Lab 4: Using Objects on Web Pages

To complete the lab exercises in this chapter, you must have the required software. For detailed information about the labs and setup for the labs, see Labs in this course.

Objectives

After completing this lab, you will be able to:

- Add an ActiveX control to a Web page.
- Set design-time properties of ActiveX controls.
- Add the tag for the License Manager to a Web page.
- Add a Java applet to a Web page.

Prerequisites

Before working on this lab, you should be familiar with the following concepts:

- Adding files to a Visual InterDev Web project.
- Editing files with the Visual InterDev Source Editor and the FrontPage Editor.

Lab Setup

To complete this lab, you need the following:

- The Visual InterDev StateU Web project.
- These files in the StateU project: home.htm and mascot.htm.
- These image (.gif) files in the images folder of the StateU project: bullet, history, math, music, sulogo, sutitle, mascot, mascotlogo, and img0001.gif–img0018.gif.

The following diagram shows how the files you edit in this lab will fit into the State University Web site.
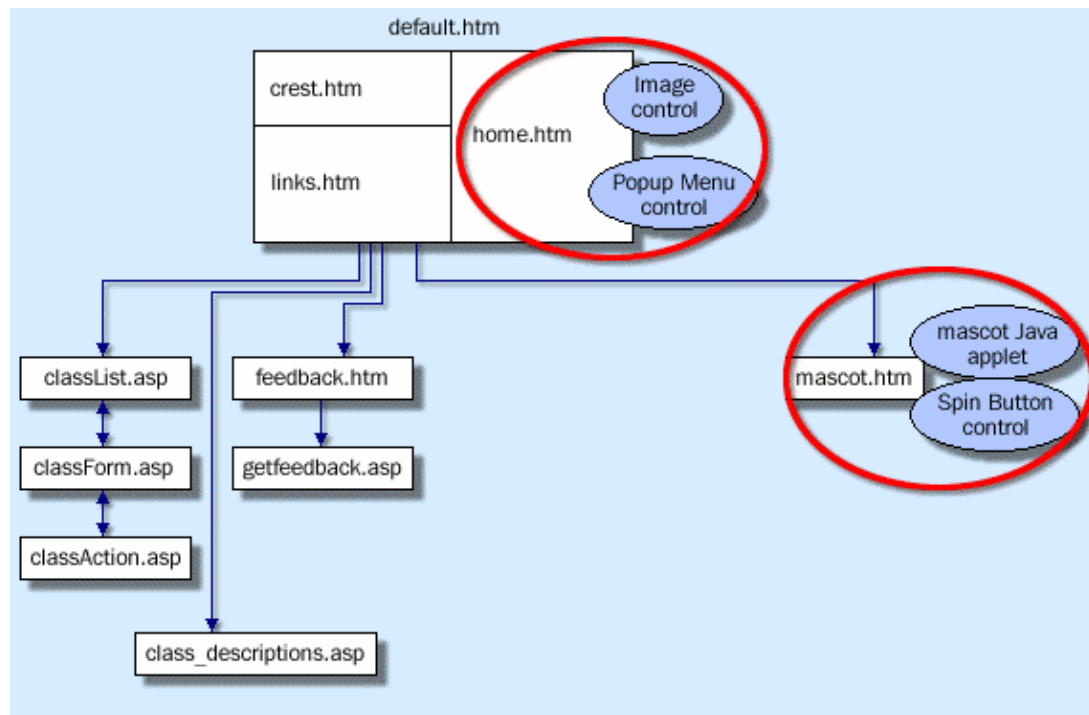
Estimated time to complete this lab: **60 minutes**

Note There are project and solution files associated with this lab. If you installed the labs during Setup, these files are in the folder *<Install Folder>*\Labs\Lab04 on your hard disk. If you did not install the labs during Setup, you can find them in the \Labs\Lab04 folder of the *Mastering Web Site Development* CD-ROM.

Exercises

The following exercises provide practice working with the concepts and techniques covered in Chapter 4: Using Objects on Web Pages.

Exercise 1: Adding ActiveX Controls

In this exercise, you will add image controls and a pop-up menu control to the State University home page.

Exercise 2: Adding a Java Applet

In this exercise, you will create a new page that displays State University's animated mascot.

**Exercise 3: Using a Licensed Control**

In this exercise, you will add an .lpk file for the ActiveX controls in the file mascot.htm to the StateU project, and then add the <OBJECT> tag for the License Manager to read the .lpk file.

Exercise 1: Adding ActiveX Controls

There are three majors offered at State University: Math, History, and Music. Students who use this Web site need an easy way to find out which classes are offered for each major.

