Dreamweaver: Including Interaction and Multimedia in Web Pages
How to Use This Book

This handbook accompanies the taught sessions for the course. Each section contains a brief overview of a topic for your reference and then one or more exercises.

The Exercises

Exercises are arranged as follows:

- A title and brief overview of the tasks to be carried out
- A numbered set of tasks, together with a brief description of each
- A numbered set of detailed steps that will achieve each task

Some exercises, particularly those within the same section, assume that you have completed earlier exercises. Your lecturer will direct you to the location of files that are needed for the exercises. If you have any problems with the text or the exercises, please ask the lecturer or one of the demonstrators for help.

This book includes plenty of exercise activities – more than can usually be completed during the hands-on sessions of the course. You should select some to try during the course, while the teacher and demonstrator(s) are around to guide you. Later, you may attend follow-up sessions at OUCS called Computer8, where you can continue work on the exercises, with some support from IT teachers. Other exercises are for you to try on your own, as a reminder or an extension of the work done during the course.

Writing Conventions

A number of conventions are used to help you to be clear about what you need to do in each step of a task.

- In general, the word press indicates you need to press a key on the keyboard. Click, choose or select refer to using the mouse and clicking on items on the screen (unless you have your own favourite way of operating screen features).
- Names of keys on the keyboard, for example the Enter (or Return) key, are shown like this ENTER.
- Multiple key names linked by a + (for example, CTRL+Z) indicate that the first key should be held down while the remaining keys are pressed; all keys can then be released together.
- Words and commands typed in by the user are shown like this.
- Labels and titles on the screen are shown like this.
- Drop-down menu options are indicated by the name of the options separated by a vertical bar, for example File|Print. In this example you need to select the option Print from the File menu. To do this, click with the mouse button on the File menu name; move the cursor to Print; when Print is highlighted, click the mouse button again.
- A button to be clicked will look like this.
- The names of software packages are identified like this, and the names of files to be used like this.
Software Used

*Dreamweaver CS5*
*Windows XP or Mac OSX*
*Firefox / Internet Explorer / Safari*

Files Used

In the **PresenterSite** folder
- about.html
- feedback.html
- hardware.html
- index.html
- personal.html
- software.html
- stafftable.html
- style.html
- technology.html

**ImageZoom.class**

In the **images** folder
- cherwellPanoramic.jpg
- db.jpg
- im.jpg
- int_thumb.jpg
- lapel_mike_275x275.jpg
- las_thumb.jpg
- laser_pointer_275x275.jpg
- mik_thumb.jpg
- PresenterMakingSenseLogo.gif
- ps.jpg
- re.jpg
- se.jpg
- smart_board_275x275.jpg
- updated.png
- vis_thumb.jpg
- visualiser_275x275.jpg
- vot_thumb.jpg
- voting_egg_275x275.jpg

In the **multimedia** folder
- Eternamente.mp3
- Eternamente.wav
- player_mp3_maxi.swf
- SayCheese.flv
- SayCheese.mp4
- SayCheese.mpg
- SayCheese.ogv
- SayCheese.webm

In the Galleria folder
- galleria.js
- plugins folder
- themes folder

In the **Course Materials** folder
- aino-galleria-fc65989.zip
- DisplayTimeOfLastVisit.txt
- galleria.txt
- HTML5Video.txt
- ImageZoom.pdf
- ImageZoom.zip
- MP3Player.txt
- PresenterMakingSenseLogo.swf

Revision Information

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<th>Version</th>
<th>Date</th>
<th>Author</th>
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Thank you to Anna Pavelin for her proofreading and testing of the exercises. Any remaining errors will have been introduced since her careful work.

Thank you to Derek Flood of Das Werk and Westpark Studios for his permission to use the Say Cheese video in our courses.

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1 Introduction

Welcome to the course Dreamweaver: Including Interaction in Web Pages. This booklet accompanies the course delivered by the University of Oxford’s IT Learning Programme. Although the exercises are clearly explained so that you can work through them yourselves, you will find that it will help if you also attend the taught session where you can get advice from the teachers, demonstrators and even each other!

If at any time you are not clear about any aspect of the course, please make sure you ask your teacher or demonstrator for some help. If you are away from the class, you can get help by email from your teacher or from help@it.ox.ac.uk

1.1. What you should already know

This session is the last of four that cover the use of Adobe’s Dreamweaver web site development tool.

This session assumes you have a basic familiarity with Dreamweaver and its use of Cascading Style Sheets (CSS); this material was covered in previous Dreamweaver sessions.

We’ll assume that you are already familiar with using a computer and the basics of file management, such as opening files from particular folders and saving them, perhaps with a different name, back to the same or a different folder.

The computer network in the teaching rooms may differ slightly from that which you are used to in your College or Department; if you are confused by the differences ask for help from the teacher or demonstrators.

1.2. What you will learn

In this session we will cover the following topics:

- Use of the Dreamweaver Spry Framework
- Adding and adapting pre-written JavaScript to web pages
- Adding Flash to web pages
- Adding video and audio to web pages
- Multimedia and HTML5
- Including Java applets on web pages

Topics covered in related Dreamweaver sessions, should you be interested, are given in Section 11.1.

1.3. Where can I get a copy of Dreamweaver?

Colleges and departments are able to buy Dreamweaver from the IT Services on-line shop at a discounted price. If you are a student or academic, you can still purchase Dreamweaver at an educational discount, but you need to approach a software retailer, and you will need to provide proof of your academic status.

Copies of Dreamweaver bought through educational discount schemes cannot be used for commercial purposes. It is also not possible to upgrade to a subsequent version, although you can of course download updates and fixes to the program.

You can download a trial version of Dreamweaver from the Adobe website which will work for a limited period and which you can convert to a full version by purchasing a licence number.
# 2 Getting started

The basics of using *Dreamweaver* were covered in an earlier session. You will recall that the first step in creating a set of web pages is to define a site – essentially telling *Dreamweaver* which folder to use.

Once you have defined a site in *Dreamweaver*, it is easy to return to it at a later stage. Dreamweaver will remember which site you were working on, but you can easily switch to another defined site using the **Site | Manage Sites** option.

In the lecture rooms, our computers are routinely re-imaged and so *Dreamweaver* customisations and sites you defined in a previous session will not be available to you. Therefore, in order to make the most of the upcoming sessions, you need to do a little setting up. Treat it as a little revision...

## Exercise 1  Setting up the Dreamweaver environment

*In this exercise we will define the site that we will be using for the remaining exercises.*

- Open up *Dreamweaver*
- Open the Site Setup dialog to define a new site
- Select the folder for the Presenter site
- Set the images folder
- Save the site definition

## Task 1  Open up Dreamweaver

**Step 1**

Find the *Dreamweaver CS5* icon.

Windows users:

In the lecture rooms click on the Desktop **Start** button and navigate to the **Adobe CS5** entry and then click on the **Dreamweaver** icon.

Mac users:

Open a **Finder** window, and in the **Applications** folder there is a **Dreamweaver** folder containing the icon.

Double click on the icon.

**Step 2**

In the menu bar at the top of the *Dreamweaver* window, click on the drop-down labelled **DESIGNER**.

Select the **CLASSIC** layout.

## Task 2  Open the Site Setup dialog to define a new site

**Step 1**

Use **Site | Manage Sites** to display the **Manage Sites** dialog.

**Step 2**

Click on **New** and select **Site** from the list to display the **Site Setup** dialog (Figure 1).
Dreamweaver: Including Interaction and Multimedia in Web Pages

Task 3
Select the folder for the Presenter site

<table>
<thead>
<tr>
<th>Step 1</th>
<th>In the Site Name text box, enter Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Use the folder icon to the right of the Local Site folder text box to display a folder dialog box. Navigate to the PresenterSite folder in the H Drive and click Select (or click Choose on the Mac)</td>
</tr>
</tbody>
</table>

Task 4
Set the images folder

<table>
<thead>
<tr>
<th>Step 1</th>
<th>In the Site Setup dialog, click on the reveal arrow to the left of Advanced Settings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Select Local Info. Click on the folder icon to the right of the Default images folder text box</td>
</tr>
<tr>
<td>Step 3</td>
<td>In the Choose Image Folder dialog, click on the images folder.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click on Open to select the folder. Click on Select to return from the Choose Image Folder dialog.</td>
</tr>
</tbody>
</table>

Task 5
Save the site definition

| Step 1 | Click Save to close the Site Setup dialog. Click Done to close the Manage Sites dialog. The files panel should change to reflect the contents of the PresenterSite folder. |
3 What do we mean by interactivity?

There is a place for static web pages, that is, those that only change infrequently. For example a web page that summarises a published research paper, or one that gives the history of a College, or even your own biography page.

However, many pages do benefit from some form of interaction where your visitor controls an aspect of the web page. This may be something as simple as expanding/collapsing a text area on the page, or as complex as interrogating an on-line map and zooming into a particular location.

Web page interaction is broadly divided into two areas:

- Client-side
- Server-side

although quite often both will be present on a single page.

In this course we will solely concern ourselves with client-side interactivity. We can define this as being interactivity that is directly under the control of the web browser on the visitor’s computer. The IT Learning Programme offers other courses which address server-side interaction such as the interrogation of on-line databases; more details are given in section 11.2.

Creation of interactive resources for use on a web page requires a different set of skills. Some of these skills are in programming, others are in the making of digital video and audio, but all of them involve a significant investment of your time in order to obtain them. The IT Learning Programme offers courses that cover some of the skills, but they are outside of the scope of this course.

The good news is that if these resources already exist – and you have the permission of the creator to use them – their inclusion and minor adaptation is something that Dreamweaver can help you with.

You will need to occasionally dip into the Code view of Dreamweaver rather than the Design view that we have so far concentrated on, but the aim of this course is to give you the confidence to do so.

