Be sure you always consult the compatibility guidelines in Table 10.1, as some interactions do not work when placed in layers.

Don't click the OK button yet! You will go on and set up the next two tabs before exiting the CourseBuilder Interaction dialog box and testing the interaction.

## Using the Choices Tab

The Choices tab enables you to set up the answer choices, consisting of the correct answer or answers and the incorrect answers (*distractors*). This tab, shown in Figure 10.8, is divided into an upper and a lower half. The upper half is a list of all the available choices. The lower half displays the attributes (choice options) of the choice selected in the upper half.



**Figure 10.8**

The Choices tab enables you to set up the attributes of the correct and incorrect answer choices.

If you receive an error message warning you that CourseBuilder can't find button images, it's because you moved the location of the CourseBuilder images from their default spot. You'll be able to browse for the image files when you are setting up the choices.

Follow these steps to configure the Choices tab for this multiple-choice question:

1. CourseBuilder displays four choices. Click the Add button to add additional answer choices, and click the Delete button to delete extra choices. You can also rearrange the choice with the Up and Down button.
2. Select the first choice, choice1. The Choice options appear in the lower half of the dialog box. You can leave the default name in the Name text box as choice1.
3. You can have text or an image as an answer choice, or you can have both. Enter the answer text in the Text text box and enter the path to an image (if available) in the Image File text box.
4. Select the type of button in the Appearance drop-down list box. Selecting one of the button images displays a sample of the button to the right of the drop-down list.
5. Set whether the current answer choice is correct or incorrect in the Choice Is drop-down list box. Set the score for this answer in the Score text box.
6. Repeat these steps for each of the other three choices. All the choices should have the same button appearance.

## Using the Action Manager Tab

The Action Manager tab contains the “brain” of the CourseBuilder interaction. In this chapter, you do not modify the Action Manager because you'll explore that function extensively in the next chapter. In this section, you simply look at the Action Manager and familiarize yourself with its functionality.

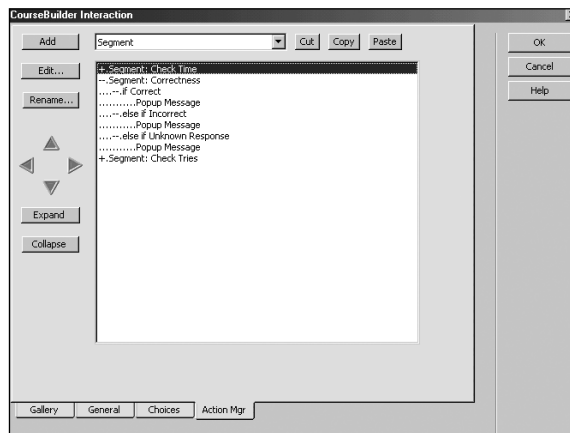
Click on the Action Manager tab. The logic of the Action Manager, shown in Figure 10.9, controls the functionality of the CourseBuilder interaction. The logic is divided into three sections, called

*segments*, in this type of interaction. The Check Time segment controls the time limit functionality, the Check Tries segment controls the tries limit functionality, and the Correctness segment directs what happens if the question is answered correctly or incorrectly.

If a segment is collapsed, you see a plus sign beside the segment name. To see the logic contained in the segment, select the segment name and click the + button. The lines of code in the Action Manager are written in something close to real language—statements that can be understood.

You can see that the default feedback for a correct or incorrect answer is a pop-up message. The pop-up message used in the Action Manager is the same Popup Message behavior you used in Chapter 8, “Creating Interactivity with Behaviors and Animations.” Also, notice that when the Check Tries or Check Time segments are triggered, CourseBuilder disables the interaction. Again, you’ll learn about editing and inserting this type of functionality into Action Manager in Chapter 11.

Click the OK button to save the CourseBuilder interaction. Preview the Web page in a browser and check the page’s functionality. Check that the buttons appear and work the way you expected (only one can be selected at a time). Also, check the Time limit and Tries limit functionality. Be sure you check that the correct answer works and the incorrect answers behave as expected. In the next section, you’ll change the generic feedback that CourseBuilder inserts.



**Figure 10.9**  
The Action Manager tab controls the logic behind the CourseBuilder interaction.



## Editing an Interaction

When you insert a CourseBuilder interaction into a Web page, the CourseBuilder icon appears if you have invisible elements set as visible (View, Visual Aids, Invisible Elements). You can select this icon to edit an existing CourseBuilder interaction. Sometimes, because of where the CourseBuilder icon is located in the Document window, you cannot see the icon even if invisible elements are showing. You'll learn two additional methods to edit an interaction when that is the case.

When you select the CourseBuilder icon, the Property inspector displays the CourseBuilder interaction attributes, shown in Figure 10.10. Click the Edit button in the Property inspector to display the CourseBuilder Interaction dialog box, where you edit settings for the interaction.