In this exercise, you will add **Image** controls for each of the three majors, and a pop-up menu control that lists the classes for each major. You will then add script code to display the pop-up menu when a user selects a major that is represented by an image.

The following illustration shows how your finished Web page should look.
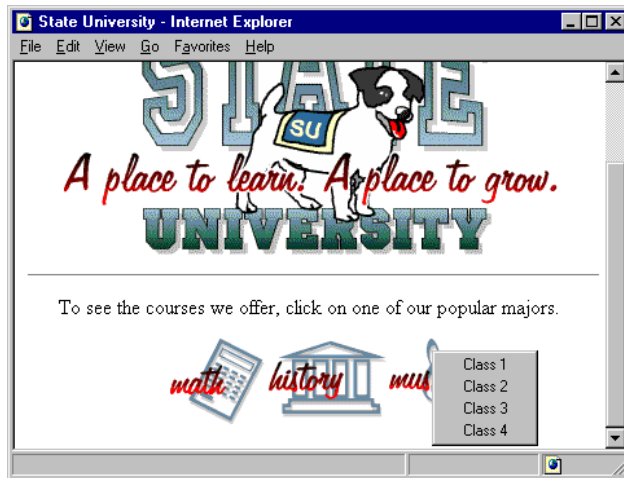
> ➢ **Add files to the Web project**

1. In Visual InterDev, open the StateU project.

2. Copy the two controls isctrls.ocx and iemenu.ocx from the folder \MWD\Labs\Lab04 to the controls folder in the StateU project.

> ➢ **Add Image controls**

Add the ActiveX **Image** control for the Math major, and then add **Image** controls for the History and Music majors.

1. In Visual InterDev, open home.htm with the FrontPage Editor.

2. Insert an ActiveX **Image** control for the Math major at the marked location in the file.

   a. On the **Insert** menu, click **Other Components**, and then click **ActiveX Control**.

   b. In the **Pick a Control** drop-down list box, select **Microsoft ActiveX Image Control**.

   c. Set **Name** to imgMath.

      This adds the ID attribute to the <OBJECT> tag.

   d. Set **Code Source** to controls/isctrls.ocx.

      This adds the CODEBASE attribute to the <OBJECT> tag.

e. To display the ActiveX Control Editor and the **Properties** dialog box for the control, click the **Properties** button, and then set values for the properties listed in the following table.

Property	Value
AutoSize	True
PicturePath	images/math.gif

Note FrontPage displays an **Invalid Property Value** dialog box when you set the **PicturePath** property of the **Image** control. Despite the error message, the .gif file will display in the **Image** control.

3. Insert ActiveX **Image** controls for the History and Music majors.

   a. Set the **Name** of the controls to imgHistory and imgMusic, respectively.

   b. Set **Code Source** to controls/isctrls.ocx.

   c. Set the **PicturePath** properties of the controls to images/history.gif and images/music.gif, respectively.

4. Save your changes to home.htm.

5. Close the FrontPage Editor, and then preview home.htm in the Visual InterDev InfoViewer.

➤ **Add a pop-up menu control**

In the file home.htm, add a pop-up menu control that will list the classes available for each major.

1. In Visual InterDev, open home.htm in the Visual InterDev Source Editor.

2. Right-click the file after the last </OBJECT> tag, and then click **Insert ActiveX Control**.

3. In the **Insert ActiveX Control** dialog box, select the **PopupMenu** object, and then click OK.

Note If the **PopupMenu** object does not appear in the list of registered controls, you will need to register the iemenu.ocx control on your development computer. To register the control, in the Windows Explorer, double-click the control in the folder C:\Program Files\DevStudio\MyProjects\ StateU\controls.

Or, you can download the **Microsoft Popup Menu** control from the ActiveX Component Gallery Web site by clicking this icon.
http://www.microsoft.com/activex/gallery/

   a. Set the CODEBASE attribute to the controls/iemenu.ocx.

   b. Set the ID attribute to popClasses.

   c. Close the **Properties** dialog box and the Visual InterDev Object Editor.

4. To hide the pop-up menu control until you want to display it:

   a. Delete the WIDTH and HEIGHT attributes of the <OBJECT> tag.

   b. Delete the <PARAM> tags for the properties _ExtentX and _ExtentY.