So, to summarise, we will be covering client-side interactivity using resources that already exist, but which we may need to modify in some small way. We will divide our attention between the following topics:

- **The Dreamweaver Spry Framework**: this is Adobe’s proprietary technology that provides a simple interface to adding interactivity using the JavaScript programming language.
- **JavaScript**: this is a programming language available through all web browsers that enables a web page to be changed on the fly within the browser.
- **Flash**: Flash is Adobe’s tool for creating sophisticated animations for inclusion in web pages. These can include user interactivity if necessary. The Flash format is almost universally supported within browsers.
- **Audio**: Music and spoken word is usually managed by a plug-in, or helper program, for the browser. There are many different audio formats and the choice of format needs to be made carefully.
- **Video**: In a similar way to audio, video is managed by plug-ins to the browser. There are even more variations of video format than there
are audio formats, and the choice of the correct one is again important.

- **HTML5**: The latest version of HTML includes many features that will make it easier to include rich content in our pages. We will look ahead to what will be available for audio and video support.

- **Java**: Java is a fully featured programming language that can be used to create stand-alone programs that are cross-platform. It can also be used to create mini-programs (applets) that can sit in a web page and provide interactivity for us.

There are some technologies that have their place in web page interaction, but which we don’t have space to include on this course, and so we unfortunately have to leave out:

- **CSS3**: There are a number of features in the latest version of Cascading Style Sheets (CSS) which will, particularly in conjunction with HTML5, enable interaction without a need to create JavaScript or plug-ins to run in the browser.

- **Silverlight**: Microsoft’s alternative to Adobe’s *Flash*.

- **Adobe AIR**: An environment that allows internet based applications, incorporating *Flash*, HTML and JavaScript, to run in a similar way to installed applications, that is, without a need for a browser.

- **Gears**: Formerly called *Google Gears*, this technology allows applications to be developed that either run as part of a web page, or independently of the browser.

- **Audio and video streaming**: Audio and video platforms such as www.last.fm and www.youtube.com use streaming to deliver their media content. This is the process where the media is delivered in real time to the browser for immediate playback, without the option of local storage for off-line use. Streaming is particularly useful for media services with thousands of users wanting to access media simultaneously. Streaming media requires specialised web servers with large bandwidth.
4 Spry

HTML is a description language; it describes the content of your web pages. CSS is also a description language; it describes the styling and positioning of elements of your web pages. What neither language is able to do is add any dynamic behaviour to your pages (other than perhaps some link and image rollover effects).

You will have seen many web pages where you can interact directly with some of the content. For example, on Google maps web pages (maps.google.co.uk) you can drag a map to view another location and then zoom in and out. Or the BBC web site (www.bbc.co.uk) on which you are able to create your own arrangement of their home page by dragging and dropping content from one place to another.

This type of interactivity is usually driven by the JavaScript programming language that can be included in web pages. To produce these types of effects needs some programming skills, which are beyond the scope of this session, however with only a little knowledge and Dreamweaver's assistance it is possible to include JavaScript driven effects into your own web pages.

Dreamweaver makes use of the Spry framework for Ajax (Asynchronous Java and XML), a technology developed by Adobe but freely available. Spry is a library of JavaScript programs which you can use on your pages to add three types of interactivity:

**Widgets**: these are components that form part of the interface of your pages, that is, how your visitors actually use the page. Widgets range from menus and toolbars, through to being able to validate information supplied in forms.

**Effects**: these don’t change how the page is used, but can make your pages visually more interesting. For example you can use an effect which will make an element shrink or grow, or fade in or out.

**Data sets**: these are ways of presenting data on your web pages in a more interactive way than simple data tables. For example you may have a table of products sorted by name that also contains a price column. You could, using Spry, allow your visitors to resort the table without having to download a new page from the web server.

Most browsers are able to manage Spry enabled web pages, although a few have quirks which the Spry programmers have tried to take account of. You do need to try any web pages that use Spry in a selection of common web browsers to make sure they perform as you expect.

Dreamweaver makes it very easy to add Spry components to your web pages. There are a number of toolbar buttons for adding the different types of component to the page, and once in place, the Properties panel can be used to adapt the component’s behaviour. The supplied Spry 'widgets' are:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spry dataset</td>
<td>Add local data interactivity</td>
</tr>
<tr>
<td>Spry region</td>
<td>Add a local data interactivity region</td>
</tr>
<tr>
<td>Spry repeat</td>
<td>Repeat a &lt;DIV&gt; or &lt;SPAN&gt; containing local data</td>
</tr>
<tr>
<td>Spry repeat list</td>
<td>Repeat local data elements in list format</td>
</tr>
<tr>
<td>Spry Validation Text Field</td>
<td>Insert a text field that includes validation</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Spry Validation Text Area</td>
<td>Insert a text area that includes validation</td>
</tr>
<tr>
<td>Spry Validation Checkbox</td>
<td>Insert a checkbox that includes validation</td>
</tr>
<tr>
<td>Spry Validation Select</td>
<td>Include a select list that includes validation</td>
</tr>
<tr>
<td>Spry Validation Password</td>
<td>Include a password field that includes validation</td>
</tr>
<tr>
<td>Spry Validation Confirm</td>
<td>Add a text box that checks its content against another element (often a password field)</td>
</tr>
<tr>
<td>Spry Validation Radio Group</td>
<td>Add a radio group that includes validation</td>
</tr>
<tr>
<td>Spry Menu Bar</td>
<td>Add a vertical or horizontal menu bar</td>
</tr>
<tr>
<td>Spry Tabbed Panels</td>
<td>Add a series of tabbed panels to a page</td>
</tr>
<tr>
<td>Spry Accordion</td>
<td>Add a collection of expandable/collapsible panels (an accordion) to a page</td>
</tr>
<tr>
<td>Spry collapsible panel</td>
<td>Add a single collapsible panel to a web page</td>
</tr>
<tr>
<td>Spry Tooltip</td>
<td>Add a floating, pop-up box to a web page</td>
</tr>
</tbody>
</table>

Although we will only look at three of the Spry widgets in the following exercises, the other widgets behave in very similar ways.

### 4.1. How Spry works in Dreamweaver

Dreamweaver uses the Spry toolbar to give access to the Spry widgets listed above. When a widget button is clicked, you are stepped through one or more dialogs that enable you to customise how the widget will be used.

The widget is then placed in the web page at the current location of the cursor.

The support files (usually a small collection of JavaScript files) are automatically placed in a folder called SpryAssets. It is important that when you publish your site to your web server these Spry assets are also published – this is the default.

### 4.2. Navigation Menu

The Spry menu bar button enables you to add either a horizontal or vertical navigation menu.

By default the menu bar is placed at the cursor location on the page, which can be within an existing <div> or you can add a division around it afterwards.

Once in place, you can select the menu and use the Properties panel to add, remove and customise menu entries. The styling of the menu is controlled...
through a CSS style sheet that Dreamweaver adds to your site folder. To change the look of the menu you will need to adapt this style sheet. It is fully commented, and for simple colour and font changes, you should find it relatively easy to follow. The most difficult aspect is working out which style in the style sheet controls which part of the menu; the style naming is logical but looks a little daunting. There is good guidance available through the customize this widget link that is available in the Properties panel.

When you are defining the destination of a menu link, the usual drag and point features for identifying the link are not available; you will have to resort to using the folder icon next to the link text box, and navigating through the site folder structure manually.

Exercise 2    Creating a navigation menu using Spry

• Open the template page
• Remove the existing links in the main navigation div
• Insert a spry vertical navigation menu
• Customise the menu links
• Change the default CSS styling
• Save and preview the template and style sheets
• Preview the updated home page

Task 1
Open the template page

Step 1
In the Files panel, expand the Templates folder and open the presenter.dwt template by double-clicking on it.

Task 2
Remove the existing links in the main navigation div

Step 1
The navigation list at the left of the page is a library item.
Click in the navigation list to select it.
Press DELETE to remove the library item.

Task 3
Insert a spry vertical navigation menu

Step 1
In the Insert toolbar (Figure 2) click on the Spry tab to bring the Spry buttons to the front.

Figure 2 Insert Toolbar, Spry Tab

Step 2
Click on the Spry Menu Bar button.
Step 3
In the Spry Menu Bar dialog select Vertical. Click OK.
A default menu bar will appear on the page.
The Properties Panel (Figure 3) allows you to customise the Spry menu bar.

![Properties Panel for a Spry menu bar](image)

**Figure 3 The Properties Panel for a Spry menu bar**

Task 4
Customise the menu links

Step 1
The three lists are used to define the entries in the menu and up to two levels of sub-menus.
You can add or remove an item by selecting it and clicking on the + or - button at the top of the list.
You can move items up and down the list by selecting them and then using the ▼ and ▲ buttons at the top of the list.
You modify the text and link behaviour of a list item by selecting it and then using the text boxes on the right of the panel.
You can use the folder button to the right of the Link text box to pick a file to link to.

Step 2
Add the following items to the first list:

<table>
<thead>
<tr>
<th>Text</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome</td>
<td>index.html</td>
</tr>
<tr>
<td>Technology</td>
<td>technology.html</td>
</tr>
<tr>
<td>Personal</td>
<td>personal.html</td>
</tr>
<tr>
<td>Style</td>
<td>style.html</td>
</tr>
<tr>
<td>Feedback</td>
<td>feedback.html</td>
</tr>
</tbody>
</table>

Step 3
To add or remove a sub-menu for an item, select the parent item in the first column and then add or remove the appropriate entries in the second column.
Remove all of the items from the second list, for each of the items in the first list.