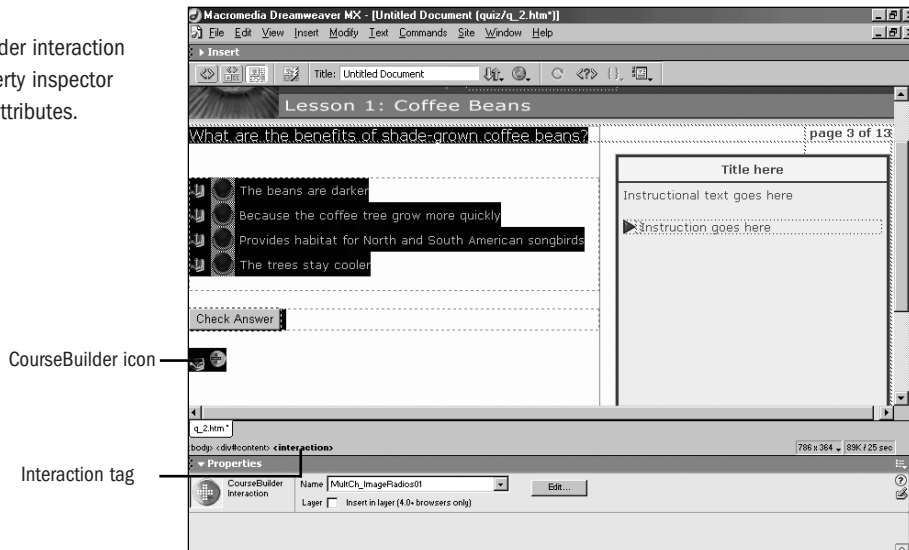
Dreamweaver uses the <interaction> tag to identify CourseBuilder interactions. You can see this tag in the tag selector when you place the cursor anywhere within the CourseBuilder Interaction elements in the Web page. This tag is Dreamweaver specific, is not recognized by the browser, and is simply ignored when the Web page is displayed in the browser. To use the second editing method, select the <interaction> tag in the tag selector to display the CourseBuilder Interaction Edit button in the Property inspector.

### Power User Tip

Until you close and save the interaction settings during the initial setup, you can always go back to the Gallery and change the type of CourseBuilder interaction you want to use. After you've closed the CourseBuilder dialog box, you can no longer change the type of interaction because the Gallery tab no longer appears in the CourseBuilder dialog box.

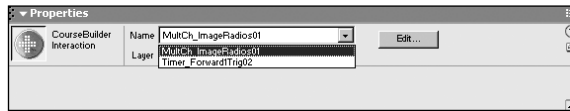
**Figure 10.10**

When the CourseBuilder interaction is selected, the Property inspector displays interaction attributes.



The third editing method is to again place the cursor anywhere within the interaction elements. Select the Edit Interaction command (Modify, CourseBuilder, Edit Interaction) to open the CourseBuilder Interaction dialog box. This technique can be tricky when there is more than one interaction in a Web page.

You haven't yet created a Web page with multiple CourseBuilder interactions, but when you do, you can select and edit a specific interaction in the Name drop-down list in the Property inspector, as shown in Figure 10.11.



**Figure 10.11**

The Name drop-down list enables you to pick a CourseBuilder interaction to edit when there are multiple interactions in a Web page.

## Modifying the Feedback in the Action Manager

You are not stuck with the default functionality of a CourseBuilder interaction because you can change the code in the Action Manager. Each CourseBuilder Interaction can be changed to respond to learner inputs differently, display different feedback, and to trigger any of the behaviors installed in Dreamweaver. All this is accomplished in the Action Manager.

Open the CourseBuilder Interaction dialog box, using one of the three methods listed previously. To edit the Action Manager of an interaction, follow these steps:

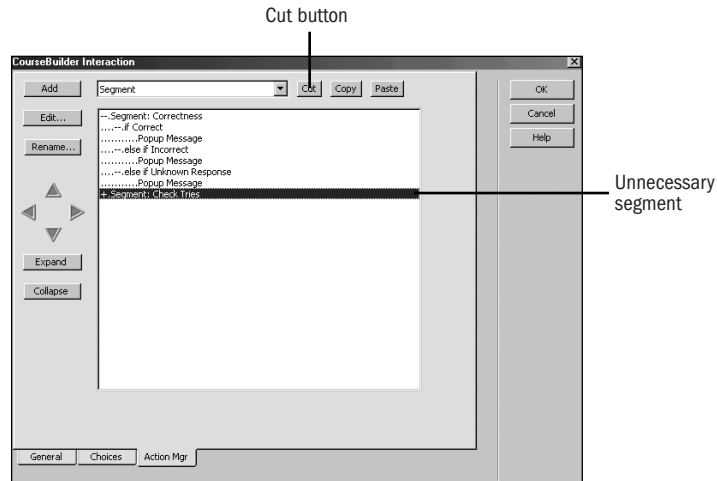
1. Select the General tab. Turn off the Tries limit and the Time limit by selecting Unlimited from the drop-down lists.
2. Select the Action Manager tab. Because you removed the Tries limit and the Time limit, you can remove that code from the Action Manager. Although this step isn't required, it helps keep the Action Manager lean and easy to understand. Select the Segment: Check Time line, as shown in Figure 10.12, and click the Cut button at the top of the dialog box. Select the Segment: Check Tries line and again click the Cut button. Be sure you've selected the correct line because there is no undo command!

### Warning

CourseBuilder gives each interaction a unique identifier by using the object attribute of the **<interaction>** tag. The identifiers appear as G01, G02, G03, and so on. Many of the elements involved with the interaction, such as layers and images, are named using the identifier. Never rename these objects or modify any CourseBuilder JavaScript code by hand because you will probably impair the interaction's functionality.

**Figure 10.12**

Delete segments of unnecessary code from the Action Manager using the Cut button. Careful! There is no undo command.

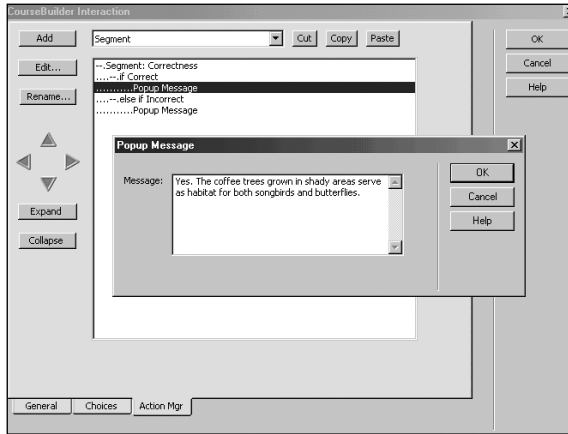


3. In the Correctness segment, there are three expressions. The first expression is triggered if a correct answer is selected; the second expression, if an incorrect answer is selected; and the third expression, if an unknown response is selected. Because you defined all the potential responses, you will have no unknown responses, so you can select the --else if Unknown Response line and click the Cut button.

