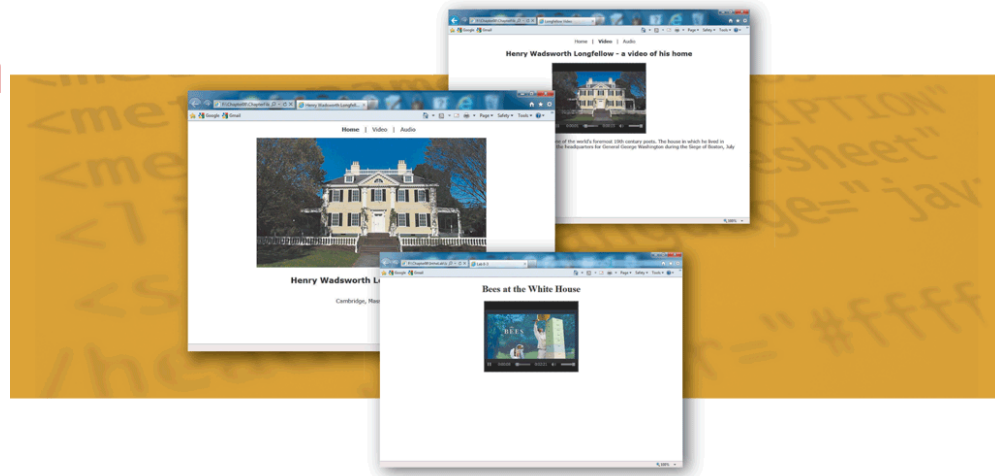


HTML5 & CSS

7th Edition

Chapter 8

Adding Multimedia Content to Web Pages



Chapter Objectives

- Describe the benefits and limitations of multimedia in Web sites
- Identify audio and video formats
- Describe parameters for embedded multimedia
- Add an audio clip to a Web page using the HTML5 audio element
- Add a video clip to a Web page using the HTML5 video element

Plan Ahead

- Plan the Web site
- Analyze the need
- Choose the content for the Web page
- Determine the type of multimedia to incorporate into your Web pages
- Create or find the multimedia content and insert it into the Web site
- Test all Web pages within the Web site

Using Multimedia

- **Multimedia** is defined as the combination of text, sound, and video to express an idea or convey a message
- **Podcasts**, a series of audio or video clips that are released in a sequence, are becoming more prevalent in both academic and corporate settings
- You can obtain multimedia files by creating them yourself or finding files that are already available

Using Multimedia

- Embedded media files appear within the Web page and users have access to the audio or video player controls right on the page
- External media files are accessed through a link that your Web site visitor clicks
- A **media player** is computer software that is used to play multimedia files
- A **plug-in** (also called an add-in or add-on) is extra software that is added to the browser (or other program) to provide a capability that is not inherent to the program
- HTML5 introduces built-in media support via the audio and video elements

Audio File Formats

Table 8–1 Common Audio File Formats

Format	File Extension	Description
AIFF	.aiff	<ul style="list-style-type: none">• The standard audio file format developed by Apple• As a noncompressed and lossless format, it uses more disk space than the MP3 format
AU	.au	<ul style="list-style-type: none">• The standard audio file format used by Sun, UNIX, and Java• Can be compressed
MIDI	.mid .rmi	<ul style="list-style-type: none">• Musical Instrument Digital Interface (MIDI)• Limited to electronic musical instruments (such as synthesizers) and other electronic equipment• Can be much smaller in size than other formats
MP3*	.mp3	<ul style="list-style-type: none">• One of the most popular formats for music storage• Compresses files to approximately 1/10 the size of uncompressed files
MP4*	.mp4	<ul style="list-style-type: none">• Created on basis of the QuickTime format; used for audio and video• Is a quicker, faster, high-quality media• Not supported by Windows Media Player
Ogg*	.ogg	<ul style="list-style-type: none">• Maintained by Xiph.Org Foundation• Designed to provide for efficient streaming and high-quality digital multimedia• Can be used with <audio> tag
RealAudio	.ra .ram	<ul style="list-style-type: none">• Designed for streaming audio over the Internet; declining use• Sound quality not as good as other formats
WAV*	.wav	<ul style="list-style-type: none">• Standard audio format for Windows• Commonly used for storing uncompressed CD-quality sound files• Compression is available to reduce file size