Step 4
Select Technology in the first list.
Add the following items to the second list:

<table>
<thead>
<tr>
<th>Text</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software</td>
<td>software.html</td>
</tr>
<tr>
<td>Hardware</td>
<td>hardware.html</td>
</tr>
</tbody>
</table>
**Task 5**  
Change the default CSS styling

| Step 1 | Make sure the Spry menu is still selected. If it is not, select it by clicking on the blue tab that appears when you move your mouse over the menu.  
In the Properties Panel, click on the link Customize this widget.  
This will open the Adobe Help Viewer at a page that describes how to customise the menu bar (widget).  
Take a quick tour of the help.  
We will only change a few aspects of the styling in the following steps.  

| Step 2 | In the CSS Styles panel, select All, and scroll to find the SpryMenuBarVertical.css entry.  
Expand the list of styles by clicking on the symbol to the left of the style name.  

| Step 3 | By double-clicking on the relevant CSS style rules to open the CSS Rule Definition dialog, make the changes given in the following table:

<table>
<thead>
<tr>
<th>CSS Style Rule</th>
<th>Category</th>
<th>Attribute</th>
<th>New Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ul.MenuBarVertical</td>
<td>Box</td>
<td>Width</td>
<td>7 em</td>
</tr>
<tr>
<td>ul.MenuBarVertical</td>
<td>Background</td>
<td>Background-color</td>
<td>#cccccc</td>
</tr>
<tr>
<td>ul.MenuBarVertical li</td>
<td>Box</td>
<td>Width</td>
<td>7 em</td>
</tr>
<tr>
<td>ul.MenuBarVertical ul</td>
<td>Box</td>
<td>Width</td>
<td>7.2 em</td>
</tr>
<tr>
<td>ul.MenuBarVertical ul li</td>
<td>Box</td>
<td>Width</td>
<td>7.2 em</td>
</tr>
<tr>
<td>ul.MenuBarVertical a:hover (...)</td>
<td>Background</td>
<td>Background-color</td>
<td>#cc071a</td>
</tr>
<tr>
<td>ul.MenuBarVertical a.MenuItemHover (...)</td>
<td>Background</td>
<td>Background-color</td>
<td>#cc071a</td>
</tr>
</tbody>
</table>

**Task 6**  
Save the template and style sheet

| Step 1 | Use File | Save All | to save the changes.  
Answer OK (or Save) to any prompts for updating and saving files and components.  
If the Update Template Files dialog appears, click on Update.  

**Task 7**  
Preview the updated home

| Step 1 | In the Files panel, open the index.html page by double-clicking on it.  

Step 2
Use the Preview button 🔄 to preview the page in a browser.
Close the browser to return to Dreamweaver.

Step 3
Use File | Close All to close all files.

4.3. Spry Accordion

Accordions present information in a way that enables your visitors to choose what information they would like to see without excessive scrolling.

An accordion consists of a number of collapsible panels. Each panel can either be expanded and displaying the contents of the panel, or shrunk with only the heading visible. Your visitor can expand or contract a panel by clicking on the heading, and it is their choice which combination of panels is visible. If the expanded panels don’t fit in the browser window, the visitor can scroll in the usual way.

Exercise 3  Creating an accordion based page

- Open the personal web page
- Insert an accordion using Spry
- Customise the existing accordion panels
- Add extra accordion panels
- Customise the accordion styles
- Save and preview the web page

Task 1
Open the personal page

Step 1
If the personal.html page is open, click on its tab in the Document window to bring it to the front.
Otherwise, open the personal.html file by double-clicking on it in the Files panel.

Task 2
Insert an accordion using Spry

Step 1
Click to place the cursor at the end of the second paragraph (…might help you:)
Press ENTER to create a new paragraph.

Step 2
In the Insert toolbar, click on the Spry tab to bring the Spry buttons to the front.

Step 3
Click on the Spry Accordion button 🔄.
A set of two default accordion panels will be inserted.
Step 4
The Properties Panel for the accordion (Figure 4) works in a similar way to that for the Spry menu bar in Exercise 2.

You can add or remove an item by selecting it and clicking on the + or - button at the top of the list.

You can move items up and down the list by selecting them and then using the ▼ and ▲ buttons at the top of the list.

You modify the text of an accordion by changing the text directly on the page.

<table>
<thead>
<tr>
<th>Task 3</th>
<th>Customise the existing accordion panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Make sure the accordion is selected. If it is not, click on the blue spry tab that appears when you move the mouse pointer over the accordion.</td>
</tr>
<tr>
<td>Step 2</td>
<td>In the Properties Panel, select Label 1 in the Panels list. This will expand the Label 1 part of the accordion.</td>
</tr>
<tr>
<td>Step 3</td>
<td>In the accordion, change the text Label 1 to Position</td>
</tr>
<tr>
<td>Step 4</td>
<td>Select all of the text in the Position paragraph below the accordion. Use Edit</td>
</tr>
<tr>
<td>Step 5</td>
<td>In the accordion, select the text Content 1 and use Edit</td>
</tr>
<tr>
<td>Step 6</td>
<td>In a similar way, select the accordion and change the second accordion panel and cut and paste in the text from the Posture paragraph.</td>
</tr>
</tbody>
</table>

Figure 4 The Properties Panel for the Accordion
Task 4
Add extra accordion panels

Step 1
Select the accordion again, and in the Properties Panel, click on the + button to add a new accordion panel.

Step 2
Change the accordion Label 3 to Movement.
Cut and paste the movement text to replace the Content 3 text.

Step 3
(Only if you have time, add extra panels for the remaining paragraphs in the page, changing the labels, and pasting in the text as appropriate.)

Task 5
Customise the accordion styles

Step 1
In the CSS Styles panel, select All, and scroll to find the SpryAccordion.css entry. Click on the + to its left to expand the list of styles.

Step 2
By double-clicking on the relevant CSS style rules to open the CSS Rule Definition dialog, make the changes given in the following table:

<table>
<thead>
<tr>
<th>CSS Style Rule</th>
<th>Category</th>
<th>Attribute</th>
<th>New Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>.AccordionPanelOpen.AccordionPanelTab</td>
<td>Background</td>
<td>Background Color</td>
<td>#cc071a</td>
</tr>
<tr>
<td>.AccordionFocused.AccordionPanelTab</td>
<td>Background</td>
<td>Background Color</td>
<td>#cccccc</td>
</tr>
<tr>
<td>AccordionFocused.AccordionPanelOpen.AccordionPanelTab</td>
<td>Background</td>
<td>Background Color</td>
<td>#cc071a</td>
</tr>
<tr>
<td>Type Color</td>
<td>#ffffff</td>
<td>#ffffff</td>
<td></td>
</tr>
</tbody>
</table>

Task 6
Save and preview the page

Step 1
Use File | Save All to save the changes. If prompted about dependent files, click OK.
Use the Preview button to preview the page in a browser.

Step 2
Close the browser to return to Dreamweaver.

Step 3
Use File | Close All to close all files.
4.4. Spry data handling

Large amounts of data that you need to give your visitors access to belong on the web server for three reasons:

- It would not be efficient to download large data files, particularly if only a subset of the data was subsequently viewed in the browser.
- By keeping the data on the server, we can be sure that it is up to date, and that the visitor is not using cached, old, data.
- Sophisticated querying of large datasets needs a powerful database engine which is unlikely to be available on the visitor’s computer.

These server-based databases need careful design and optimisation and are beyond the scope of this course.

However, if you have small amounts of data that you want to give your visitors some simple control over then you might find the Spry data widgets are useful. For example, you may have a list of contact names and you would like visitors to be able to sort it in different ways (perhaps by name, or postcode, or job title), or you may like visitors to be able to click on a data item for more details to be revealed.

This local data can be in the form of either a simple HTML table, or as an XML file. In the following exercise we use a separate web page containing a simple table as the data source.

These Spry based local data methods work well for a few tens of data entries, but do not scale well for larger amounts of data.

Note that HTML5 is introducing its own method of handling local data.
Exercise 4  Simple data handling using Spry

- Open and review the stafftable.html page
- Open the about.html page
- Use the Spry Data Source tool to add the staff data as a master/detail layout
- Use the Live View to see how the table behaves
- Preview in a browser

Optional:
Add the about page to the Spry navigation menu, and to the NavigationMenu library item.

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Step 1</th>
<th>In the Files panel, double-click on the stafftable.html file to open it.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>Step 2</td>
<td>Notice that the structure of the data is a simple table. Tables can be made using the Insert</td>
</tr>
<tr>
<td>Task 2</td>
<td>Step 1</td>
<td>In the Files panel, double-click on the about.html file to open it</td>
</tr>
<tr>
<td>Task 2</td>
<td>Step 2</td>
<td>Click to place the cursor in the blank paragraph after the text in the PageContent editable area.</td>
</tr>
<tr>
<td>Task 3</td>
<td>Step 1</td>
<td>Click on the Data tab on the Insert toolbar.</td>
</tr>
<tr>
<td>Task 3</td>
<td>Step 2</td>
<td>Click on the Spry Data Set button</td>
</tr>
<tr>
<td>Task 3</td>
<td>Step 3</td>
<td>In the Spry Data Set dialog (Figure 5), specify the following: Select Data Type HTML; Data Set Name staff; Detect Tables; Specify Data File Browse to choose the stafftable.html file</td>
</tr>
<tr>
<td>Task 3</td>
<td>Step 4</td>
<td>Click on the yellow marker to choose the table as the data container. Click on Next to go to the Set Data Options step.</td>
</tr>
</tbody>
</table>
In this particular case, most of the columns are of **Type String**, which is the default.

However, the **Photo** column contains **HTML**, so:

Click on the header of the **Photo** column to select it.

In the **Type** drop down box at the top of the dialog, select **html**.

In the **Other Options** section in the lower half of the dialog, select the **Sort Column** to be **Firstname**.

Click **Next** to go to the **Choose Insert Options** step.

Select the **Insert master/detail layout** option.

Click on the **Set Up...** button next to it.

Check that the **Master Columns** entry is **Firstname**.
| **Step 9** | In the **Detail Columns** list, click on **Title** to select it. Click on the **-** button above the list to remove **Title** from the list. Click **OK**. Click **Done**. A placeholder for the widget is now part of the page. |
| **Task 4** | Use the Live View to see how the table behaves |
| **Step 1** | Click on the **Live** button to see how the widget behaves. Clicking on a name in the list will display the detail for that person. Click on **Live** again to return to the Design view. |
| **Step 2** | Use **File | Save All** to save the page. Answer **OK** (or **Save**) to any prompts that appear. |
| **Task 5** | Preview in a browser |
| **Step 1** | Use the **Preview** button to preview the page in your preferred browser. |
| **Step 2** | Close the browser to return to Dreamweaver. |
| **Step 3** | Use **File | Close All** to close all files |
| **Optional** | Later, if you have time, come back and add the about page to the Spry navigation menu, and to the **NavigationMenu** library item |
5 JavaScript

Underlying Adobe’s Spry framework is the JavaScript programming language. JavaScript is supported by all modern browsers, and is generally considered to be a safe and reliable technology for adding interaction to web pages.

