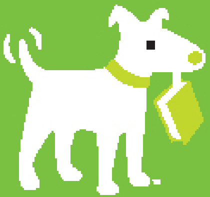
Add Audio & Video to Your Site

mini
the missing manual®



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Matthew MacDonald

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Add Audio and Video to Your Site: The Mini Missing Manual

by Matthew MacDonald

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Published by O’Reilly Media, Inc., 1005 Gravenstein Highway North,
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January 2010: First Edition.

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ISBN: 9781449382506

Introduction

Nothing spices up a website like a cool sound effect (think *ker-thunk* as a visitor presses a button) or an embedded video. In this Mini Missing Manual, you’ll learn how to add several kinds of
media files to your site: background music, a MIDI player, sound
effects, and videos.

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You’ll also find out where you can download free multimedia files to get you started, and learn how to prepare homegrown videos for quick, seamless playback. And if you don’t have the storagespace (or the desire) to host your own movies, you can embed them on your site but host them on YouTube.

Tip: To learn more about building and improving your site, see *Creating a Web Site: The Missing Manual*.

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Add Audio and Video to Your Site

In the early days of the Internet, websites were about as jazzy as an IRS form. You'd see pages filled with an assortment of plain text, links, and more plain text. Over time, the Web matured, and web pages started to change as designers embraced the joys of color, pictures, and tacky clip-art. But when that excitement started to wear off, it was time for a new trick—multimedia.

Multimedia is a catchall term for a variety of technologies and file types, all of which have dramatically different PC requirements and pose different web-design challenges. Multimedia includes everything from the irritating jingle that plays in the background of your best friend's homepage to the wildly popular movie clip of a cat playing the piano. (Depressing fact: with over 10 million views, it's unlikely you'll ever create web page that's half as popular.)

In this Mini Missing Manual, you'll consider how to use several types of multimedia. First, you'll learn to play background music and sound effects. Then you'll use Flash to put a real music player in your web page. Finally, you'll see how to use YouTube to popularize your own movie clips, and take a shot at becoming the center of attention.

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Warning: Before you go any further, take a moment to consider the worst examples of multimedia abuse. These include flashing banner ads, irritating background music, time-wasting intro pages, and bandwidth-sucking commercials. Before you jump on the multimedia bandwagon, think about what you want to do. Are you planning to showcase your musical compositions or provide downloadable recordings of Junior's first moments? If so, multimedia probably makes sense. But if you're just looking for a way to dazzle visitors with an animated logo, think twice. It's probably not worth the considerable effort to design something that will only aggravate most of your readers.

Understanding Multimedia

There comes a point when every new web designer wants more than mere text and pictures. Even spruced-up fonts and elegant page layouts don't satisfy the design envy many newcomers feel when they spot a site loaded with sound and motion. That's understandable: You, too, want to trick out your pages with audio and video. But before you can jazz up your site, you need to understand a few basics.

Linking, Embedding, and Hosting

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One of the key choices you make when you outfit your pages with multimedia is whether to link to or embed the files you're adding.

Linking to multimedia content is the simplest but least glamorous approach. It lets you create a link that *points to* an audio or video file you've stored along with all your other XHTML pages and files. There's really nothing to creating linked multimedia. You use the lowly anchor element and *href* attribute; here's an example:

```
Would you like to hear <a
href="IndustrialNoiseBand.mp3">Industrial
Noise</a>?
```

Figure 1-1 shows what happens when you click one of these
babies.

Note: It makes absolutely no difference what kind of software your web host's server runs when you add audio to your site. When someone clicks a link to an audio file, the browser downloads the file to the visitor's PC and plays it there, not from the server.

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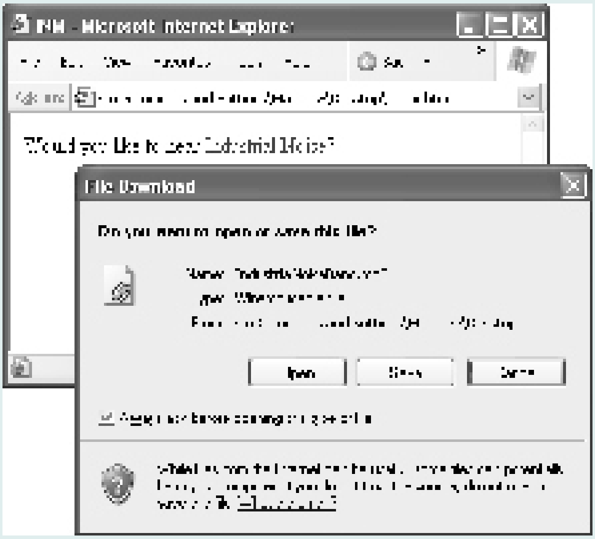
Would you like to hear Industrial Noise?

File Download

Do you want to open or save this file?

Figure 1-1: When you click a link to a multimedia file, your browser asks whether you want to save the multimedia file or open it straightaway. If you choose the latter, your browser first downloads the file, then launches it using a separate program. The actual program your browser uses to play the file depends on the software installed on your PC. For example, if you use the popular Winamp program (http://www.winamp.com/) to play MP3 files, the downloaded song heads straight to your Winamp play list. Other common players include Apple QuickTime Player and Windows Media Player.

Embedding multimedia is a more advanced approach. It *integrates* music or video into your XHTML page. As a

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result, you can create rich combinations of text, sound, and video.