Video File Formats

Table 8–2 Common Video File Formats

Format	File Extension	Description
AVI	.avi	<ul style="list-style-type: none">• Audio / Video Interleaved• Developed by Microsoft to use with Windows• Can contain both audio and video data
Flash	.swf	<ul style="list-style-type: none">• Small Web Format• Can contain audio, video, or animations• Requires Adobe Flash Player
Flash Video	.flv .f4v	<ul style="list-style-type: none">• Developed by Adobe• Format of choice for embedded video on the Web• Used by YouTube and Hulu
MPEG	.mpg .mpeg .mp3	<ul style="list-style-type: none">• Moving Picture Experts Group• Can be highly compressed resulting in small file size• Supported by most major browsers
MP4*	.mp4	<ul style="list-style-type: none">• Created on basis of QuickTime format; used for audio and video• Is a quicker, faster, high-quality media• Not supported by Windows Media Player
Ogg*	.Ogg	<ul style="list-style-type: none">• Maintained by Xiph.org Foundation• Designed to provide for efficient streaming and high-quality digital multimedia• Can be used with HTML5 <video> tag
QuickTime	.mov	<ul style="list-style-type: none">• Developed by Apple for both Windows and Mac operating systems• File compression can result in smaller file size• Requires QuickTime Player or Adobe Flash Player, which are easily downloaded
RealVideo	.rm .rv	<ul style="list-style-type: none">• Proprietary video format developed by RealNetworks• Requires RealPlayer
WebM*	.webm	<ul style="list-style-type: none">• Developed by Google• Royalty free, open format• Can be used with HTML5 <video> tag
Windows Media	.wmv	<ul style="list-style-type: none">• Developed by Microsoft• Originally designed for Internet streaming applications• Requires Windows Media Player or RealPlayer

The Object Tag

- The object element supports many different media types, including: pictures, sounds, videos, as well as other objects
- The term **object** is used to describe the things that people want to place in HTML documents

```
<object data="longfellow-audio.mp3" height="45" width="250">  
  <param name="URL" value="longfellow-audio.mp3" />  
</object>
```

Object Tag Parameters

Table 8-4 Commonly Used Parameters for Windows Media Player

Parameter	Default	Description
autostart	true	Specifies whether the current media item begins playing automatically
balance	0	Specifies the current stereo balance; values range from -100 to 100
baseURL	[no default]	Specifies the base URL used for relative path resolution with URL script commands that are embedded in media items
enabled	false	Specifies whether the Windows Media Player control is enabled
fullscreen	false	Specifies whether video content is played back in full-screen mode
mute	false	Specifies if audio is muted
playcount	1	Specifies the number of times a media item will play; minimum value of one
rate	1.0	Specifies the playback rate; 0.5 equates to half the normal playback speed, 2 equates to twice
showaudiocontrols	true	Sets if the audio controls should show
showcontrols	true	Sets if the player controls should show
showdisplay	false	Sets if the display should show
showstatusbar	false	Sets if the status bar should show
stretchtofit	false	Specifies whether video displayed by the control automatically sizes to fit the video window, when the video window is larger than the dimensions of the video image
uimode	full	Specifies which controls are shown in the user interface; possible values: invisible, none, mini, full
URL		Specifies the name of the media item to play; you can specify a local filename or a URL
volume	[last setting; 0-100]	Zero specifies no volume and 100 specifies full volume
windowlessvideo	false	Specifies or retrieves a value indicating whether the Windows Media Player control renders video in windowless mode; when windowlessvideo is set to true, the player control renders video directly in the client area, so you can apply special effects or layer the video with text