There are many sources of JavaScript programs on the web. Many are made freely available for you to use, but you should check the conditions of use. Often it is as simple as retaining the author’s name in the program code. Note that copyright applies to JavaScript programs just as it does to any other intellectual property.

JavaScript programs are usually accompanied by a set of instructions covering how they should be included in your web pages. Typically, the code is simply copy and pasted into a particular part of the web page. Sometimes you will need to make minor changes to the JavaScript code.

When making changes to the code you should take care to only change the parts that require to be changed – and no other! It is particularly important that you pay attention to the punctuation in the code – a misplaced or omitted semi-colon or quotation mark will usually mean that the code will not work. Always check your changes carefully.

Note that it is possible to disable JavaScript in browsers. JavaScript is considered a safe language in that it was designed not to be able to carry out operations that might compromise the safety and security of a computer, but a few users will have JavaScript disabled nonetheless.

5.1. How JavaScript is used in Dreamweaver

The following steps are involved in using JavaScript in your Dreamweaver environment:

- Identify a useful JavaScript script for your web site. This often involves searching some of the many JavaScript resource sites on the web. Take care to check the conditions of use.
  
  Alternatively, you or a colleague, with the requisite skills, could write your own JavaScript widget!

- Carefully read any documentation that is supplied with the JavaScript script. It should describe exactly how the script can be included in your web page.

- Download any support files that the documentation says are needed. Usually, but not necessarily, you would place these in a separate folder on your site.

- Using the Code view, you will need to type or copy and paste the JavaScript into the correct locations on your chosen web page. Sometimes this is a single location; sometimes there may be two or three locations on the page.

- Make any required changes to the script. The documentation should help here. If the script uses support files (that you downloaded), you will usually have to change any file references in the script to point to the location of these support files.

- Test the web page. If the script does not behave as you expect, then carefully recheck the documentation and any changes that you made to the script. Even a trivial typo will usually break the script.
5.2. Cookies and JavaScript

For some interactivity, it is useful for information to be preserved from one visit to a web page to the next. This is very common on commercial web sites that like to personalise the pages that you see, even if it is just a ‘Welcome back!’ message.

Preserving information between visits is done using cookies. These are small files that contain either the information itself, or a reference that can be used to look up the relevant information on the web server.

Although cookies are in themselves harmless, some less scrupulous advertisers and commercial web sites use them to track your browsing history and build up a profile of your web usage. This leads to some browser users either turning off cookies altogether, or at the very least, forcing cookies to be deleted when the browser closes down. Most browsers enable you to fine tune which sites you are happy to allow to keep cookies on your computer.

Note: In 2012, legislation came into force that governs the use of cookies. It is beyond the scope of this course to cover this, but you are advised to read the advice on the following pages:

www.admin.ox.ac.uk/dataprotection/cookies/
www.oucs.ox.ac.uk/network/security/ISBP/toolkit/solutions/compliance/cookie law/faq.xml

You should also check in your college or department whether there is local guidance available.

There are three types of cookie:

- **Session**: These are deleted when the browser is closed
- **Persistent**: These stay on your computer until a preset time and date has passed (as set by the originating JavaScript code)
- **Secure**: These are set by JavaScript on HTTPS ('padlocked') pages. The information in these cookies is encrypted. They are usually persistent.

Cookies can contain any text information that the programmer requires. Typically it is a reference code that can be sent to the web server and used as a reference to further information.

The following JavaScript shows how a simple cookie can be used to recognise when a visitor was last at your web site. The first time visiting the page, it displays a simple welcome message, but on subsequent visits it shows you the time and date of the last visit. It is provided here as an example – it is for you to decide whether it would be appropriate for your web site.

The example is taken from the www.javascriptkit.com web site. This site has a large collection of free and paid for scripts. There are many other similar sites.

The code is much simpler than in the last example; it requires the copy and paste of just one block of JavaScript code and doesn’t need any supporting files.

It is then relatively simple to customise the messages that appear when the page is displayed.
Exercise 5  Adding JavaScript that uses cookies

- Visit the www.javascriptkit.com web site
- Open the index.html page in code view
- Copy and paste the JavaScript code into the web page
- Use Live View to observe the behaviour of the widget
- Make minor changes to the code
- Preview the page in a browser

Optional: when you have time:

Find out how to turn off cookie handling in the browser, and then check the behaviour of the JavaScript code.

Use CSS to change how the message is displayed.

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Step 1</th>
</tr>
</thead>
</table>
| Visit the www.javascriptkit.com web site | In a browser, visit:  
[www.javascriptkit.com](http://www.javascriptkit.com)  
This is one of countless sources of free JavaScripts. | |

<table>
<thead>
<tr>
<th>Step 2</th>
</tr>
</thead>
</table>
| Click on the link to Free JavaScripts  
Click on the category:  
Using cookies to store information about users  
Look for the JavaScript called Display time of last visit  
Read the short description of the JavaScript | |

<table>
<thead>
<tr>
<th>Task 2</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open the index.html page in code view</td>
<td>In the Files panel, double-click on index.html to open it.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
</tr>
</thead>
</table>
| Click on the Code button to display the code view.  
You may find it easier to make the text larger.  
You can do this by:  
In Windows use Edit | Preferences  
In Mac OSX use Dreamweaver | Preferences  
Select Fonts in the Category list.  
Change the Code view Size to 14pt (Larger)  
Click OK | |
<table>
<thead>
<tr>
<th>Task 3</th>
<th>Copy and paste the JavaScript code into the web page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>This particular JavaScript widget can be placed anywhere on the page. This page is based on a template and so there are only certain areas into which we can paste.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Scroll through the code to find the paragraph that starts: <code>&lt;p&gt;This web site covers...</code> Create a new line just before this paragraph.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>From the javascriptkit web page copy the JavaScript code. (The code is also in the file DisplayTimeOfLastVisit.txt in the Course Materials folder if the page is unavailable),</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Paste the code at the point in index.html where you created a new line.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 4</th>
<th>Use Live View to observe the behaviour of the widget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Return to the Design view by clicking on the Design button. The page should not look any different.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Click on the Live button to see the behaviour of the JavaScript code.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Turn off Live View by clicking the Live button again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Make minor changes to the code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Click on the Code button to display the page code again.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Notice the colour coding used by Dreamweaver to help you identify different parts of the code. Take care not to change any of the code such as the quotation marks and semi-colons.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Look for the statement that says: <code>var days = 730;</code> Change to <code>365</code> Also change the comment text to say: <code>expires = 1 year.</code></td>
</tr>
</tbody>
</table>
### Step 4
Look for the statements that are the messages displayed on the page when it is displayed in the browser. Change these messages so that you think is appropriate.

### Step 5
Use File | Save All to save all changes

<table>
<thead>
<tr>
<th>Task 6</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preview the page in a browser</td>
<td>Use the Preview button to preview the page in your preferred browser. Refresh the browser to see the effect of the code.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 7</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close the browser to return to Dreamweaver. Use File</td>
<td>Close All to close any open files.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Later, if you have time:</td>
<td></td>
</tr>
<tr>
<td>• Find out how to turn off cookie handling in the browser, and then check the behaviour of the JavaScript code.</td>
<td></td>
</tr>
<tr>
<td>• Use CSS to change how the message is displayed.</td>
<td></td>
</tr>
</tbody>
</table>

## 5.3. A JavaScript based image gallery

The following exercise shows some of the graphics handling features of JavaScript. Given a collection of images, the script displays them in a gallery which the user can scroll through. As well as presenting the images, the script also automatically resizes images for use as thumbnails in the widget’s navigation menu.

The script was downloaded from [http://galleria.io/](http://galleria.io/) and it is made available under an MIT licence that makes it open source and free to copy, use, sell and redistribute. Full instructions of how to use the code are also available on the website.

Note that when the visitor accesses the web page, all of the images are downloaded to the visitor’s computer, which may not be very efficient for large numbers of images.

The script uses a number of support files which have already been downloaded for you and placed in the site folder. There are then three sections of JavaScript code that need to be pasted into the web page:

- In the head we paste in some code that references further support files on the web
- In the body of the page we paste in details of the images we want to use
- In the body we paste in the code that actually places the widget on the page

The images that the widget is going to use are already in the images folder of the site.
Exercise 6  Adding a JavaScript image gallery

- Visit the Galleria web site at http://galleria.io
- Examine the folder structure of the Galleria support files
- Open the hardware.html page
- Remove existing images
- Switch to the code view
- Discover how the script should be used
- Reference the location of the Galleria script and supporting files
- Provide a list of images to be used
- Insert a call to the script at the correct place in the web page
- Save all files
- Use Live View to see the page behaviour
- Preview in a browser

Optional:
Read the Galleria support information on its web page and add titles to the images.

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit the Galleria web site at galleria.aino.se/</td>
<td>Open a browser and visit: galleria.io</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice the statement:</td>
</tr>
<tr>
<td>“Galleria and the “classic” theme is open source and released under the MIT license with basically no restrictions whatsoever.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click on the Get Started link and see that there are instructions available for how the Galleria files can be used.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 2</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine the folder structure of the Galleria support files</td>
<td>Back in Dreamweaver, in the Files panel, expand the galleria folder.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice the galleria.js file. This is the JavaScript file that does all the work.</td>
</tr>
<tr>
<td>The other folders are also necessary.</td>
</tr>
<tr>
<td>A careful reading of the instructions on the Galleria site was needed in order to know what files and folder structure is required.</td>
</tr>
<tr>
<td>Normally you would download a zipped file containing all the necessary files and folders and then place them in your site folder.</td>
</tr>
<tr>
<td>This step has been done for you to save class time.</td>
</tr>
<tr>
<td>Task 3</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 4</th>
<th>Remove existing images</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Leave the first paragraph of text as it is. Carefully select and delete the five images and their associated text.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Switch to the code view</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Click on the Code button to display the HTML for the page.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>You can change the font size in the Dreamweaver preferences if necessary.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 6</th>
<th>Discover how the script should be used</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>A careful reading of the galleria web pages would be needed to work out that the following code is required. To save class time the detail is given here, but ask your teacher if you need more explanation.</td>
</tr>
</tbody>
</table>

**NOTE:** All of the HTML and JavaScript given below is also available in the galleria.txt file in the Course materials folder if you would rather copy and paste rather than type it in.