But embedding multimedia can be a challenge. Multimedia files come in many different formats, as you'll see in the next section. Some browsers support some of these formats, but few, if any, support all of them. Other browsers have no native multimedia compatibility at all. While visitors can add multimedia support with browser plug-ins (small programs that extend a browser's capabilities), you have no way of knowing which plug-in your visitors have. The bottom line? There's no guarantee that your visitors can see any particular type of multimedia content you embed on a page.

The Web offers a couple of solutions to embedded multimedia, neither of them ideal. One exists in the form of the slightly disreputable <embed> element, which you'll learn to use in "Background Music", below.

Note: The distinction between linking and embedding multimedia is the same as the distinction between linking to a picture (using the <a> XHTML element), and embedding it right in your page (with the <img> element). The only difference is that images are a basic, well-supported part of the XHTML standard, so embedding pictures never causes much concern.

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However, embedding audio and video takes you into less-well-charted waters.

But there’s one other option for managing multimedia. That solution is *hosted multimedia*—multimedia files stored on someone else’s server but displayed (or linked to) on your web page. The best-known example of hosted multimedia is YouTube, a ridiculously popular site that plays back more than 100 million video clips every day.

Hosted multimedia is an excellent choice if you want to display really large files, particularly movie clips. It won’t tap out your website’s bandwidth, and it works with virtually all browsers and operating systems. Its only drawback is that you give up a fair bit of control. For example, if you use YouTube to host your videos, you can’t show movies that are longer than 10 minutes, and YouTube ratchets down your movie’s quality to make sure it performs well. (Technically, YouTube reduces the video’s file size so browsers can download them more quickly—that way, visitors experience no delay in playback when they push the play button.) You’ll learn to use YouTube in “Uploading Your Videos to YouTube”, below.

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Types of Multimedia Files

Your decision to link or embed files depends, at least in part, on the type of multimedia content you want to showcase. Because XHTML has no multimedia standard of its own, other companies have innovated to fill the gap. Today, there’s a slightly bewildering field of choices.

Here are the types of multimedia files you can add to your pages:

- **Synthesized music (MIDI).** MIDI files store notes that your PC’s sound card generates on playback, rather than playing back a recording of a musical instrument. As a result, MIDI files are small but of questionable quality. Although the actual audio quality depends on your visitor’s sound card, the results most commonly resemble a cheesy Casio keyboard. But because MIDI files are lightweight, and since almost all browsers support them, they’re commonly used for web page background music. (MIDI stands for Musical Instrument Digital Interface.)
- **Digital audio (WAV and MP3).** These file types store recorded audio, which means they’re of higher quality than MIDI files. But WAV files are enormous, making them unsuitable for all but the most bloated websites. MP3 files are one-tenth the size of WAVs, but browsers often require a plug-in to play them, which means you can’t embed them with impunity.

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- **Digital video (MPEG, AVI, MOV, and WMV).** These file types are multimedia's heavy hitters. They let you play back video that ranges in quality from thumbnail-sized windows with jerky playback to DVD-quality movies. Digital video files are a challenge for any web page creator because they're ridiculously large. To have even a chance of making digital video perform acceptably, you need to compress, shrink, and reduce your clip's size and quality using video editing software.
- **Animated GIFs.** Animated GIFs consist of a series of small, still images displayed one after the other in rapid succession, like a flipbook. If you see a website with dancing cartoon characters, spinning text, or a pulsing globe (don't ask), you're probably looking at an animated GIF. Most web-heads dismiss animated GIFs as not being "real" multimedia because they're so simple. But they're small, pretty easy to create, and widely supported.
- **Flash.** Flash is a versatile playback standard designed especially for the Web. It supports video files, animation, and interactivity. Flash also supports *vector-based* animation, which uses mathematically rendered images—shapes built on the fly as a result of complex calculations—rather than pixel-based graphics. As a result, even intricate animations boast small, quick-to-download files, making Flash the perfect medium for animated logos, commercials, and dazzling intro screens (see Figure 1-2). Finally, Flash supports interactivity,

so Flash experts can build lightweight but slick menus and embedded games that really enliven sites.

Despite these impressive pluses, Flash has three drawbacks: First, to create Flash content you need specialized software from Adobe, which runs into the hundreds of dollars. Second, even if you shell out the Flash cash, creating professional animations requires the skill of a talented Flash *artiste*. Finally, visitors won't be able to see Flash movies unless they have a Flash plug-in installed. (That said, good estimates suggest that over 90 percent of Web-connected computers have the Flash plug-in.)

Note: Multimedia hosters, like YouTube, use Flash to show their movies. That's because Flash gives the best combination of customizability, performance, and compatibility. Of course, these high-powered companies also have plenty of cash to pay their programming teams.

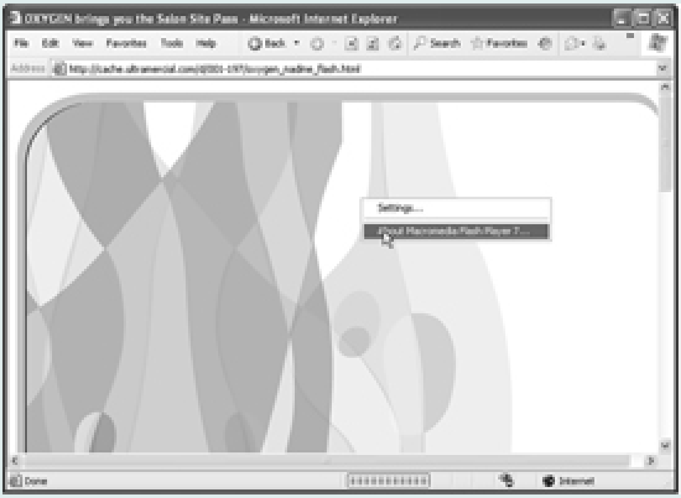

OXYGEN brings you the Salon Site Pass - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address
Settings...
About Macromedia Flash Player 7...
Done
Internet

Figure 1-2: The news and current affairs site Salon (http://www.salon.com/) makes nonsubscribers sit through a short commercial before letting them read certain articles. Though the commercial varies, it's always a Flash animation—a fact you can confirm by right-clicking it any time (Control-clicking on a Mac). Instead of seeing options that let you download a file (as you would with a picture), you see a command for changing playback settings.