5. To add menu items to the pop-up menu, add <PARAM> tags, as shown in the following example code:

```
<PARAM NAME="MenuItem[0]" VALUE="Class 1">
<PARAM NAME="MenuItem[1]" VALUE="Class 2">
<PARAM NAME="MenuItem[2]" VALUE="Class 3">
<PARAM NAME="MenuItem[3]" VALUE="Class 4">
```

Note In the lab for Chapter 5: Adding Client-Side Script, you will write client-side script to add classes dynamically to the pop-up menu for each selected major.
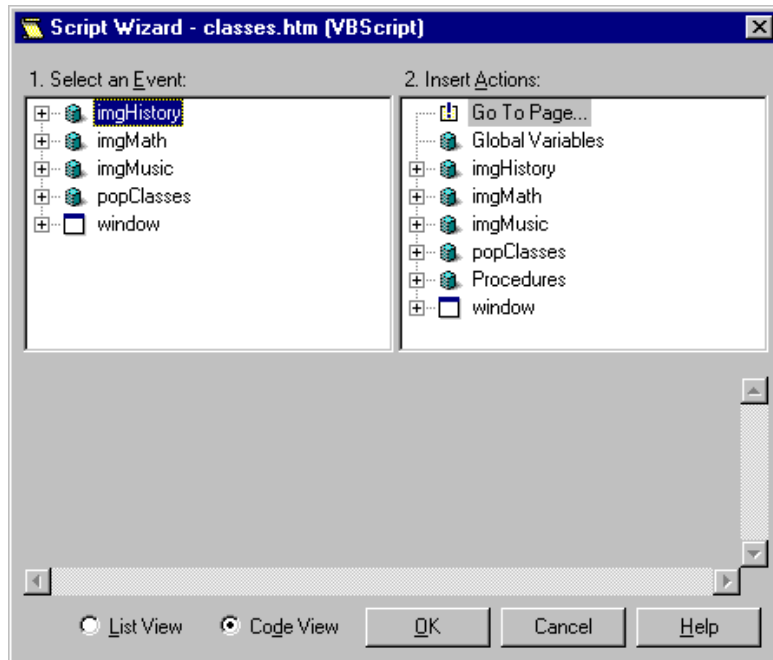
6. Save your changes to home.htm.

➢ **Add script to display the pop-up menu**

Add script code to display pop-up menus when a user selects one of the images.

1. With the Visual InterDev Source Editor, start the Script Wizard by right-clicking anywhere in the home.htm file, and then clicking **Script Wizard**.

   The following illustration shows the **Script Wizard** dialog box.

2. At the bottom of the dialog box, click the **Code View** option.

3. Expand the list of events for the **imgMath** control by clicking the plus sign (**+**).

4. Select the Click event of the **imgMath** control.

   A template for the imgMath_Click event procedure will appear in the Script Wizard.

5. In the imgMath_Click event procedure, display the pop-up menu by adding the following script:

   ```
   popClasses.PopUp
   ```

6. To display the pop-up menu when a user clicks the **imgHistory** and **imgMusic** controls, repeat steps 3 through 5.

7. To close the Script Wizard, click OK.

   Visual InterDev writes the Visual Basic Scripting Edition (VBScript) code in the file home.htm.

8. Save your changes to home.htm.

➢ **Test the Web page**

1. Preview home.htm in the Visual InterDev InfoViewer.

2. Click the images for the different majors.

Exercise 2: Adding a Java Applet

State University has created a fun Java applet that animates their mascot with flips. In this exercise, you will add this applet to the mascot.htm page in the State University Web site.

In later labs, you will implement the user interface to start and stop the mascot, and to change the tumbling speed.

The following illustration shows how your Web page should look.
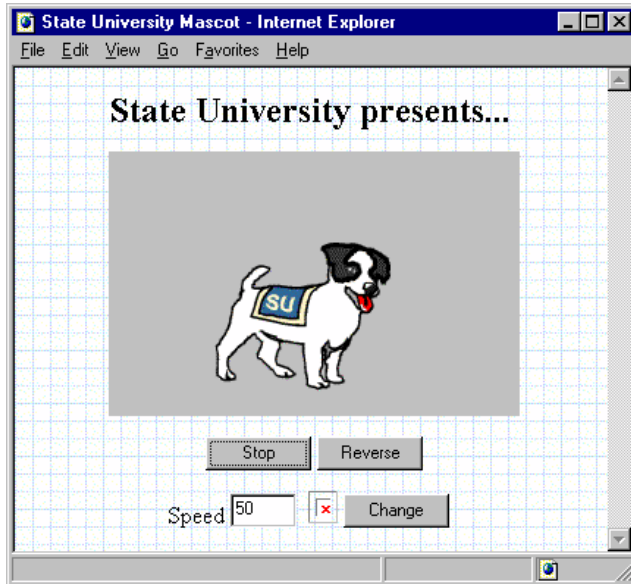
> ➢ **Add the mascot Java applet with the FrontPage Editor**

1. In Visual InterDev, add the Java class file \MWD\Labs\Lab04\mascot.class to the controls folder of the StateU project.