4. Now you're left with the fundamental code that judges the correctness of the multiple-choice question. The default feedback for a correct or incorrect answer is a pop-up message.

Select the Popup Message line under if Correct, click the Edit button on the left side of the dialog box, and enter a friendlier message as shown in Figure 10.13. Repeat for the Popup Message line under the else if Incorrect line.

5. Click the OK button to save your settings, and test the Web page in the browser. You should get the new text in the pop-up messages.





**Figure 10.13**  
You can edit the default Popup Message behavior in the Action Manager.

## Inserting a Drag and Drop Interaction

Many learners find Drag and Drop interactions fun. Because these interactions engage learners by allowing them to manipulate objects onscreen, they also can be educational. The Drag and Drop CourseBuilder interaction can judge pairings of objects as correct or incorrect and make objects snap back to their original positions if they are incorrect.






In this section, you'll add a Drag and Drop interaction to a page, setting up the relationships between the pairs of drag objects and target objects. In Chapter 11, you'll add advanced functionality, including feedback particular to individual drag/target pairings. There are seven different Drag and Drop interactions, listed in Table 10.3.

**Table 10.3** Drag and Drop Category Interactions

Icon	Interaction Name	Description
	One-way many-to-many	A multiple drag and multiple target interaction, enabling the learner to drag the drag elements to the target elements.
	Two-way many-to-many	A multiple drag and multiple target interaction, enabling the learner to drag the drag elements to the target elements or drag the target elements to the drag elements.

*continues*

**Table 10.3** Continued

Icon	Interaction Name	Description
	One-way one-to-many	A single drag and multiple target interaction, enabling the learner to drag the drag element to the target elements.
	Two-way one-to-many	A single drag and multiple target interaction, enabling the learner to drag the drag element to the target elements or drag the target elements to the drag element.
	Two-way one-to-one	A single drag and single target interaction, meant as a starting point for creating a custom Drag and Drop interaction.
	Two steps in order	A single drag and multiple target interaction, requiring the learner to drag the drag element to the target elements in a certain order.
	Two steps in order with distractor	A single drag and multiple target interaction, requiring the learner to drag the drag element to the target elements in the proper order when a distractor is present.

The Drag and Drop interactions can be sorted into three groups: the one-direction interactions, the two-direction interactions, and the ordered interactions. You select the interaction type according to the functionality specified in the storyboard.

## Using the General Tab

Insert a CourseBuilder Interaction (Insert, CourseBuilder Interaction) into a Web page. Select the one-way many-to-many Drag and Drop interaction. The Drag and Drop interactions have General and Action Manager tabs, like the Multiple Choice interactions, but they also have an Elements tab, where you set up the drag and target elements, and the Pairs tab, where you set up the relationships between the drag and target elements.



To configure the Elements tab for a Drag and Drop interaction, follow these steps:

1. Add an additional drag element by first selecting the element named Drag3. You'll add the new drag element under Drag3. Click the Add button to add it to the list. Because elements are added directly below the selected element, you select Drag3 first so that the drag elements stay in order.
2. Set up the new element's options in the lower half of the dialog box, and enter **Drag4** in the Name text box. Ignore the Image File text field for now. Be sure that Drag Element is selected in the Element Is drop-down list.
3. Add a target element by first selecting the element named Target3. Click the Add button to add it to the list.
4. Set up the new element's options in the lower half of the dialog box. Enter **Target4** in the Name text box. Again, ignore the Image File text field. Make sure that Target Element is selected in the Element Is drop-down list.
5. Load the drag and target images for each element. Select Drag1, click the Browse button, and select an image. Repeat this step for each element, loading all the images.

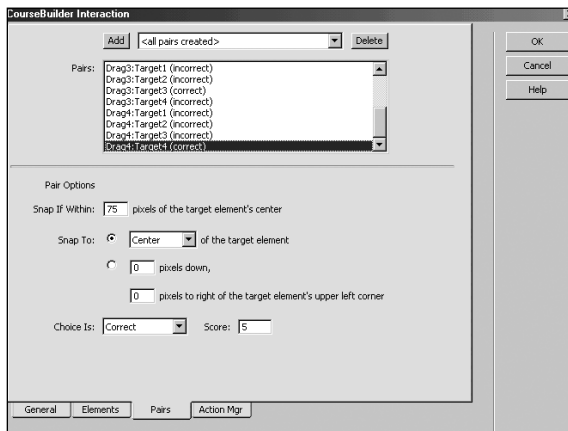
## Using the Pairs Tab

The Pairs tab, shown in Figure 10.16, enables you to set up all the possible pairs of drag and target elements as either correct or incorrect. CourseBuilder automatically added the nine possible pairs for the three default drag elements and the three default target elements, so you'll need to add the seven additional pairings. You must define all possible pairs as either correct or incorrect pairings.

The drop-down list at the top of the dialog box lists pairings that aren't yet added to the Pairs list. If you hadn't added additional drag and target elements, this box would say all pairs are created. All nine pairings for the original three drag elements and the original three

target elements have already been added to the Pairs list, so you need to add the pairs created by the additional drag and target elements (Drag4 and Target4). To define the additional pairs:

1. It's easier to understand the pairs if you keep them in a logical order. So, add the pairs in the most logical location by selecting the line above where you want the pair located, and then clicking the Add button. For the first pair in the drop-down list, Drag1:Target4, select Drag1:Target3, and then click the Add button. The pair Drag1:Target4 is added under Drag1:Target3.
2. Repeat this procedure for Drag2:Target4 and Drag3:Target4. Select the last line in the Pairs list and add the new Drag4 pairs at the end of the list.
3. For this drag-and-drop question, here are the correct answers: Drag1:Target1, Drag2:Target2, Drag3:Target3, Drag4:Target4. Select each pairing in the Pairs list and set whether they are correct or incorrect in the Choice Is drop-down list.
4. In the Score text box, give each correct pairing a score of 5.
5. Each pairing also has a Snap If Within and a Snap To setting. Leave the default 75 pixels as the Snap If Within setting and leave the Snap To setting as Center. You can edit these settings and fine-tune them later if you need to.