It's difficult to digest all this information at once. If you're still mulling over your choices, take a look at the scenarios in Table 1-1 to help you sort out the roles different multimedia types play.

Table 1-1. Multimedia scenarios

If You Want To:	Then Use:	Embedded, Linked, or Hosted?
Play a synthesized version of your favorite pop tune in the background	MIDI files	Embedded
Play a short loop of digital audio continuously in the background	Flash. (You can use the MP3 format instead, but not all browsers support it, and the looping is less precise.)	Embedded
Let visitors download your band's newest indie recordings	MP3 files (record your music using WAV files, then covert them to MP3 format to save space).	Linked
Let visitors see your favorite home movie	MPEG, AVI, WMV, or MOV files (but make sure you use video-editing software to dramatically reduce file size).	Hosted (on a service like YouTube)
Show a stock animation effect, like clapping hands, a flashing star, or a dancing bean	Animated GIFs or Flash (the latter for more features and a slicker animation).	Embedded
Show an animated intro screen or commercial	Flash	Embedded
Show a humorous animated story you've created	Flash	Embedded

Tip: If you plan to create a website with a lot of digital audio and video, you'll need to consider its space and bandwidth requirements. Unlike ordinary XHTML pages and web graphics, multimedia files can grow quite large, threatening to overwhelm your web host's space and bandwidth allotment.

Background Music

Most people like to browse the Web in peaceful silence. That means no trance-hypno-ambient background tracks, no strange disco beats, and no sudden cymbal crashes. This aversion to noise may be due to the fact that something like 98 percent of all Web browsing takes place on company time.

But if you like to startle and annoy people, or if you're absolutely convinced that your Web audience really *does* want some funky beats, keep reading to bring on the background music.

The <embed> Element

Although the XHTML standard doesn't support background music, almost all browsers support the <embed> element, first pioneered by Netscape in the early days of the Web. You can put the <embed> element anywhere on your page. Here's a basic page that uses it to play background music:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional //EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<title>Background Music</title>

</head>
```

```
<body>

<h1>Automatic, Unsolicited Music</h1>

<p>The music now blaring from your speakers
is

Scarlatti’s first sonata (K. 500).