The HTML5 <audio> Tag

- The <audio> tag is used to define sound, such as music or other audio streams

Table 8–6 Attributes for <audio> Tag

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button, etc.)
loop	loop	Specifies that the audio will start over again, every time it is finished
preload	auto metadata none	Specifies if and how the author thinks the audio should be loaded when the page loads
src	URL	Specifies the URL of the audio file

The HTML5 <audio> Tag

```
<audio controls="controls" autoplay="autoplay">  
  <source src="longfellow-audio.mp3" type="audio/mp3" />  
  If you are reading this, your browser does not support the  
  HTML5 audio element.  
</audio>
```

The HTML5 <audio> Tag

```
1 <!DOCTYPE HTML>
2
3 <html>
4 <head>
5 <meta charset="utf-8" />
6 <title>Longfellow Audio</title>
7
8 <link rel="stylesheet" type="text/css" href="stylesch8.css" />
9
10 </head>
11 <body>
12
13 <div style="text-align: center">
14 <ul>
15 <li class="navlist"><a href="longfellow.html">Home</a> &nbsp;| &nbsp;&nbsp;
16 <li class="navlist"><a href="longfellow-video.html">Video</a> &nbsp;| &nbsp;&nbsp;
17 <li class="navlist"><a href="longfellow-audio.html"><span class="boldword">Audio</span></a>
18 </ul>
19
20 <h2>Henry Wadsworth Longfellow - an audio reading of "Changed"</h2>
21 </div>
22
23 <div class="audio">
24 <audio controls="controls" autoplay="autoplay">
25
26 <source src="longfellow-audio.mp3" type="audio/mp3" />
27
28 If you are reading this, it is because your browser does not support the HTML5 audio element.
29 </audio>
30 </div>
31
32 <div class="content">
33 <p>In this poem, Henry Wadsworth Longfellow returns to his old setting and realizes that
```

The HTML5 <video> Tag

- HTML5 defines a new element that specifies a standard way to embed a video or movie on a Web page: the video element
 - Used to specify a video, such as a movie clip or other video streams
 - Supported by most browsers
 - You must convert your video to one of the supported formats
 - Does not work in older browsers

The HTML5 <video> Tag

Table 8–8 Attributes for <video> Tag

Attribute	Value	Description
autoplay	autoplay	Specifies that the video will start playing as soon as it is ready
controls	controls	Specifies that video controls should be displayed (such as a play/pause button, etc.)
height	<i>pixels</i>	Sets the height of the video player
loop	loop	Specifies that the video will start over again, every time it is finished
muted	muted	Specifies that the audio output of the video should be muted
poster	<i>URL</i>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	auto metadata none	Specifies if and how the author thinks the video should be loaded when the page loads
src	<i>URL</i>	Specifies the URL of the video file
width	<i>pixels</i>	Sets the width of the video player

The HTML5 <video> Tag

The image shows a code editor window with HTML code and several callout boxes explaining specific parts of the code. The code is as follows:

```
19 </ul>
20 Wadsworth Longfellow his home</h2>
21
22
23 <div class="movie">
24   <video width="320" height="240" controls="controls">
25     <source src="longfellow-video.mp4" type="video/mp4" />
26     If you are reading this, it is because your browser does not support the HTML5 video element.
27   </video>
28 </div>
29
30 </div>
```

Annotations:

- height and width values inserted:** Points to the `width="320" height="240"` attributes in the `<video>` tag.
- control panel will display:** Points to the `controls="controls"` attribute in the `<video>` tag.
- no autostart attribute inserted:** Points to the absence of an `autoplay` attribute in the `<video>` tag.
- src attribute identifies filename to insert:** Points to the `src="longfellow-video.mp4"` attribute in the `<source>` tag.
- text that displays if browser does not support video element:** Points to the text `If you are reading this, it is because your browser does not support the HTML5 video element.`

Chapter Summary

- Describe the benefits and limitations of multimedia in Web sites
- Identify audio and video formats
- Describe parameters for embedded multimedia
- Add an audio clip to a Web page using the HTML5 audio element
- Add a video clip to a Web page using the HTML5 video element

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Chapter 8 Complete