**Figure 10.16**  
Configure the pairings in this Drag and Drop interaction in the Pairs tab.



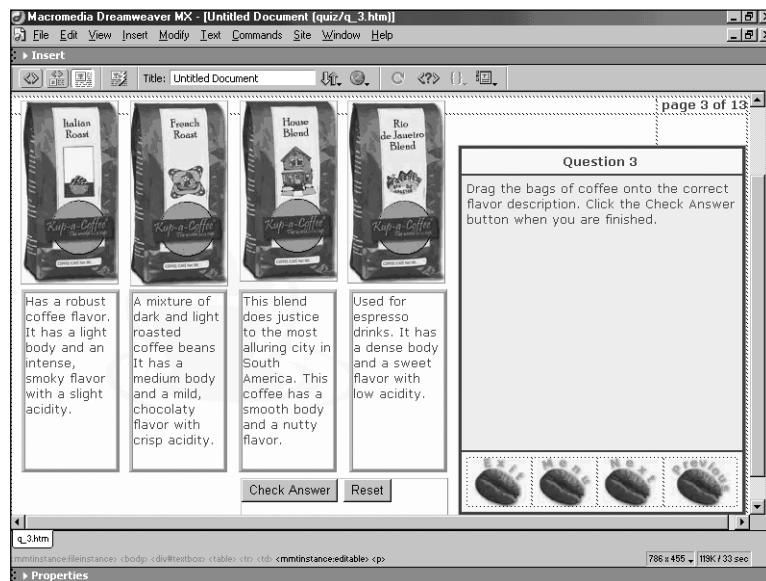
## Using the Action Manager Tab

You can leave the default settings in the Action Manager tab. Right now, the code in the Action Manager judges the correctness of all the Drag and Drop pairings, but you'll edit that setting in Chapter 11. Click the OK button to save your settings for the CourseBuilder interaction.

In the Document window, you arrange the drag and target elements, mixing them up so that they aren't immediately obvious to the learner. You can delete the directions that the interactions placed on the Web page, leaving the Check Answer and Reset button in a form. Click on one of the buttons, and then select the <form> tag in the Tag Selector. Cut and paste the form and buttons into the Content layer. Resize the layer and move it to the bottom of the Document window. The finished Drag and Drop interaction should look something like Figure 10.17. Preview the Web page in a browser and check the interaction's functionality.

**Figure 10.17**




The drag and target elements must be arranged onscreen.



# Inserting an Explore Interaction

Explore interactions usually are not used for quiz questions, but they enable the learner to explore information by clicking onscreen elements. An interaction where the learner clicks on the various objects on the page and gets information on them is a perfect example of an Explore interaction. You'll create an Explore interaction with CourseBuilder and see how quickly an Explore interaction can be created. There are three different types of Explore interactions, listed in Table 10.4.

**Table 10.4** Explore Category Interactions

Icon	Interaction Name	Description
	Explore with transparent hotspots	The hotspots that the learner clicks on are transparent GIFs in layers set over areas of the background image.
	Explore with images as hotspots	The hotspots contain the individual images that the learner clicks.
	Explore in order	The hotspots contain individual images that must be clicked in a certain order.

The Explore interactions differ depending on whether the hotspots hold the actual images that learners click on to trigger the feedback. If you have a single image over which you need to create hotspots, similar to an image map, you use the first Explore interaction with the transparent hotspots. CourseBuilder places layers containing a transparent GIF; these layers act as hotspots when placed over a region of the background graphic. You must resize the transparent

GIF in the Property inspector, as shown in Figure 10.18. Although Internet Explorer captures the onClick event on a layer (<div> tag), Netscape cannot. Therefore, CourseBuilder places the transparent GIF within the layer because both browsers can capture the onClick event on an image.

Open a new Web page, save the page, and name it. Add a CourseBuilder interaction to the Web page (Insert, CourseBuilder Interaction), and select the Explore category. Select the interaction called Explore\_Transparent.

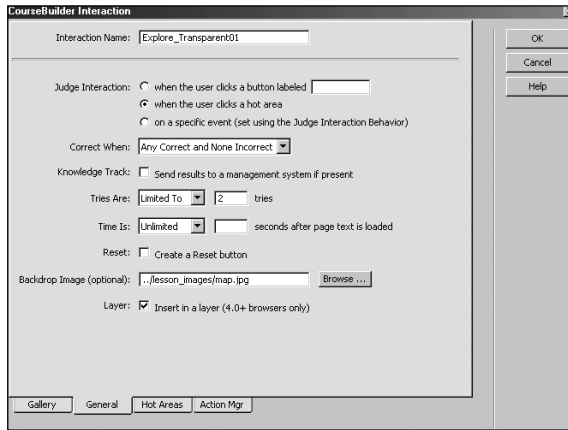
## Using the General Tab

The Explore interactions have the standard General and Action Manager tabs plus a Hot Areas tab, where you set up the content of the hotspots. Set up the General tab as shown in Figure 10.19. Leave the Judge Interaction setting when the user clicks a hot area. Leave the Correct When setting alone; this interaction will not be judged. Set the Tries Are text box to 2. Leave all the other settings at the default value, but either change the Backdrop Image or remove the URL; interactions do not have to have a backdrop image.