<table>
<thead>
<tr>
<th>Task 7</th>
<th>Reference the location of the Galleria script and supporting files</th>
</tr>
</thead>
</table>
| **Step 1** | Scroll through the code to find the following:  
<p>Presenter Making Sense</p> |
| **Step 2** | On a new line after </title> type:  
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1/jquery.min.js"></script>  
<script src="galleria/galleria.js"></script> |

<table>
<thead>
<tr>
<th>Task 8</th>
<th>Provide a list of images to be used</th>
</tr>
</thead>
</table>
| **Step 1** | Scroll through the code to find the following:  
<p>You will already realise that you will usually use a computer and projector for your presentation. There are other tools which you might also find useful:</p> |
### Task 9
Insert a call to the script at the correct place in the web page

#### Step 1
We need to reference the galleria JavaScript in a predefined way at the place where we want our image widget to appear.

On a new line, after the HTML you have just entered, type:

```html
<script>
Galleria.loadTheme('galleria/themes/classic/galleria.classic.js');
$('#images').galleria({height:400});
</script>
```

### Task 10
Save all files

#### Step 1
Use **File | Save All** to save all changed files.

### Task 11
Use Live View to preview the page

#### Step 1
Click on **Live** to preview the page.

Live View is not able to show the behaviour of this particular widget, so you will not see the Galleria panel.

Click on **Live** again to turn off Live View.

### Task 12
Preview the page in a browser

#### Step 1
Use the **Preview** button to preview the page in your preferred browser.

#### Step 2
Close the browser to return to Dreamweaver.

Use **File | Close All** to close all files.

### Optional
Later, if you have time:
- Read the Galleria support information on its web page and add titles to the images.
Figure 6 The Hardware page showing the Galleria widget in use
6 Using Flash

Flash is Adobe’s technology for adding rich content (video, audio, animation and interactivity) to web pages. According to Adobe’s own figures (Sept 2010), a recent version of the Flash player is installed on 99% of all computers and so it is a de facto standard for the delivery of multimedia through web pages.

However, there is currently no Flash player available for Apple’s iTouch and iPad platforms, with Apple stating that it does not plan to introduce one in the near future; you may need to consider this as these devices become more popular.

The creation of Flash content is yet another skill set that takes time to acquire. The IT Learning Programme runs occasional training courses on the use of the Flash development environment.

As with JavaScript, there are many web sites that make available Flash content, although less of it is freely available, with more being sold commercially, particularly in the education sector.

Since both Dreamweaver and Flash are Adobe applications that are part of the Adobe Creative Suite, it is very easy to include Flash in web pages, usually without having to directly interact with the code.

In the following exercise we will take a simple Flash animation that has been previously created and include it on our web pages. The techniques used are the same for all Flash elements that we might want to make use of.

6.1. How Flash is used in Dreamweaver

The steps involved in using Flash in your web pages are:

- Identify the Flash animation or video that you want to include in your web page. There are many sites on the web which hold collections of Flash resources. Some of these are free and open source, some are free but carry advertising, some are paid for. Always check the conditions of use carefully.

  Alternatively, you or a colleague, with the requisite skills could create your own Flash-based resources for use on your web site.

- Carefully read the instructions on the use of the Flash resource.

- Download the required files to a folder in your web site. Usually this is a single Flash file, but it could be a collection of files.

- In the Design view, use the Insert | Media menu option and choose SWF, FLV or Shockwave as appropriate. We cover SWF (Flash animations) and FLV (Flash video) in this course.

- Supply the information that you are prompted for. Usually this is not much more than identifying the Flash file and its location.

- The Flash resource will be placed at the current cursor position in your web page.

- Make any required changes to the parameters that control the behaviour of the component. The documentation will guide you.

- Test the web page. If the Flash component does not work as you expected, carefully recheck the documentation and any parameters and file location information that you supplied.
### Exercise 7  Add Flash to a page

- **Open the presenter template**
- **Remove the existing site logo**
- **Insert the flash version of the logo**
- **Play the movie using the Properties panel**
- **Preview in Live View**
- **Save all the files**
- **Preview in a browser**
- **View the Flash clip in the Assets panel**
- **Close all files**

### Task 1  Open the presenter template

**Step 1**
In the Files panel, expand the Templates folder and double-click on presenter.dwt to open the template.

**Step 2**
If you are not in the Design view click on the Design button.

### Task 2  Remove the existing site logo

**Step 1**
Select the site logo at the top right of the page by clicking on it.

**Step 2**
Delete the logo by using the DELETE or BACKSPACE key.

### Task 3  Insert the flash version of the logo

**Step 1**
Use Insert | Media | SWF to open the Select SWF dialog.

**Step 2**
Select the PresenterMakingSenseLogo.swf file in the Course Materials folder.

**Step 3**
Dreamweaver should offer to copy the file into the site folder.

Confirm that you want it to do this.

In the Copy File As dialog, select the images folder as the destination.

Leave the name as PresenterMakingSenseLogo.swf and click on Save.

**Step 4**
In the Object Tag Accessibility Attributes dialog that appears, give the Title as Presenter Making Sense Logo.

Click OK.
<table>
<thead>
<tr>
<th>Task 4</th>
<th>Play the movie using the Properties panel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Click on the movie placeholder to select it.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>In the Properties panel, click on the button to preview the movie. Note there is quite a delay before anything happens in this particular movie!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Preview in Live View</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Click on the Live button to preview the page and the movie.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Click on Live again to return to the Design view</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 6</th>
<th>Save all the files</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Use File</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 7</th>
<th>Preview a page in a browser</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>In the Files panel, open the index.html page by double-clicking on it.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Use the Preview button to preview the page in your preferred browser.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Close the browser and return to Dreamweaver.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 8</th>
<th>View the Flash clip in the Assets panel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>In the Assets panel, click on the SWF button. You should see the logo flash file in the list.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Click on the file to select it. In the preview window of the Assets panel, click on the Play button to preview the movie without having to put it on a web page.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 9</th>
<th>Close all files</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Use File</td>
</tr>
</tbody>
</table>
7 Using audio

The inclusion of audio (and video as we will see later) is less straightforward than might be expected. This is because web browsers do not have an audio player built in and so have to rely on the sound capabilities of the computer.

There are a number of different audio formats. The most widespread are WAV and .MP3, but there are other common formats for example the AAC format used by iTunes. Each format needs an audio player that can interpret the audio file and convert it to sound. Some audio players require a specific format; others are able to use multiple formats. The component of a player that interprets a particular format is usually referred to as a codec.

However, in all cases we are dependent on the visitor to our site having a suitable audio player installed which understands the audio format we have delivered through our web page, and which works with the browser that the visitor has chosen to use.

If we want to be sure that every visitor can use our audio files we may have to supply them in multiple formats and ask the visitor to choose the appropriate one.

A possible alternative is to convert the audio into a Flash compatible format, and as we mentioned earlier, 99% of computers have a Flash player installed. This would not of course help those visitors using non-Flash enabled devices such as the iPad.

The well-respected w3schools website (www.w3schools.com/media/media_soundformats.asp) states:

“The .WAV format is supported by all computers running Windows, and by all the most popular web browsers (except Google Chrome).

MP3 is one of the most popular sound formats for music recording. The MP3 encoding system combines good compression (small files) with high quality. Expect all your future software systems to support it.”

It is to be hoped that HTML5 will make this process much more straightforward (see section 9).

As there is no ideal solution, in the following exercise we will supply our audio file in three formats that should ensure near universal coverage:

- WAV
- MP3
- Flash

All of this supposes that you are able to convert your audio files into a variety of formats. Conversion of audio files is beyond the scope of this course, but there are a number of audio conversion utilities available. A popular, open source utility that you might want to explore is Audacity (http://audacity.sourceforge.net/).

A number of audio players, for example iTunes, also have a feature for exporting audio in different formats.

In order for a browser to be able to play an audio file it makes use of a plug-in, or helper program, that offloads the playing of the file to the appropriate player installed on the computer. Dreamweaver has a convenient method for including a suitable plug-in which we will use in the following exercise.
7.1. How audio is used in Dreamweaver

As described above, audio is played by getting the browser to use a plugin. Dreamweaver will create the required HTML code when you use the Insert | Media | Plugin menu option.

You can do this in either the Code or Design view. The Design view will show the space occupied by the plugin. Dreamweaver will choose (a not very useful) default width and height for the plugin and you will usually change these to more suitable values in the Properties panel.

You should, of course, test the web page and the audio in whatever browsers you have access to on your computer. However, there is no guarantee that the audio will play in the visitor's browser – it depends on how their computer is set up and which media players and codecs they have installed.

Exercise 8  Placing audio in a web page

- Create a new page
- Insert a wav audio file using a plugin
- Add the AutoPlay parameter
- Insert an mp3 audio file using a plugin
- Use a flash player to manage the audio file
- Preview the page in a web browser

Task 1
Create a new web page

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use File</td>
<td>In the first column of the dialog, select Page from Template.</td>
</tr>
<tr>
<td></td>
<td>Select Presenter from the Site column and Presenter again from the Template column.</td>
</tr>
<tr>
<td></td>
<td>Click on the Create button.</td>
</tr>
</tbody>
</table>

Step 3
Use File | Save As and save the page as audio.html

Step 4
Replace the Page Title text in the PageHeading editable area with:
Using Audio

Step 5
Replace the text in the PageContent editable area with:
Below are examples of audio file formats that you might find useful in demonstrating the use of sound in a presentation.
<table>
<thead>
<tr>
<th><strong>Task 2</strong></th>
<th><strong>Step 1</strong></th>
</tr>
</thead>
</table>
| Insert a wav audio file using a plugin | At the end of the paragraph you have just typed, press ENTER to create a new, empty paragraph. 

Type: 

```
A .WAV example
```

Followed by another ENTER to create another empty paragraph. |
| **Step 2** | Use **Insert** | **Media** | **Plugin** to display the **Select File** dialog. 