I hope you didn’t tell your colleagues you
were working!</p>

<embed src="soundfile.mid" />

</body>

</html>
```

The <embed> element gives you a slew of options for playback control. If you use the element without specifying any of them (as in the previous example), your visitors see a page like the one shown in Figure 1-3 and hear its audio file automatically.

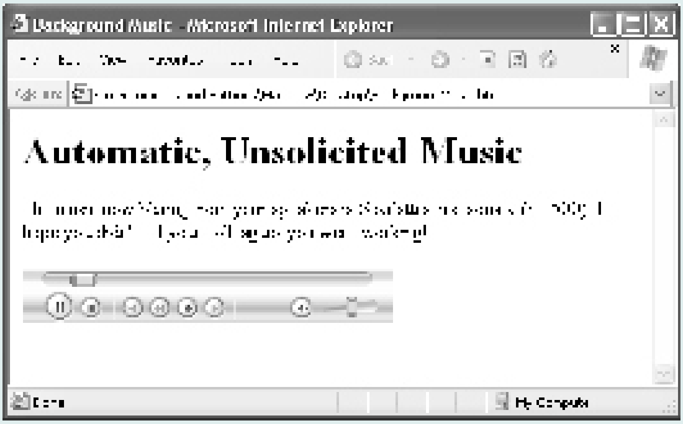
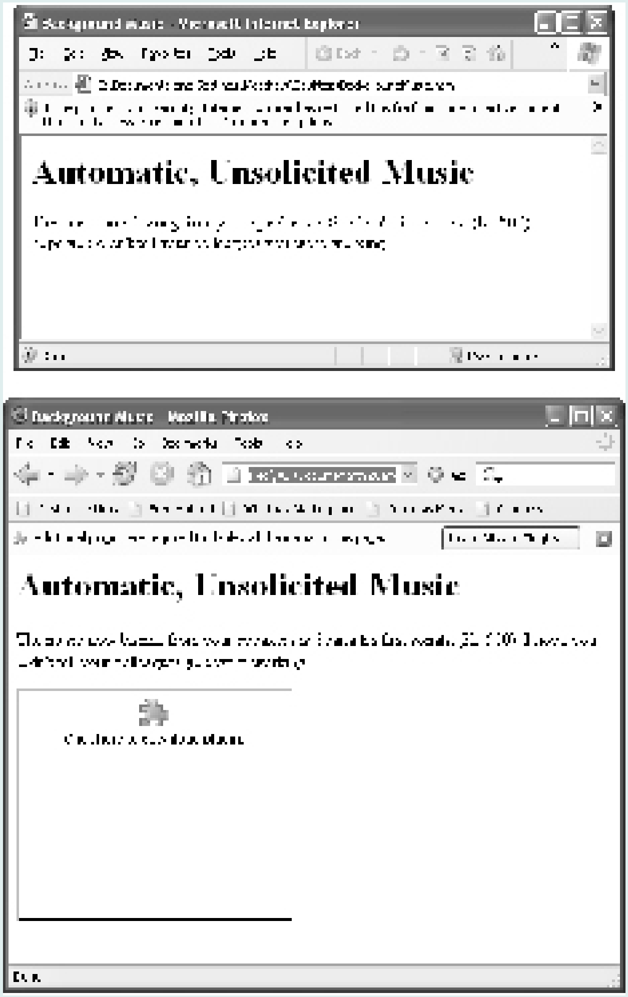

Background Music - Microsoft Internet Explorer
Automatic, Unsolicited Music
My Computer

Figure 1-3: If you use a plain-vanilla <embed> element, the playback controls appear in your page wherever you place the element. The exact style of the playback controls varies depending on your operating system, browser, and audio plug-ins.

Music playback isn't always this seamless, however. Because every browser handles embedded music a little differently, you can run into problems like the ones shown in Figure 1-4. The best advice is to test your page on at least the three main browsers (Internet Explorer [IE], Firefox, and Safari).


Background Music - Microsoft Internet Explorer

Automatic, Unsolicited Music

[illegible]

Background Music - Mozilla Firefox

Automatic, Unsolicited Music

[illegible]

Done

Figure 1-4: Top: Paranoid visitors sometimes step up their security settings, which can lock out your music.

Bottom: Depending on what a web visitor has installed or uninstalled, a browser might not find the components it needs to play your background music.

The <embed> element harbors an ugly secret—it's not valid
XHTML. In fact, it's not even a recognized part of the HTML language. Despite its poor pedigree, it works seamlessly in all modern browsers. But there's still a price to pay. Once you put the <embed> element in your web page, you can no longer validate your page using an XHTML checker. If you've sworn to uphold the standards of XHTML, this may weigh heavily on your heart. Or perhaps not—many rogue web designers think nothing of using <embed> and retaining the XHTML doctype. It's up to you whether you're ready to violate the spirit of XHTML to get what you want.

Note: There's one alternative to the <embed> element. You can use the <object> element, which lets you insert audio, video, and other types of plug-in content in a web page. (Later in this chapter, you'll use the <object> element with Flash files.) Even though the <object> element is more standardized, it actually suffers from more browser quirks; when you use the <object> element to play sound, it's surprisingly difficult to make sure your web page works in different browsers.

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Embedded audio options

Ordinarily, the <embed> element starts playing music as soon as your browser downloads the specified music file. Visitors can kill the sound with a quick click of the stop button (assuming you display the playback controls), but if they're not expecting to hear a burst of music, it's enough to frazzle some nerves.

A more polite way to handle background audio is to display the playback controls and let your visitors decide whether to click the play button. This design is easy—just use the *autoplay* attribute:

```
<p>If you'd like some soft music to browse
by, click the play button.</p>

<embed src="soundfile.mid" autoplay="false"
/>
```

Turning off autoplay is considered good web etiquette. A much poorer idea is the *hidden* attribute, which lets you hide the playback controls altogether. All too often, you'll find web pages that use <embed> elements like this:

```
<embed src="soundfile.mid" hidden="true" />
```

In this example, the sound file plays automatically. Because the playback controls are hidden, the only way someone can stop it is to lunge for the volume control. Websites that put their visitors through this ordeal rarely see a return visit.

Note: Unfortunately, autoplay and hidden playback controls are all too common on the Web. Some web designers become intoxicated with their newfound multimedia abilities, and decide it's not enough to let visitors listen to music—they force them to. Resist the urge.

The <embed> element offers quite a few more frills. Table 1-2 has the lowdown.

Table 1-2. Attributes for the <embed> element

Attribute	Description
src	The URL that points to an audio file.
autoplay	A true or false value that indicates whether the audio should start playing immediately (true) or wait for your visitor to click the play button (false).
hidden	A true or false value that indicates whether the playback controls are visible.
loop	A true or false value that indicates whether the audio should be played once (from start to finish), or repeated endlessly. When looping audio, you'll notice a distinct pause before the audio restarts.
volume	A value between 1 and 100 that specifies playback volume as a percentage of maximum volume. 100 percent is the loudest you can get. 50 percent tends to produce the standard volume on a Windows computer; on Macs, you get that

	effect at 75 percent. If you set your volume to 100 percent, you can be sure you won't get any repeat visitors. When you use the volume attribute, supply a number only (leave out the % sign).
border, width, and height	These attributes let you set the dimensions of the playback controls and the border around them, in pixels.

GEM IN THE ROUGH

Finding MIDI Files

Although MIDI files usually sound cheesy, you can't complain about the number of tunes available online. With a simple Google search, you can usually dig up MIDI files for your favorite band, movie, computer game, or classical composer.

Technically, it's against copyright rules to use a MIDI file of another artist's work on your website. However, there's a fairly large gray area. First of all, fans or amateur musicians usually sequence (transcribe onto the computer) MIDI files. So not only do they lack real instruments and vocals, they may also contain outright errors. In that respect, putting a cheap MIDI file on your Web site is a little bit like listening to a Led Zeppelin cover band—it's a tribute to the original, not a competitive threat. That's why music companies haven't made any effort to crack down on MIDI files.

If you want to steer clear of copyright issues altogether, stick to music that's in the public domain. Music created before 1923 falls into this category, which means you're free to draw from a huge catalog of classical pieces. To download your favorites, try the Classical MIDI Archives (*http://www.classicalarchives.com/*).

Other audio formats

As you learned earlier, MIDI files are remarkably small because they store digitally generated notes. Because of that, they don't usually sound that great, and they don't sound the same on everyone's computer. MIDI files are fun, but they often make a site seem
amateurish.

What if you want something a little more upmarket? You could use a WAV file, which are audio files recorded in an uncompressed digital file format first introduced by Microsoft but now supported everywhere. Most computers have software for recording WAV files—for example, on Windows PCs you can usually find a program called Sound Recorder lurking in the Programs?Accessories ?Entertainment section of the Start menu (in Windows XP) or All Programs?Accessories?Sound Record (in Windows Vista). Mac fans may want to use the free program Audacity (*http://audacity.sourceforge.net/*), which is also available in a Windows version.

You can use the <embed> element to play a WAV file in exactly the same way you did to play a MIDI file above:

```
<embed src="soundfile.wav" autoplay="false"
/>
```

The problem with WAV files is that they're really, *really* big. In fact, they're enormous. Think of the file size of an MP3 file, and then multiply it by 10. As a result, it rarely makes sense to use WAV files on web pages. With a typical mid-speed Internet connection, your visitor will wait a long time before the complete music file trickles down and starts playing.

Note: A typical MIDI file is even smaller than a typical image. A 100 kilobyte (KB) MIDI file could handle the first movement of a detailed symphony.

Alternatively, you can use MP3 files. This approach works great in modern browsers, but older ones may ignore your playback attempt or they may launch an MP3 player (like Windows Media Player) to play the file:

```
<embed src="soundfile.mp3" autoplay="false"
/>
```

If you want to try this option, keep your file small and try it out on all the browsers your visitors might use. A 10-second MP3 file takes a modest 170 KB. (As a rule of thumb, most web authors suggest you limit autoplay clips to 30 seconds.)

Sadly, the <embed> element won't help you create those nifty looping soundtracks you may have heard on some websites. Even though <embed> supports a loop attribute, the results aren't good because it doesn't loop cleanly. It pauses each time it reaches the end of your audio file. If you want a slick looping soundtrack, you need to use Flash, as described in the "Flash MP3 Players" section below.

Tip: There's lots of great shareware available for recording WAV files and converting them into the more compact MP3 format. Two bargain-basement choices that are free to try are GoldWave (*http://www.goldwave.com/*) and FlexiMusic (*http://www.fleximusic.com/*). If all you want to do is convert existing WAV files to MP3 format, you can use Apple's iTunes software, available free for both Windows and the Mac (*http://www.apple.com/itunes/*). You can get the job done by right-clicking (Control-clicking on a Mac) any song name and choosing "Convert Selection to MP3" from the pop-up menu.

Sound Effects

Ever wanted to create one of those web pages where every mouse movement unleashes a sound? Maybe you want a whoosh sound when visitors move over a button or you want them to hear an audible click when they select a link. Sadly, there’s no perfect solution that works with every browser, but there are two compromises:

- Use Flash, which lets you create pages that run rampant with sound effects. (To enjoy your creativity, your visitors need the Flash browser plug-in, but fortunately that’s the case for 90 percent of browsers.)
- Use the <bgsound> element (short for “background sound’) along with a JavaScript technique you’ll learn about next. The key limitation with this trick is that it works only with Internet Explorer 5 and later—most other browsers and older versions of IE ignore the background effects altogether. And like <embed>, XHTML doesn’t officially welcome the <bgsound> element.

You can find several versions of the background sound script online. The one you’ll see in the next example is one of the simplest. If you dig around on the Internet, you can find similar versions that preload an audio file, which delivers better performance. If you don’t use preloading, visitors may experience a slight delay the first time you play a given sound, because the browser needs to download the audio file.

To use JavaScript-powered sounds, start by adding a <bgsound> element in the <head> section of your web page. The <bgsound> element is an IE-specific version of the <embed> element:

```
<bgsound src="" id="ch01.xhtml_SoundEffect"
autostart="true" loop="1" />
```

The trick in this example is that you don't supply any source file at first. Instead, you set the *src* attribute when something actually happens on the page, at which point the sound begins playing.

Notice that you assign the name SoundEffect to the <bgsound> element. (The *id* attribute uniquely identifies an element in your document.) The last two attributes in the element instruct it to play audio files immediately (*autostart="true"*) and play them exactly once (*loop="1"*).

The next step is to add the script that includes the PlaySound() function to the <head> portion of your page. The PlaySound() function has one role—to point the <bgsound> element to the audio file you want to play:

```
<script type="text/javascript">

function PlaySound(soundfile) {

if              (document.all                &&
document.getElementById)

{
```

```
document.getElementById("SoundEffect").src
=
soundfile

}

}

</script>
```

In other words, to play a sound, you need to call the PlaySound() function. PlaySound() finds the <bgsound> element, and then sets its *src* attribute to point to the audio file. This change causes the <bgsound> element to play the sound immediately.

Remember, functions just hang around idly until you call them. Your web page won't make a peep until a visitor triggers a Java-Script event that calls the PlaySound() function.

Here's how you use the PlaySound() function to play a file named *soundeffect.wav* when a visitor moves her mouse pointer over a link:

```
<a href=http://www.somesite.com

onmouseover="PlaySound('ding.wav')">Click
Me</a>
```

The only problem here is that if you want to add sound effects like this to several links, you need to add every single link *separately*, even if they all use the same audio file. But don't despair. There's a solution courtesy of *http://www.dynamicdrive.com/*. There, you can download a second JavaScript function named BindSound() that lets you add a sound effect to *all* the elements of a certain type in a certain container.

For example, if you want to add a sound effect to a group of links, pop them into a <div> element, like this:

```
<div>

<a     href="http://www.somewhere.com">Click
Me</a>

<a     href="http://www.somewhere.com">Click
Me</a>

...