**Figure 10.18**

When you select the Explore interaction using transparent hotspots, you need to resize the transparent GIFs that CourseBuilder inserts into the layer hotspots.





**Figure 10.19**  
The General tab of the Explore interaction contains the basic interaction settings.

## Using the Hot Areas Tab

Select the Hot Areas tab to set up the individual hotspots. By default, CourseBuilder creates five hotspots. If that's not how many you need for the interaction, click the Add or Delete buttons. You can accept the default hotspot names in the Name text box and leave the Text text boxes empty. Each hotspot contains a transparent GIF image.

## Using the Action Manager Tab

Select the Action Manager tab to investigate the code behind this interaction. Because you are not using the Check Time segment, you can delete it by selecting the segment and clicking the Cut button. That leaves seven segments: one segment for each hotspot, a segment judging correctness, and a segment checking the tries.



Each of the remaining hotspot segments establishes whether the learner clicks on one of the hotspots and then opens a pop-up message specific to that hotspot. You can edit the pop-up message by selecting it in the Action Manager, clicking the Edit button, and modifying the text in the Message text box. In Chapter 11, you'll modify this interaction to set the text of a layer.

Click the OK button to save the CourseBuilder interaction settings. Arrange the layers and stretch the transparent GIFs by selecting them and dragging the drag handles to cover the hotspot area. Remember, you need to capture a click on the image and not the layer, to be cross-browser compatible. Preview the Web page in a browser and check the interaction's functionality.

## Inserting a Text Entry Interaction

Now you'll insert another quiz question by using the Text Entry CourseBuilder interaction. Text Entry interactions are best for single-word answers. CourseBuilder enables you to look for certain words as answers, either correct or incorrect, and even gives you control over judging capitalization. Table 10.5 lists the two types of Text Entry interactions.

**Table 10.5** Text Entry Category Interactions

Icon	Interaction Name	Description
	Single-line text entry	Learner enters answer text into a single-line text area.
	Multiple-line text entry	Learner enters answer text into a multiline text area.

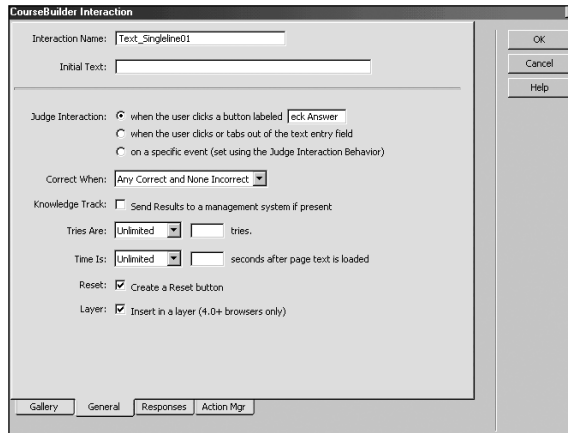
The two Text Entry interactions differ simply in the size of the text area available for the learner to enter the answer.

### Using the General Tab

Create a new Web page, save the page, and name it. Place the cursor in the Content layer and insert a CourseBuilder interaction (Insert, CourseBuilder Interaction). Select the Text Entry category and click on the single-line Text Entry interaction, the one on the left.

When you insert the Text Entry CourseBuilder interaction, it places the question stem text on the Web page. You don't set up the question stem within the CourseBuilder Interaction dialog box. After you set up this interaction, you'll save your changes and then add the question text.

Set up the General tab as shown in Figure 10.20. You can use the default interaction name. The text you enter in the Initial Text text box appears in the text area where learners answer the question and requires that they select and delete the text before entering their answers; for now, leave this text box blank. Judge the interaction when the learner clicks the Check Answer button. Leave the Correct When drop-down list as Any Correct and None Incorrect. Leave the Time and Tries limit as Unlimited. The Reset check box should be selected, and the Layer check box should be selected.



**Figure 10.20**  
The General tab of the Text Entry interaction contains the basic interaction settings.

## Using the Responses Tab

The Responses tab enables you to specify the correct and incorrect responses. All other responses are considered unknown by CourseBuilder and trigger the Unknown Response code in Action Manager. The Responses tab has three sections. The top section is a list of possible responses, both correct and incorrect. The middle section enables you to set up the possible responses. The lower section is where you specify what to do with any other responses to the question.

To create one correct response and one incorrect response, follow these steps:

1. Select the third response in the Possible Responses list and click the Delete button.
2. Select Response1 at the top of the dialog box. Leave the default name in the Name text box.
3. In the Must Contain text box, enter the text of the correct answer.
4. Leave the Case Sensitive check box deselected because you won't need specific capitalization for this answer.
5. Leave the Exact Match Required check box deselected so that the learner can enter answers such as “arabica beans” or “*coffea arabica*,” the botanical term for coffee, and still be correct when the correct answer is set as “arabica.”
6. The Match Is drop-down list should be set to Correct. The Score setting should be 20.

7. The Any Other Response Is drop-down list should be set to Incorrect, as shown in Figure 10.21.
8. Select Response2 at the top of the dialog box. Leave the default name in the Name text box.
9. In the Must Contain text box, enter the text of an anticipated incorrect answer.
10. Leave the Case Sensitive and Exact Match Required check boxes deselected.
11. The Match Is drop-down list should be set to Incorrect with a score of 0.

## Using the Action Manager Tab

The Action Manager, by default, contains the Check Time, Check Tries, and Correctness segments. Because you have only a single correct and a single incorrect answer, you essentially have specific feedback for both answers as well as a generic feedback message, contained in the else if Unknown Response statement. You can delete the Check Time and Check Tries segments and edit the pop-up messages.