2. Using the FrontPage Editor, open the file mascot.htm.

3. To insert a Java applet at the location of the placeholder text, click **Other Component** on the **Insert** menu, and then click **Java Applet**.

   The **Java Applet Properties** dialog box displays.

   a. Set **Applet Source** to mascot.class.

   b. Set **Applet Base URL** to controls.

   c. Set **Width** to 280 and **Height** to 180.

   d. Add the following parameters with the specified values.

Name	Value	Purpose
speed	50	Initial speed of flips
direction	1	Flip right to left

   e. To close the **Java Applet Properties** dialog box, click OK.

4. To see the <APPLET> tag added to mascot.htm, view the HTML source code of the page, as shown in the following example code:

```
<applet
    code="mascot.class"
    codebase="controls"
    align="baseline"
    width="280"
    height="180" >
    <param name="direction" value="1">
    <param name="speed" value="50">
</applet>
```

5. Save your changes, and then close the FrontPage Editor.

➢ **Test the Web page**

◆ In the Visual InterDev InfoViewer, preview the mascot Web page.

Exercise 3: Using a Licensed Control

Some of the ActiveX controls you add to a Web page may require a run-time license. In this exercise, you will add a license file for the **Spin Button** control to the StateU Web project, and then add tags to the mascot Web page for the Licensed Control Manager.

➢ **View mascot.htm without a license**

There is an unsigned **Spin Button** control on the page mascot.htm that requires a run-time license.

1. In Microsoft Internet Explorer, set the Safety Level to Medium or None so you can view the unsigned control.

   a. In Microsoft Internet Explorer, click the **View** menu, and then click **Options**.

   b. On the **Security** tab, click **Safety Level**.

   c. In the **Safety Level** dialog box, set the Safety Level to Medium or None.

2. In Microsoft Internet Explorer, go to the page mascot.htm in the StateU Web site.

   If you do not have a licensed copy of the **Spin Button** control installed on your computer, Microsoft Internet Explorer will display the control, but it will be inactive.

   The following illustration shows how the mascot.htm Web page should look without a license for the **Spin Button** control.
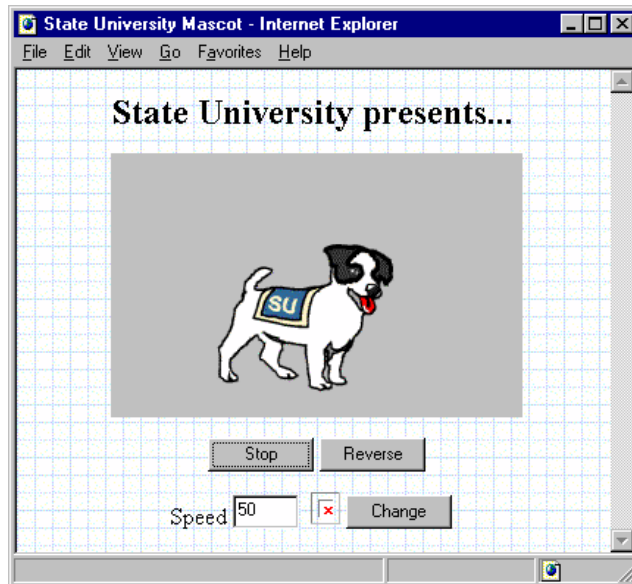
➢ **Add the License Manager to the mascot page**

1. In Visual InterDev, add the file mascot.lpk from the folder \Labs\Lab04 to the StateU Web project in the same folder as mascot.htm.

2. Open the file mascot.htm with the Visual InterDev Source Editor.

3. After the <BODY> tag, add an <OBJECT> tag for the License Manger, and add a <PARAM> tag to set the **LPKPath** property to the file mascot.lpk, as shown in the following example code:

```
<OBJECT CLASSID="clsid:5220CB21-C88D-11CF-B347-00AA00A28331">
    <PARAM NAME="LPKPath" VALUE="mascot.lpk">
</OBJECT>
```

4. Save your changes, and then preview the file mascot.htm in the Visual InterDev InfoViewer.

   If the **Spin Button** control is still inactive, you will need to reload the control by restarting all running Web browsers and Visual InterDev.