</div>
```

Now, instead of adding the onmouseover attribute to every <a> element, you can attach it to a <div> container using the BindSound() function. The BindSound() function takes three arguments—the type of element you want to call, the sound effect file name, and the container that holds the elements you want to effect. Here's an example:

```
<div             onmouseover="BindSound('a',
'ding.wav', this)">

<a     href="http://www.somewhere.com">Click
Me</a>

<a     href="http://www.somewhere.com">Click
Me</a>

...

</div>
```

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Notice that in the first argument, it's important to leave out the angle brackets (for example, you use "a" to apply the function to every <a> anchor element). For the third argument, you can always use the keyword *this*, which refers to the current element (in this case, that's the <div> container). The end result of this is that you link every anchor in the <div> section to the *ding.wav* audio file.

You can use this trick to put sounds on your entire page—just add the onmouseover attribute to the <body> element that contains the page.

Tip: Looking for some free sound effects to use with this script? Try out *http://www.grsites.com/sounds/* and *http://www.freeaudioclips.com/*.

Flash MP3 Players

As you already learned, Flash is a browser plug-in that lets you add videos, animations, and even whole miniature programs, like games, to a web page. Although it takes a fair amount of work (and some pricey software) to create a Flash program from scratch, it's not nearly as difficult to add a Flash-based music player to your page. That's because plenty of people have already done the work for you. The web is awash in free Flash music players.

Note: You can download the Flash plug-in at *http://get.adobe.com/flashplayer/*.

Search on Google for "flash mp3 player" to find a few free players. Most of them are surprisingly polished, with scrolling song lists, slick playback buttons, and even tiny animations that play in sync to your music.

The E-Phonic Player

One more-than-decent choice is E-Phonic (available at *http://www.e-phonic.com/mp3player/*). It's easy to use, looks good, and you can style it in endlessly different ways (see Figure 1-5). And if you're a budding JavaScript geek, you can use script code to add some cool features. For example, you can have E-Phonic start playback or switch songs when certain JavaScript events take place, like when a visitor mouses over a picture.

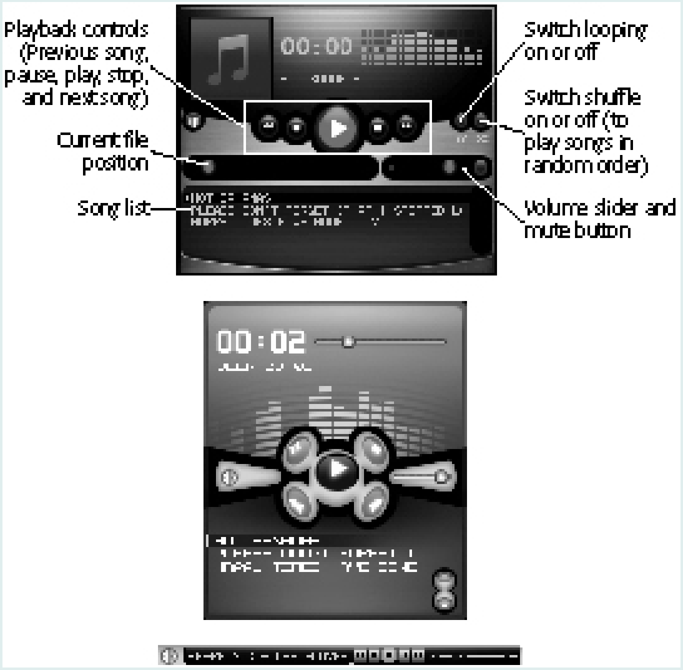
Playback controls (Previous song, pause, play, stop, and next song)
Current file position
Song list
Switch looping on or off
Switch shuffle on or off (to play songs in random order)
Volume slider and mute button
00:00
00:02

Figure 1-5: The E-Phonic player has many different skins. Each defines the layout and graphics that make up the player's interface. The standard skin (nobius platinum) is at the top, the dazzling green alien skin is shown in the middle, and the nearly invisible micro skin appears at the bottom.

To get E-Phonic, click the Download link on their website. You'll get a compressed ZIP file with a whole package of sample designs, including the three shown in Figure 1-5.

To use E-Phonic on your website, you need the following ingredients:

- **The Flash file ep_player.swf.** This miniature Flash program runs in your web page. It's the heart of the E-Phonic player.
- **The JavaScript files ep_player.js and swfobject.js.** These files set up the Flash player and give you the ability to interact with it using JavaScript. Although you won't learn how to do that in this book, you can get all the details at (*http://www.e-phonic.com/mp3player/documentation/*).
- **Your skin folder.** As Figure 1-5 shows, you can deck out the E-Phonic player with a thousand faces ("skins"). Once you choose a skin, copy it to your website. For example, to use the luminous green alien skin, add the alien_green folder and all its contents to your site. (Skin folders consist of one XML file, which defines the player's layout, and a whole bunch of images, one for each of the player's buttons and components.)
- **Your music.** If you want to play some music, you probably want to add the MP3 files to your site. If you have several songs, put them in a subfolder (for example, a folder named MP3).

- **The playlist file playlist.xml.** This lists all the files you want to load into the player, in order. You'll see how to edit this file shortly.
- **The XHTML page that includes the player.** You can add the player to any page on your site. All you need to do is add the right markup. The easiest way to get it is to copy it from one of the example files included with the E-Phonic download. You'll find one example file for each skin.

Figure 1-6 shows how these files are arranged.

The following sections show you how to get the E-Phonic player up and running in one of your pages.

Create a playlist

The playlist tells the E-Phonic player what songs to load. To create a track list with your garage band's best tunes, for example, copy your MP3 files into a subfolder named MP3 (see Figure 1-6). Then create a playlist and tweak it to play your songs. To make a playlist, start with the following skeleton:

```
<playlist                              version="1"
xmlns="http://xspf.org/ns/0/">

<trackList>

</trackList>

</playlist>
```

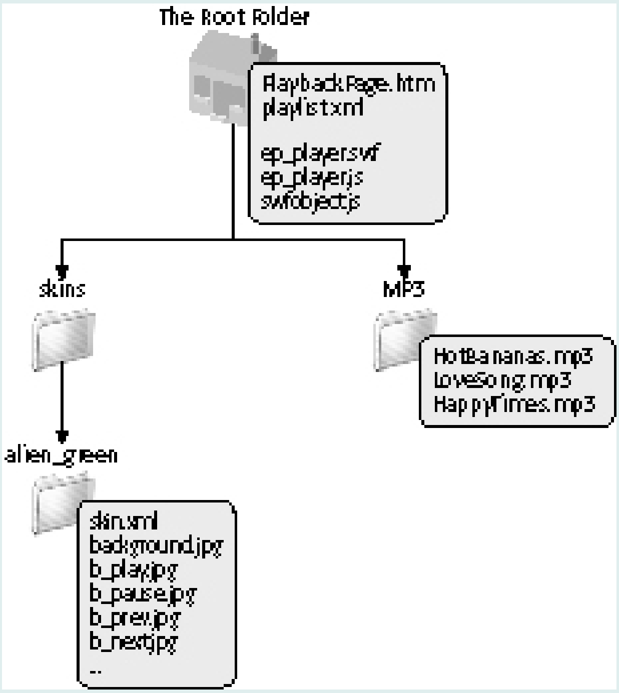

Figure 1-6: *The E-Phonic player requires a lot of files, but you can use most of them as-is. The files that do need your touch—the XHTML web page, the playlist, and the actual songs—appear bolded in this figure. You can copy everything else from the E-Phonic download, as long as you make sure it stays in the right place in your web page.*

This looks a lot like an XHTML page because it uses a combination of XML elements. But unlike XHTML, a browser can't display this content—instead, this format exists solely to provide information to the E-Phonics player.

In the <trackList> element, add one <track> element for each song in your playlist. You need to add two other elements inside the <track> element—a <location> element, which indicates the song's file name, and a <title> element, which identifies the song title that the player will display during playback:

```
<track>
<location>MP3/HotBananas.mp3</location>
<title>Hot Bananas</title>
</track>
```

Notice that the <location> element uses the relative link system. That means the link is always relative to the location of the XHTML page that displays the player. In the example above, the location points to a file named *HotBananas.mp3* in a folder named *MP3*.

You can add two optional elements to the <track> element (not shown in the example above)—a <creator> element and an
<image> element. The <creator> element records the artist who created the song, which is shown in the song list next to the title. The <image> element points to an image file, which some skins show while playing a song. (For example, in the topmost skin in Figure 1-5, there's a spot in the top-left corner for song images, where the music note appears.)

Here’s the complete playlist with all three songs:

```
<playlist                       version="1"
xmlns="http://xspf.org/ns/0/">

<trackList>

<track>

<location>MP3/HotBananas.mp3</location>

<title>Hot Bananas</title>

</track>

<track>

<location>MP3/LoveSong.mp3</location>

<title>Please  Don’t  Forget  (That  I  Stopped
Loving You)</title>

</track>

<track>

<location>MP3/HappyTimes.mp3</location>

<title>Happy Times Have Gone Away</title>

</track>

</trackList>

</playlist>
```

Adding the player to a web page

Your final step is to embed the E-Phonic player and your customized playlist in your web page. The easiest way to do this is to start with one of the sample files included with the E-Phonic download. Choose the file based on the skin you want. For the alien skin, open *example_alien.html.*

To use the E-Phonic player, your page needs three ingredients. First, you need a <script> block in the <head> section of your page that references the E-Phonics JavaScript file:

```
<script                type="text/javascript"
src="swfobject.js">
</script>
```

This gives your web page access to the JavaScript code you used to create the player.

Next, you need a <div> element with the *id="flashcontent"* attribute. The E-Phonics player will appear on your page at the location of the <div> element:

```
<div id="ch01.xhtml_flashcontent"></div>
```

You don't actually need to put anything in the <div> element, because the magic of JavaScript will create the player for you. But it's a good idea to supply some *alternate content*. The browser displays this alternate content if it can't create the E-Phonics player, which usually means that your reader's browser doesn't have the required version of Flash:

```
<div id="ch01.xhtml_flashcontent">

To view the E-Phonic MP3 Player, you need
to have Javascript turned on and
```

```
you must have Flash Player 9 or better
installed. Download it (for free)

<a             href="http://www.adobe.com/go/
getflashplayer/">
here</a>.