Click the OK button to save your CourseBuilder interaction settings. Preview the Web page in a browser to test the functionality. Try entering the correct answer, and then try entering phrases, including the correct answer. Are these answers judged as correct? Try entering the incorrect answer. Also, try entering other answers to get the unknown response feedback.

**Figure 10.21**



The Responses tab enables you to set up the correct and incorrect responses to a Text Entry question. Any other responses are unknown.

The screenshot shows the 'CourseBuilder Interaction' dialog box with the 'Responses' tab selected. At the top, there are 'Add' and 'Delete' buttons. Below them is a list of 'Possible Responses' containing 'Response1 (correct)' and 'Response2 (incorrect)'. The 'Response Options' section includes a 'Name' text box with 'Response1', a 'Must Contain' text box with 'arabica', and two checkboxes: 'case sensitive' (unchecked) and 'exact match required' (unchecked). Below these is a 'Match Is' dropdown menu set to 'Correct' and a 'Score' text box with '20'. The 'Any Other Response Is' dropdown menu is set to 'Incorrect'. On the right side, there are 'OK', 'Cancel', and 'Help' buttons. At the bottom, there are three tabs: 'General', 'Responses', and 'Action Mgr'.

# Inserting a Button

You can use a Button control interaction to create complex simulations or to control other objects onscreen. In this example, you'll modify the page where you placed the Flash controls in Chapter 9, "Adding Rich Media Content." There are two different types of Button control interactions, listed in Table 10.6.

**Table 10.6** Button Category Interactions

Icon	Interaction Name	Description
	Toggle button	Remains in a certain state when clicked by the learner.
	Push button	Returns to its original state after being clicked by the learner.

Open the Web page you created in Chapter 9 with a Flash movie, save, and name the file. To insert three CourseBuilder Button controls, do the following:

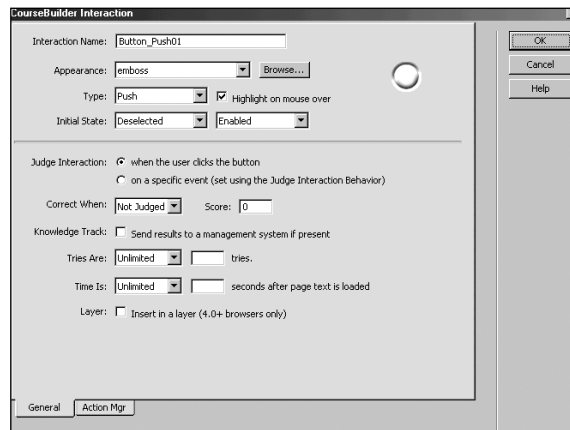
1. Place the cursor before the hyperlinked word Play and insert a new table. The table should have two rows and three columns and be 350 pixels wide. You can set the other attributes to 0.
2. Drag the word Play into the second row, first column. Drag the word Stop into the second row, second column. Drag the word Rewind into the second row, third column. Place the cursor in the first row, first column cell. This is where you'll insert the first button, the button that plays the Flash movie.
3. Insert a CourseBuilder interaction, and select the Button category. Click on the push button.
4. Select the General tab. Leave the default name in the Interaction Name text box. In the Appearance drop-down list, select Emboss. In the Type drop-down list, make sure that Push is selected. The Highlight on Mouse Over check box should be selected.



5. The Initial State drop-down list should be set to Deselected and select Enabled in the drop-down list box next to that setting. The General tab of the Button control should look like Figure 10.22.
6. Judge the interaction when the user clicks the button.
7. Set the interaction as Not Judged. The Tries and Time limits should be set to Unlimited.
8. The Button control should not be placed in a layer.
9. Click OK. You'll set up the Action Manager later in this section.
10. The interaction places some text in the table cell that you need to delete.
11. Place your cursor close to the new button until you see the <interaction> tag in the tag Selector. Select the <interaction> tag in the tag Selector, and copy the interaction by using the Copy command (Edit, Copy on the menu, Ctrl+C for Windows, or Command+C for Macintosh). Place your cursor in the cell in the first row, second column and paste the interaction by using the Paste command (Edit, Paste on the menu, Ctrl+V for Windows, or Command+V for Macintosh). Also, paste the interaction in the cell in the first row, third column.

**Figure 10.22**

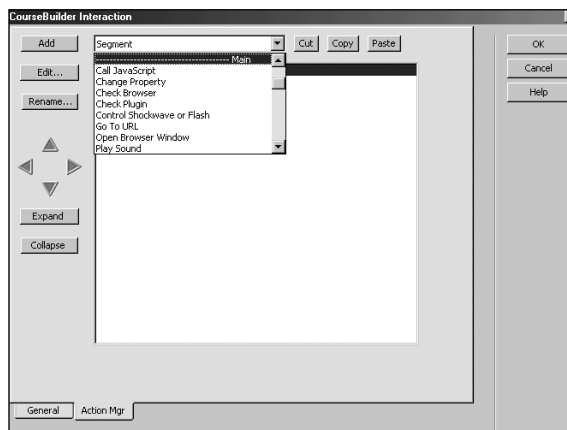
You set up most of the Button control settings in the General tab.



You now have three different Button controls for the CourseBuilder interaction in this Web page. When you select one of the CourseBuilder interactions, you can drop down the Name list box and select which one you will edit when you click the Edit button. Before you proceed, preview the Web page in a browser. When you click each Button control, you should see a pop-up message.

Now you'll go into the Action Mgr tab and change the feedback for the buttons:

1. Select one of the interactions. Next, select the first Button interaction, Button\_Push01, in the Name list box, and click the Edit button.
2. Select the Action Mgr tab. You can delete the Check Time and Check Tries segments.
3. The remaining segment, Button Feedback, contains a single behavior: Popup Message. Select the Popup Message line and delete it by clicking the Cut button.
4. Add a new action to the Button Feedback segment by selecting one of the actions from the drop-down list at the top of the dialog box, shown in Figure 10.23.
5. Toward the end of the list, you should find the Play\_Flash command that you loaded with the JavaScript Integration Kit for Flash 5 extension. With that action displayed in the drop-down list, click the Add button. Or, you can use the Control Shockwave or Flash action.