In the **multimedia** folder of the site, select the **Eternamente.wav** file. 

Click **OK** |
| **Step 3** | In the **Properties** panel, change the width (**W**) to 300 and the height (**H**) to 30. |

---

<table>
<thead>
<tr>
<th><strong>Task 3</strong></th>
<th><strong>Step 1</strong></th>
</tr>
</thead>
</table>
| Add the AutoPlay parameter | Make sure the plugin is selected. 

In the **Properties** panel, click on the **Parameters** button. |
| **Step 2** | In the **Parameters** dialog (Figure 7), click on the **+** button.  

In the **Parameter** column type:  

```
AutoPlay
```

Click in the **Value** column and type:  

```
False
```

Click **OK** |

---

![Figure 7 The Parameters dialog](image)
<table>
<thead>
<tr>
<th>Task 4</th>
<th>Insert an mp3 audio file using a plugin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>After the WAV plugin, type ENTER to create a blank paragraph.</td>
</tr>
<tr>
<td></td>
<td>Type: <strong>An MP3 example</strong></td>
</tr>
<tr>
<td></td>
<td>Type ENTER again to create another empty paragraph.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Follow the same sequence of instructions as for the insertion of the WAV example.</td>
</tr>
<tr>
<td></td>
<td>The only difference is that you should use the <strong>Eternamente.mp3</strong> file.</td>
</tr>
<tr>
<td></td>
<td>Use **File</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Use a flash player to manage the audio file</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>There are many Flash audio players available on the Internet.</td>
</tr>
</tbody>
</table>
|         | The one we will use is free and open source. It can be downloaded from:  
|         | [http://flash-mp3-player.net/players/maxi/](http://flash-mp3-player.net/players/maxi/) |
|         | This has already been done for you, and the player placed in the multimedia folder of the site. |
|         | The documentation on the player web site explains how it can be used and customised. |
|         | The following steps use the player in its simplest mode. |
|         | If you prefer to copy and paste the HTML it is available in the **MP3Player.txt** file in the **Course Materials** folder. |
| **Step 2** | After the MP3 plugin, type ENTER to create a blank paragraph. |
|         | Type: **A Flash player audio example** |
|         | Type ENTER again to create another empty paragraph. |
| **Step 3** | Change to the **Code** view by clicking on the **Code** button. |
|         | The cursor should be positioned in the new paragraph just before **&nbsp.** |
Step 4
Replace &nbsp; with the following (copy and paste will avoid mistakes):

```html
<object type="application/x-shockwave-flash"
data="multimedia/player_mp3_maxi.swf"
width="200" height="20">
  <param name="movie" value="multimedia/player_mp3_maxi.swf" />
  <param name="FlashVars" value="mp3=multimedia/Eternamente.mp3" />
</object>
```

Step 5
Return to the Design view by clicking on the Design button.

Task 6
Preview the page in a web browser

Step 1
Use File | Save All to save all changed files.

Step 2
Use the Preview button to preview the page in your preferred browser.

Step 3
Experiment with the different versions of audio file in the page.
Do they sound any different?
What disadvantage does the WAV version have over the MP3 version? (Take a look at the Files panel and check the file sizes).
Is there an advantage to using WAV?
What advantage might there be in using the Flash-based player route?

Step 4
Close the browser and return to Dreamweaver.

Step 5
Use File | Close All to close all files
8 Using video

Using video in web pages suffers from the same problem we identified with using audio; web browsers do not have any built-in video playing facility and so have to rely on the use of plug-ins.

Video formats are even more complicated and numerous than audio formats for the simple reason that videos usually also include audio. The audio exists as a separate component that is synchronised with the video when played back. The video and audio components are usually encapsulated in a ‘wrapper’ which is the video ‘file’ that we deliver via our pages.

The existence of this wrapper to our multimedia content further complicates the playback process. Two files which are outwardly similar in that they have a wrapper extension of say, MP4, may contain audio and video components of very different formats, each of which requires a different codec, or program, to interpret it. The correct codec has to be available on the visitor’s computer.

Once again we need to make a decision as to how we will make sure that all our visitors are likely to be able to view our videos. The most widely supported video formats are MPEG4 (with various file extensions such as .mpg, .mpeg) and MOV. There is the usual alternative of converting the video to a Flash format with the assumption that Flash players are almost ubiquitous.

The well-respected w3schools website www.w3schools.com/html/html_media.asp states:

“The MPEG (Moving Pictures Expert Group) format is the most popular format on the Internet. It is cross-platform, and supported by all the most popular web browsers.”

The pros and cons of different video formats and codecs and the conversion between formats is outside the scope of this course, but you might be interested to look at a utility called Handbrake (available for Windows and Mac OSX), http://handbrake.fr/

Another utility worth looking at, mainly because it supports the new WebM video format, is Miro Video Converter (www.mirovideocconverter.com/) which is also free and open source and available for Windows and Mac.

In the following exercise, we create two versions of a page, one of which includes a plugin to handle the MPEG4 version of the video, the other using a Flash player to manage the Flash version of the video.

8.1. How video is used in Dreamweaver

As described above, video is played by getting the browser to use a plugin. Dreamweaver will create the required HTML code when you use the Insert | Media | Plugin menu option.

You can do this in either the Code or Design view. The Design view will show the space occupied by the plugin. Dreamweaver will choose (a not very useful) default width and height for the plugin and you will usually change these to more suitable values in the Properties panel.

You should, of course, test the web page and the video in whatever browsers you have access to on your computer. However, there is no guarantee that the video will play in the visitor’s browser – it depends on how their computer is set up and which media players and codecs they have installed.
Exercise 9  Placing video in a web page

- Create a new web page
- Place the mpg video in the page
- Add the AutoPlay parameter
- Test the video in the page using a plugin
- Preview the page in available web browsers
- Copy the page
- Replace the video with a Flash video version

Optional:
- Compare the two versions of the video in multimedia.html and multimedia2.html.

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a new web page</td>
<td>Use File</td>
</tr>
<tr>
<td></td>
<td><strong>Step 2</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Step 3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Step 4</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Step 5</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 2</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place the video in the page using a plugin</td>
<td>At the end of the paragraph you have just typed, press ENTER to create a new, empty paragraph.</td>
</tr>
<tr>
<td></td>
<td><strong>Step 2</strong></td>
</tr>
</tbody>
</table>
### Step 3
In the **Properties** panel, change:

- **width (W)**: 320
- **height (H)**: 260

### Step 4
Also in the **Properties** panel, enter the following URL in the **Plug URL** text box:

```
http://www.apple.com/quicktime
```
If the plug in is not installed on the visitor’s computer, the URL will be displayed in place of the video.

### Task 3
**Add the AutoPlay parameter**

#### Step 1
Make sure the plugin is selected.

In the **Properties** panel, click on the **Parameters** button.

In the **Parameters** dialog (Figure 7), click on the **+** button.

In the **Parameter** column type:

**AutoPlay**

Click in the **Value** column and type:

**False**

Click **OK**.

### Task 4
**Test the video in the page**

#### Step 1
With the video still selected, in the **Properties** panel click on the **Play** button.

Provided a suitable plugin is available on the computer the video will play.

### Task 5
**Preview the web page in available browsers**

#### Step 1
Use **File | Save** to save the page.

#### Step 2
Use the **Preview** button to preview the page in your preferred browser.

#### Step 3
Check the page in other available browsers.

If no other browsers appear in the dropdown list that appears when you click on the **Preview** button, click on **Edit Browser List...** that appears at the bottom of the list.

In the **Preferences** dialog, click on the **+** button to add extra browsers. Seek advice from the teacher for the location of other browsers on the class computers.

### Task 6
**Copy the page**

#### Step 1
Use **File | Save As** to open the **Save As** dialog.

Save the file as **multimedia2.html**

Use this file for the following steps
Task 7
Replace the video with a Flash video version

Step 1
Click on the video plugin to select it.
Press DELETE to delete it from the page

Step 2
Use Insert | Media | FLV to open the Insert FLV dialog (Figure 8).

Step 3
Select the following options:
- Video type: Progressive download
- URL: multimedia/SayCheese.flv
- Width: 320
- Height: 260

Click OK

Step 4
Use File | Save All to save all changed files

Step 5
Use the Preview button to preview the page in your preferred browser.

Step 6
Close the browser to return to Dreamweaver.
Use File | Close to close all open files
<table>
<thead>
<tr>
<th><strong>Optional</strong></th>
<th>Later, if you have time:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Compare the two versions of the video in <code>multimedia.html</code> and <code>multimedia2.html</code>.</td>
</tr>
<tr>
<td></td>
<td>• Which is better quality?</td>
</tr>
<tr>
<td></td>
<td>• Which has the smaller download size?</td>
</tr>
<tr>
<td></td>
<td>• What advantages/disadvantages do you see in using Flash video?</td>
</tr>
</tbody>
</table>
9 HTML5 audio and video

The problems associated with the delivery of audio and video through web pages and the reliance on plugins for their playback has long been recognised. HTML5 is the next major version of HTML, and it is already partly supported by a number of recent web browsers. HTML5 has many exciting features which should make it easier to produce media-rich web sites, but one of the most talked about is the provision of the `<audio>` and `<video>` tags.

*Dreamweaver CS5* supports HTML5 provided you have installed the HTML5 extension. All recent updates to Dreamweaver include this extension by default.

If you have looked in detail at the HTML that *Dreamweaver* creates for supporting audio and video you will have noticed that it makes extensive use of the `<embed>` and `<object>` tags. These are used to identify the plugins to use to support multimedia. The original plan for HTML5 was that the `<audio>` and `<video>` tags would provide a mechanism for accessing a standard media player and associated codecs built-in all web browsers. Currently this looks unlikely, with different browser suppliers opting for different built-in codecs, but the new tags do make life a little easier.

Both the `<audio>` and `<video>` tags can contain multiple `<source>` elements which identify, in order of preference, which format of an audio (or video) file should be downloaded and played. The browser tries to match the preferred formats to its built-in codecs and when a match is found, it downloads the appropriate media file. If no match is found, then a suitable message can be displayed.

This means we still need to encode our media in different formats, but the choices are fewer and we have more control over the download process. There is also the opportunity to provide standard controls for the media playback.

HTML5 is still being finalised and adopted by the browser suppliers and the World Wide Web Consortium, and details are likely to change, but a good overview of the use of audio and video in HTML5 is available at [http://diveintohtml5.info/video.html](http://diveintohtml5.info/video.html) which is a chapter from Mark Pilgrim’s book, HTML5: Up and Running.

Pilgrim gives an overview of the codecs supplied with different HTML5 enabled browsers, and summarises with the advice:

“For maximum compatibility, here’s what your video workflow will look like:

1. Make one version that uses WebM (VP8 + Vorbis).
2. Make another version that uses H.264 baseline video and AAC “low complexity” audio in an MP4 container.
3. Make another version that uses Theora video and Vorbis audio in an Ogg container.
4. Link to all three video files from a single `<video>` element, and fall back to a Flash-based video player.”

At least now there are only four formats we need to work with!

A sample HTML5 `<video>` tag would therefore look like:

<video controls>
  <source src=video.webm type='video/webm; codecs="vorbis,vp8"'>
  <source src=video.mp4 type='video/mp4; codecs="avc1.42E01E, mp4a.40.2"'>
  <source src=video.ogv type='video/ogg; codecs="theora, vorbis"'>
</video>

<p>Your browser does not support video; download the <a href="video.webm">WebM</a>, <a href="video.mp4">mp4</a> or <a href="video.ogg">Ogg</a> video for off-line viewing.</p>

An HTML5 enabled browser would work through the list of sources and download the first version that it was capable of supporting. If none of the three are supported, then it would fall through to the Flash player code (not given here) or display the text suggesting the user download the video.

The type and codecs could be omitted. If this is the case, the browser will start to download the first video and attempt to play it, and if it cannot it abandons the download and moves onto the next format – not the most efficient use of bandwidth.

We will use a variation of the above code in the following exercise, although for simplicity we will omit the Flash option. If you are interested in seeing how the Flash option could be included, visit Kroc Camen’s article at http://camendesign.com/code/video_for_everybody

The videos used in the exercise were encoded using the Miro Video Converter (www.mirovideoconverter.com/)

The <audio> tag is used in a very similar way, but is not covered here.

### 9.1. How HTML5 is handled in Dreamweaver

Dreamweaver CS6 is HTML5-aware, although it does not include the new tags and features directly in the interface – we will have to wait for the next version!

Until this happens, use of HTML5 will involve you using the Code view of the interface. You can then type in HTML5 tags, such as <video>, and Dreamweaver will give you the usual code completing prompts.

Some, but not all, of the HTML5 tags are rendered correctly in Dreamweaver’s Live view, but you should of course test the features in a browser through the Preview button.

Most recent browsers implement a large part of the proposed HTML5 standard. An exception is Internet Explorer 8, although Internet Explorer 9 does.
Exercise 10  Placing video in a web page
- Create a new web page
- Switch to the code view
- Copy and paste the `<video>` block into the page
- Identify the purpose of each line of the code
- Preview the page in a selection of browsers

<table>
<thead>
<tr>
<th>Task 1</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a new web page</td>
<td>Use File</td>
</tr>
<tr>
<td></td>
<td><strong>Step 2</strong></td>
</tr>
<tr>
<td></td>
<td>In the first column of the dialog, select Page from Template.</td>
</tr>
<tr>
<td></td>
<td>Select Presenter from the Site column and Presenter again from the Template column.</td>
</tr>
<tr>
<td></td>
<td>Click on the Create button.</td>
</tr>
<tr>
<td></td>
<td><strong>Step 3</strong></td>
</tr>
<tr>
<td></td>
<td>Use File</td>
</tr>
<tr>
<td></td>
<td><strong>Step 4</strong></td>
</tr>
<tr>
<td></td>
<td>Replace the Page Title text in the PageHeading editable area with: Using Multimedia in HTML5</td>
</tr>
<tr>
<td></td>
<td><strong>Step 5</strong></td>
</tr>
<tr>
<td></td>
<td>Replace the text in the PageContent editable area with: In the space below will be the video in the format best supported by the browser</td>
</tr>
<tr>
<td></td>
<td><strong>Step 6</strong></td>
</tr>
<tr>
<td></td>
<td>At the end of the paragraph you have just typed, press ENTER to create a new, empty paragraph.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 2</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch to the code view</td>
<td>Click on the Code button to switch to the code view. The cursor should be in the empty paragraph you have just created.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 3</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy and paste the <code>&lt;video&gt;</code> block into the page</td>
<td>Replace the <code>&lt;p&gt;&amp;nbsp;&lt;/p&gt;</code> with the HTML <code>&lt;video&gt;</code> tag block from the HTML5Video.txt file in the Course Materials folder.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 4</th>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the purpose of each line of the code</td>
<td>In the table below, see if you can identify the purpose of each part of the code you have just pasted in</td>
</tr>
</tbody>
</table>
<video controls>
  <source src="multimedia/SayCheese.webm" type='video/webm; codecs="vorbis,vp8"'>
  <source src="multimedia/SayCheese.mp4" type='video/mp4; codecs="avc1.42E01E, mp4a.40.2"'>
  <source src="multimedia/SayCheese.ogv" type='video/ogg; codecs="theora, vorbis"'>
  <!-- embed Flash here -->
<p>Your browser does not support video; download the
  <a href="multimedia/SayCheese.webm">WebM</a>,
  <a href="multimedia/SayCheese.mp4">mp4</a> or
  <a href="multimedia/SayCheese.ogv">Ogv</a> video for off-line viewing.</p>
</video>

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preview the page in a selection of browsers</td>
<td>Use File</td>
<td>Save All</td>
<td>Use the Preview button</td>
<td>to save all changed files.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>We omitted the flash fall back code, so if any browser you try does not support the video formats, you should see an appropriate message.</td>
<td>Close all browsers and return to Dreamweaver.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use File</td>
<td>Close All</td>
</tr>
</tbody>
</table>
10 Using Java applets

Java is yet another programming language. Although the name suggests some similarities with JavaScript, the languages were developed separately and only share conceptual similarities.

Java is widely used to create cross-platform applications that run entirely independently of a browser, and as such is a much more fully featured programming language than many of the web-oriented scripting languages such as JavaScript.

One aspect of Java is that it can be used to create small, independent, programs that can be embedded within a web page. These are often referred to as Java applets. To run in a browser, the Java runtime environment needs to be pre-installed on the visitor’s computer, however this is quite common – most computers will have the Java runtime already installed.

Applets can be created for any purpose, from games to serious scientific applications, but as the capabilities of JavaScript and web browsers have improved, Java applets are starting to fall out of favour. However, there are still many applets available, and many of these can be freely downloaded from the web. As ever, you should carefully check the conditions of use.

Just as with JavaScript widgets and code, full instructions are usually supplied with the applet, and it is usually just a case of downloading the Java applet files into a folder of your web site and then pasting in the associated code at the appropriate place on a web page.

In the following exercise we use a free to download Java applet that allows us to pan and zoom a large image that we put onto our web page.

10.1. How Java applets are used in Dreamweaver

The following steps are involved in the use of Java applets in Dreamweaver:

- Identify the Java applet that you want to include in your web page. There are many sites on the web which hold collections of Java resources. Some of these are free and open source, some are free but carry advertising, some are paid for. Always check the conditions of use carefully.

  Alternatively, you or a colleague, with the requisite skills could create your own Java applets for use on your web site.

- Carefully read the instructions on the use of the Java applet.

- Download the required files to a folder in your web site. Sometimes this is a single Java file, but it could be a collection of files.

- In the Design view, use the Insert | Media | Applet menu.

- Supply the information that you are prompted for. At a minimum this will be the location of the main applet file.

- The Java applet will be placed at the current cursor position in your web page. Dreamweaver will choose some (not very helpful) values for the height and width of the applet. You should change these to appropriate values in the Properties panel.

- Make any required changes to the parameters that control the behaviour of the applet. The documentation will guide you. Occasionally you may need to use the Code view to do this.
- Test the web page. If the applet does not work as you expected, carefully recheck the documentation and any parameters and file location information that you supplied.

<table>
<thead>
<tr>
<th>Exercise 11  Adding a Java applet to a web page</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Visit the javaboutique.internet.com web site</td>
</tr>
<tr>
<td>• Open the hardware.html page in design view</td>
</tr>
<tr>
<td>• Insert the Applet at the bottom of the page</td>
</tr>
<tr>
<td>• Set the applet parameters</td>
</tr>
<tr>
<td>• Preview the applet in a browser</td>
</tr>
<tr>
<td>• Change applet parameters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 1  Visit the javaboutique.internet.com web site</th>
<th>Step 1  In a browser, visit: javaboutique.internet.com</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This is one of many sources of free Java applets.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2  Click on the <strong>Applets by Name</strong> link in the menu at the left of the page. Click on the <strong>I</strong> in the alphabetic list. Scroll down and click on the <strong>ImageZoom</strong> entry.</td>
<td></td>
</tr>
<tr>
<td>Step 3  Read the short description of the ImageZoom applet. The instructions are quite straightforward, and suggest that you type in the short section of code. You can do this if you prefer, although you will need to make minor changes. However, we will use the <strong>Dreamweaver</strong> method for inserting an applet.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 2  Open the hardware.html page in code view</th>
<th>Step 1  In the <strong>Files</strong> panel, double-click on <strong>hardware.html</strong> to open it.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Step 2</strong> Make sure you are in the <strong>Design</strong> view. If not, click on the <strong>Design</strong> button.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task 3  Insert the Applet at the bottom of the page</th>
<th>Step 1  The instructions on the applet web page say that, for simplicity, you should place the Java applet file <strong>(ImageZoom.class)</strong> in the same folder as the web page. This has already been done for you.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Step 2</strong> Click at the end of the first paragraph, and press ENTER to create a new, blank line.</td>
</tr>
</tbody>
</table>
### Step 3
Use Insert | Media | Applet from the main menu to open the Select File dialog.

### Step 4
Choose the ImageZoom.class file and click **OK**.

### Step 5
In the **Applet Tag Accessibility Attributes** dialog, give the following:
- **Alternate text**: Zoomable image of teaching room
- **Title**: Cherwell teaching room

Click **OK**.