**Figure 10.23**

The drop-down list at the top of the Action Mgr tab lists the types of new expressions, including actions, that you can add in Action Manager.

6. The Play Flash dialog box appears. Select the coffee movie and click the OK button.
7. A Play\_Flash action is added to Action Manager, so clicking the Button\_Push01 button now triggers this action.
8. Click OK to save your settings. Preview the Web page in a browser and check that the Play button does indeed play the Flash movie as expected.
9. Repeat these steps, selecting the second button, Button\_Push02, and adding the Stop\_Flash action. Then select the third button, Button\_Push03, and add the Rewind\_Flash action.

## Inserting a Timer



### Power User Tip

You can save your own custom button images in the `\Dreamweaver\CourseBuilder\SupportFiles\Images\Buttons\` directory. Remember how CourseBuilder copied images and scripts the first time you added a CourseBuilder interaction to your site? If you place images in this directory, they will be copied to your site along with all the other default images.

CourseBuilder enables you to insert Timer controls into Web pages. Many different timer graphics that are quite clever are available. You can choose from a director's clapboard, an hourglass, various rising bars, and other graphics. A Timer control is usually placed in a Web page that already contains a CourseBuilder interaction and is especially useful in certification situations where the learner is limited to a certain period for a specific question.

In this example, you open one of the questions you've already created and add a Timer control. In the next chapter, you'll modify the Timer interaction so that it disables the CourseBuilder interaction question after the time is up. Table 10.7 lists the two different types of Timer control interactions.

**Table 10.7** Timer Control Interactions

Icon	Interaction Name	Description
	Single-trigger timer	Has a single trigger time for giving the learner feedback.
	Two-trigger timer	Has two trigger times for giving the learner feedback.

The Timer control interactions enable you to add *trigger times*, points in time at which some sort of feedback is given to the learner. You can add as many of these triggers as you want.

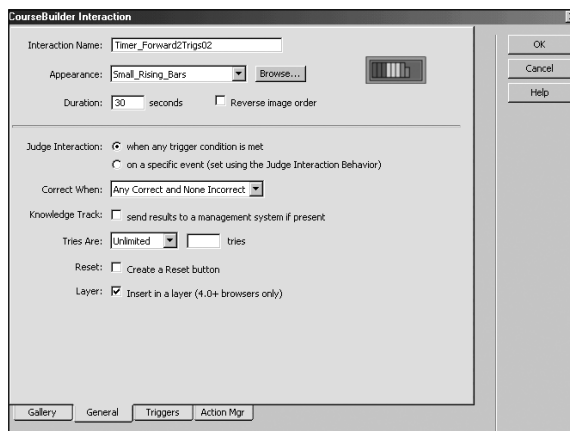
To add a Timer control to a Web page, follow these steps:

1. Open a Web page with an existing CourseBuilder Interaction.
2. Insert a CourseBuilder interaction. Select the Timer category and click on the two-trigger timer, the second icon from the left.

## Using the General Tab

You set up the look and functionality of the Timer control in the General tab of the CourseBuilder Interaction dialog box:

1. Click the General tab. Leave the default interaction name in the Name text box.
2. Select `Small_Rising_Bars` (or any of the timer choices) in the Appearance drop-down list. You'll see a preview of what the timer looks like, as shown in Figure 10.24.
3. Set the timer duration to 30 seconds in the Duration text box.
4. Judge the interaction when any trigger condition is met.
5. Correctness does not matter, as this interaction will not be judged.
6. Tries are unlimited.
7. Leave the Reset button unchecked but select the Layer check box.



**Figure 10.24** You can select various timer graphics in the General tab of the Timer control interaction.

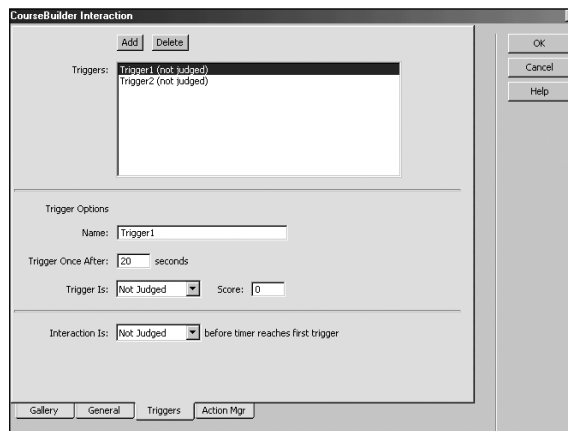
## Using the Triggers Tab

The Triggers tab enables you to set up single or multiple triggers that occur during the duration of the timer. In this interaction, you give the user a warning 10 seconds before the timer ends. You can always add triggers in this tab if you need more than the default number. To set up Trigger1 and Trigger2, follow these steps:

1. Select Trigger1 in the Triggers list box. You can leave the default name in the Name text box.
2. Enter 20 seconds in the Trigger Once After text box. This is a warning message to the user 10 seconds before the second and final trigger at 30 seconds.
3. Leave both the trigger and the interaction as Not Judged in the Interaction Is drop-down list. You might want to add judging or a score to a Timer interaction if the learner is supposed to get extra points for completing the question before the timer is up. The Triggers tab looks like Figure 10.25.
4. Repeat the preceding steps for Trigger2, making sure the Trigger Once After text box is set to 30 seconds.

**Figure 10.25**

Set up the individual triggers to occur at a set time.