An applet placeholder will appear on the page.

---

### Task 4
Set the applet parameters

#### Step 1
Click on the applet placeholder to select it.

#### Step 2
In the **Properties** panel, set the following:
- **W**: 450
- **H**: 130

#### Step 3
In the **Properties** panel, click on the **Parameters** button.

#### Step 4
In the **Parameters** dialog (Figure 9), click on the **+** button.

In the **Parameter** column type: **image**

Click in the **Value** column and type in: `images/cherwellPanoramic.jpg`

Click **OK**.

#### Step 5
Use **File | Save All** to save all changes.
### Task 5
Preview the applet in a browser

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Use the <strong>Preview</strong> button 🌐 to preview the page in your preferred browser.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Explore the behaviour of the applet</td>
</tr>
<tr>
<td>Step 3</td>
<td>Close the browser to return to <em>Dreamweaver</em>.</td>
</tr>
</tbody>
</table>

### Task 6
Change applet parameters

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Using <em>Windows Explorer</em> or <em>Mac OSX Finder</em>, double-click on the <code>ImageZoom.pdf</code> document in the <em>Course materials</em> folder.</th>
</tr>
</thead>
</table>
| Step 2 | There are three other useful parameters that can be configured for this applet:  
  - **ZoomLevel**  
  - **PanSpeed**  
  - **Preload**  
  Read the (limited) information given about them. |
| Step 3 | Using the **Parameters** button (as above) change one or two of these parameters and see the effect on the applet in the web page |
11 What Next?

We hope you have enjoyed this session and found it useful. If you attended a taught session you will get sent an email with a link to a web page to give us anonymous feedback. We always value your feedback and use it to improve our sessions.

You may like to consider the following options to follow on from this session.

11.1. Other Dreamweaver sessions

There are currently three Dreamweaver sessions offered by the IT Learning Programme:

- Dreamweaver: An introduction.
  Dreamweaver is one of the most popular web development environments. This introduction assumes you know little or nothing about Dreamweaver and shows how we create web pages, add content, images, tables and forms, and link our pages together.

- Dreamweaver: Using CSS for styling and layout.
  We cover the use of cascading style sheets to add styling and layout to your web pages, and so preserving the logical structure of the content. This helps to make your pages accessible.

- Dreamweaver: Including interaction in web pages.
  This session.

11.2. Other IT Learning Programme courses

In this course we have concerned ourselves solely with client-side interactivity. If you have large amounts of data that your visitors need to interact with, then this will almost certainly involve the creation of a database on the server, and the development of server-side scripts and programs that interrogate the database and create web pages 'on-the-fly'. The following IT Learning Programme courses will start you on the path of being able to do this:

- Database: Design essentials
- Programming: An introduction to the concepts
- Programming: MySQL introduction
- Programming: PHP introduction
- Programming: Perl introduction

11.3. Computer8

We encourage everyone to work at their own pace. This may mean that you don’t manage to finish all of the exercises for this session. If this is the case, and you would like to complete the exercises while someone is on hand to help you, come along to one of the Computer8 sessions that run during term time. More details are available from www.it.ox.ac.uk/courses/

11.4. IT Services Help Centre

The IT Services Help Centre is open from 08:30 am to 8:30 pm, Monday to Friday. You can use the facilities to work through the exercises in this booklet, or use any of the applications that are available.
The Help Centre is also a good place to get advice about any aspect of using computer software or hardware. You can contact the Help Centre on (2)73200 or by email on help@it.ox.ac.uk

11.5. **Downloadable course materials (WebLearn)**

These course materials, plus the files you need to complete the exercises, are available as a course pack in the ITLP Portfolio at [http://portfolio.it.ox.ac.uk](http://portfolio.it.ox.ac.uk) – search for Dreamweaver.

11.6. **Reference Material**

The IT Services Web Design Consultancy web site is at:  
[www.oucs.ox.ac.uk/webdesign/](http://www.oucs.ox.ac.uk/webdesign/)

An excellent book that describes in detail how to use the many features in Dreamweaver is:


An extensive manual for Dreamweaver is:

- Adobe Dreamweaver CS6 Bible, Lowery, J., 2012,  

An overview of some of the features of HTML5 as it currently stands (Jan 2011) can be found in:

- HTML5: Up and Running, Page, M., 2010,  

and

- Introducing HTML5, Lawson, B., Sharp, R., 2011,  
Dreamweaver: including interaction on web pages

Dave Baker
david.baker@it.ox.ac.uk

Today’s arrangements

<table>
<thead>
<tr>
<th>Your teacher</th>
<th>Dave Baker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your demonstrators</td>
<td><a href="mailto:david.baker@it.ox.ac.uk">david.baker@it.ox.ac.uk</a></td>
</tr>
<tr>
<td>We finish at</td>
<td></td>
</tr>
<tr>
<td>You should have</td>
<td>Course book</td>
</tr>
<tr>
<td>Slides</td>
<td></td>
</tr>
</tbody>
</table>

Your safety is important

Where is the fire exit?
Beware of hazards:
  Tripping over bags and coats
Please report any equipment faults to us
Let us know if you have any other concerns

Your comfort is important

The toilets are along the corridor outside the lecture rooms
The rest area is where you registered
The swivel seats are adjustable
You can adjust the monitors for height, tilt and brightness

Today’s topics:

Use of the Dreamweaver Spry Framework
Adding and adapting pre-written JavaScript
Adding Flash
Adding video and audio
Multimedia and HTML5
Including Java applets
What you might already know...

What do we mean - interactivity?

Interactivity can be driven by the client, or server, or both

Interactivity covers a wide spectrum

What's in What's out
Spry CSS3
JavaScript Silverlight
Flash (and Flash video) Adobe Air
Audio + Video Google Gears (now defunct)
Java applets Audio + video streaming

Using the Adobe Spry framework

Spry: a library of JavaScript programs with a point-and-click Dreamweaver interface

- spry dataset
- spry region
- spry repeat
- spry repeat list
- spry validation text field
- spry validation text area
- spry validation checkbox
- spry validation select
- spry validation password
- spry validation confirm
- spry validation radio group
- spry tabbed panels
- spry accordion
- spry collapsible panel
- spry menu bar
- spry tooltip
Spry makes available some useful interactive elements

Demo: How Spry works in Dreamweaver

Exercises:
1. Setting up the environment
2. Creating a navigation menu using Spry
3. Creating an accordion-based page
4. Simple data handling using Spry

Using (someone else’s) JavaScript

JavaScript is a (scripting) programming language

If you can’t write JavaScript, read the instructions carefully!
Do we need a cookie? (and will we be legal if we do?)

Demo: How JavaScript works in Dreamweaver

Exercises:
5 Add JavaScript that uses cookies
6 Add a JavaScript image gallery

Using (someone else’s) Flash

Flash is an animation creation package (and a format for video and audio)

Flash is easy to incorporate in a web page using Dreamweaver
**Demo:**
How Flash works in Dreamweaver

**Exercises:**
7 Add Flash to a page

**Including video and audio today**

**“The nice thing about standards is that you have so many to choose from”** Tanenbaum

<table>
<thead>
<tr>
<th>Name</th>
<th>File</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>.ai</td>
</tr>
<tr>
<td>AIFF</td>
<td>.aif .aiff</td>
</tr>
<tr>
<td>MPEG</td>
<td>.mp3</td>
</tr>
<tr>
<td>RealAudio</td>
<td>.ra</td>
</tr>
<tr>
<td>WAV/WVForm</td>
<td>.wav</td>
</tr>
<tr>
<td>Windows media</td>
<td>.wma</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
</tr>
</tbody>
</table>

**Audio formats**

<table>
<thead>
<tr>
<th>Name</th>
<th>File</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>.ai</td>
</tr>
<tr>
<td>Flash</td>
<td>.flv</td>
</tr>
<tr>
<td>MPEG</td>
<td>.mpg .mpeg</td>
</tr>
<tr>
<td>QuickTime</td>
<td>.mov</td>
</tr>
<tr>
<td>RealVideo</td>
<td>.rv</td>
</tr>
<tr>
<td>WebM</td>
<td>.webm</td>
</tr>
<tr>
<td>Windows media</td>
<td>.wma</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
</tr>
</tbody>
</table>

**Video formats**

**...and it’s more complicated than that**

Possible audio codecs:
- MP3
- Nellymoser
- ADPCM
- Linear PCM
- AAC
- Speex

Possible video codecs:
- Sorenson
- VP6
- Screen video
- H.26A/MPEG-4
- AVC

Source: wikipedia

So, you have to second guess the browser - OS - media player plugin!
Dreamweaver chooses either `<embed>` or `<object>` for us as appropriate

Or (e.g. for Flash video)...

```
<embed src="SayCheese.mpg" width="318" height="240">
```

The most 'reliable' media formats are:

<table>
<thead>
<tr>
<th>Audio</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAV</td>
<td>MPEG</td>
</tr>
<tr>
<td>MP3</td>
<td>Flash</td>
</tr>
</tbody>
</table>

Including video and audio tomorrow (HTML5)

Will HTML5 `<video>` and `<audio>` tags make it all better?

```
<video>
  <source src="video.webm" type="video/webm; codecs="vp8,vp9"/>
  <source src="video.mp4" type="video/mp4; codecs="avc1.42E01F, mp4a.40.2"/>
  <source src="video.ogv" type="video/ogg; codecs="theora, vorbis"/>
</video>
```

The take up of HTML5 is now quite good
Demo: Audio and video in Dreamweaver

Exercises:
8 Placing audio in a web page
9 Placing video in a web page
10 Placing video in a web page using HTML5

and not forgetting Java applets

There are some amazing Java applets out there...

Java applets are easy to incorporate in a web page using Dreamweaver

Demo: Using Java applets in Dreamweaver
Exercises:
11 Adding a Java applet to a web page

What next?

Dreamweaver:
Styling and layout using CSS
Cascading style sheets
Positioning using CSS

Programming:
Introduction to the Concepts
Flash: Introduction
Programming:
Introduction to PHP
Programming:
Introduction to MySQL

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