## Using the Action Manager Tab

The Timer control interaction's Action Manager tab has two segments, one for each of the triggers. Edit the Popup Message behaviors to warn learners that they have only 10 seconds left in the Trigger1 pop-up message, and tell them they are out of time in the Trigger2 pop-up message. A disadvantage of using the Popup Message behavior here is that the timing continues while the message box is onscreen, and learners are required to click the OK button in the message box before they can proceed, thus losing valuable time.

Click the OK button to save your CourseBuilder interaction settings. Preview the Web page in a browser and make sure the Timer control works. In Chapter 11, you'll cause it to disable the test question when time runs out.



## Inserting a Slider

The Slider control interaction enables you to add a draggable slider to your Web page and judge where the learner leaves the slider. You'll add a question to the quiz that uses a Slider interaction so that learners can set how many seconds coffee beans should be ground. You could also use a Slider control as a navigational control, taking the learner to different pages in a Web site, for instance. There are two different types of Slider control interactions, listed in Table 10.8.

### Power User Tip

The timer graphics work by doing a swap image over time, similar to adding the Swap Image behavior to the B channel of a Dreamweaver timeline. You can also add your own custom timer graphics to CourseBuilder.

**Table 10.8** Slider Control Interactions

Icon	Interaction Name	Description
	Single-range slider	Has a single range that triggers feedback for the learner.
	Two-range slider	Has two ranges that trigger feedback for the learner.

## Using the General Tab

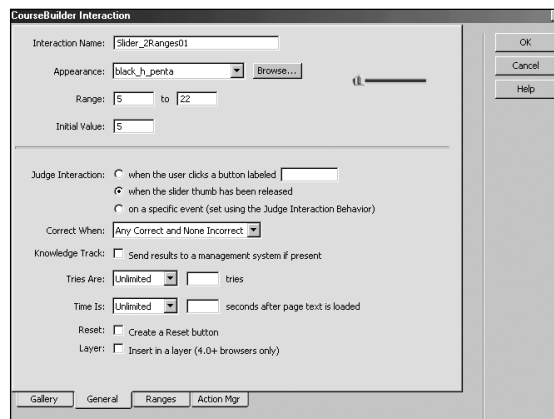
Open a new Web page, save the page, and name it. The Slider control will not work in Netscape if you insert the interaction into the Content layer. Click beneath the layer at the bottom of the Document window and insert a CourseBuilder interaction (Insert, CourseBuilder Interaction).

Select the Slider category in the CourseBuilder Interaction dialog box and click on the two ranges slider, the first one on the left. To set up the attributes of the Slider control, follow these steps:

1. Click the General tab. Leave the default name in the Interaction Name text box.
2. Select the slider's look in the Appearance drop-down list. Select the first slider, Black\_h\_Penta. You'll see a preview of the slider in the dialog box, as shown in Figure 10.26.
3. Set the Range values to begin with 5 and end with 22. Set the Initial Value to 5.
4. Judge the interaction when the user clicks the Check Answer button.
5. Set the interaction in the Correct When drop-down list to Any Correct and None Incorrect.
6. Leave the Tries and Time limits as Unlimited.
7. Leave the Reset check box selected and the Layer check box deselected.

**Figure 10.26**

The General tab settings enable you to select the appearance of the Slider control and determine how the Slider interaction will be judged.



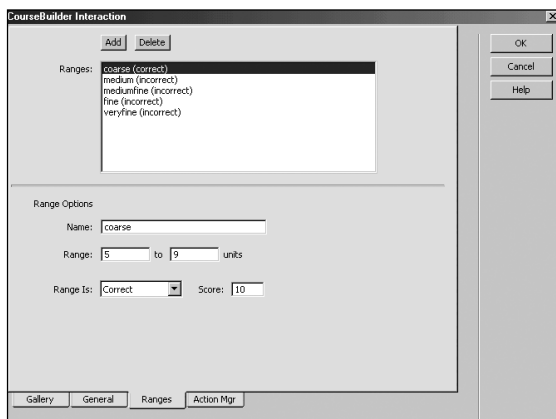
## Using the Ranges Tab

Select the Ranges tab to set up the ranges for the interaction. To set up the ranges, follow these steps:

1. Add three additional ranges by clicking the Add button at the top of the dialog box.
2. Select the first range. In the Range Options section, enter a name in the Name text box.
3. Give it the range 5 to 9 seconds.
4. This is the correct answer, so mark it as Correct in the Range Is drop-down list and give it a score of 10.
5. Select each of the other ranges, name them for the grind, enter the range, and mark them as Incorrect. The finished Ranges tab should look like Figure 10.27.

## Using the Action Manager Tab

Select the Action Mgr tab to edit the pop-up messages for each slider range. The ranges you added do not have default Popup Message behaviors, so you need to select the conditional lines (if medium selected, if fine selected, and so on), load the Popup Message behavior in the drop-down list at the top of the dialog box, and click the Add button. You can set up each message to give learners feedback about the type of grind they will get if they grind the coffee for that length of time. You can delete the Check Tries and Check Time segments, if you like.



**Figure 10.27**

The Ranges tab presents the options for the ranges that are judged in your Slider control.



Click the OK button to save your CourseBuilder interaction settings. Select the question stem text and the two buttons, and either drag or copy and paste them into the Content layer. Enter the question **How long should you grind coffee beans in a hand grinder for a coarse grind to be used in a French press?** Add some extra room under the question text, and move the slider between the question text and the buttons. Be sure the slider layers are not overlaying the buttons because that could make it impossible for learners to click the buttons.

Preview the Web page in a browser and check the Slider control's functionality. It should move only within the confines of the slider graphic. Check both the correct and the incorrect answers.

## Summary

In this chapter, you explored all the CourseBuilder interactions and created Web pages including examples of each. You selected various interactions from the Gallery and opened and edited existing interactions. And, you modified some of the code in the Action Manager.