</div>
```

Lastly, after the <div> element, you need to add a <script> block with the code that actually creates the player. This script also configures the player using several JavaScript variables. The variables shown here are the ones included with the samples in the E-Phonic download. To keep life simple, you can copy this whole <script> section from the E-Phonic sample web page (like *example_alien.html*) into your own web pages:

```
<script type="text/javascript">

var  so  =  new  SWFObject("ep_player.swf",
"ep_player", "220", "265", "9",

"#000000");

so.addVariable("skin",   "skins/alien_green/
skin.xml");

so.addVariable("playlist", "playlist.xml");

so.addVariable("autoplay", "false");

so.addVariable("shuffle", "false");

so.addVariable("repeat", "true");

so.addVariable("buffertime", "1");

so.addParam("allowscriptaccess", "always");

so.write("flashcontent");
```

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```
</script>
```

You can tweak these variables to change the player's behavior. For example, to change song lists, point the *playlist* variable to a different file. You can make the player start the moment a browser creates it by changing the *autoplay* value from *false* to *true*. You can modify similar values to turn song shuffle and automatic repeat on or off.

Whatever you do, don't touch the skin setting. If you want to change skins, find the matching XHTML sample page and copy the <script> block from it. That's because the very first line of code in the skin script sets the size of the player, and the player size has to match the skin graphics or it won't work properly.

Here's a complete sample page that uses the alien skin and the playlist you developed:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML
1.0 Transitional //EN"

"http://www.w3.org/TR/xhtml1/DTD/
xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<title>Page with a Player </title>

<script                  type="text/javascript"
src="swfobject.js">
</script>

</head>
```

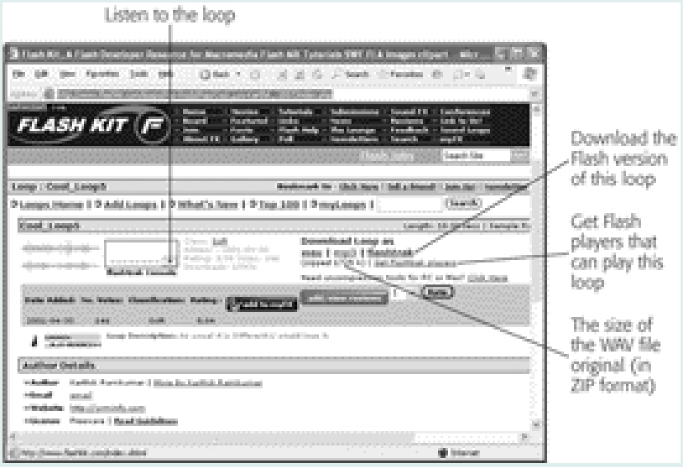
```
<body>

<h1>You’ll Love E-Phonic</h1>

<p>This page has its own MP3 player built
in. It’s right here:</p>

<div id="ch01.xhtml_flashcontent">

To view the E-Phonic Player, you need to
have Javascript turned on and you must have
Flash Player 9 or better installed.
Download it (for free)

<a           href="http://www.adobe.com/go/
getflashplayer/">here</a>.

</div>

<script type="text/javascript">

var  so  =  new  SWFObject("ep_player.swf",
"ep_player", "220", "265", "9","#000000");

so.addVariable("skin",   "skins/alien_green/
skin.xml");

so.addVariable("playlist",  "playlist.xml");
so.addVariable("autoplay", "false");

so.addVariable("shuffle",          "false");
so.addVariable("repeat", "true");

so.addVariable("buffertime", "1");
so.addParam("allowscriptaccess", "always");

so.write("flashcontent");

</script>

<p>(And this text is under the player.)</p>

</body>

</html>
```

Flashtrak Loops

The E-Phonic player is a great option if you want a full-featured MP3 player in your web page. But sometimes, you're after a simpler goal. Rather than give your visitors the ability to shuffle through a collection of songs, you might just want to keep them happy with endlessly looping background music.

Although many websites sell audio loops, you can download free ones at Flash Kit, *http://www.flashkit.com/loops/* (see Figure 1-7). Flash Kit offers a large and excellent catalogue of nearly 10,000 loops ranging in style from ambient to urban.

Note: Loops are the audio equivalent of a wallpaper tile. They're short snippets of music specially designed so the beginning picks up where the end leaves off. That means you can play an audio loop over and over again, and the result is a seamless background track. In a first-rate loop, the repetition isn't immediately obvious, and you can happily listen to it for several minutes.



Listen to the loop
Download the Flash version of this loop
Get Flash players that can play this loop
The size of the WAV file original (in ZIP format)

Figure 1-7: You can preview Flash Kit's loops right in your browser, without downloading them. Once you find what you want, click the "flashtrak" link to download the audio in one of three formats: MP3 (the usual), WAV (good if you want to edit it), or in Flashtrak format, which works with the specialized players available on the site. In this example, a high-quality 10-second WAV file weighs in at almost 2 MB, but the MP3 version is a more respectable 700 KB. The Flashtrak format is even smaller, requiring just 200 KB.

If you download one of these loops as an MP3 file, you can use it with a free Flash MP3 player, like the E-Phonic player discussed above. But there's another alternative, one that uses a slimmed-down audio format called Flashtrak. Flashtrak files download in a jiffy, so your visitors never have to wait to experience your site's ambience. They require a Flashtrak player, which you can also download at the Flash Kit web site. (The Flashtrak player is a Flash program, just like E-Phonic is, but it doesn't support MP3 files.)

To download the Flashtrak player, look for the "flashtrak players" link on the web page (see Figure 1-7). You can choose from more than a dozen player styles. Most have snazzy effects as they play music, like pulsing lines or expanding circles.

Note: When you download the Flashtrak player, you may end up with more files than you actually need. For example, you don't need any files that end with ".fla" (these are Flash source files that you can only edit in the Flash software). You can delete these files. Also, when you download a player, you'll probably find yourself with a pile of extra song files. Delete the ones you don't want, or your player will cycle through all of them.

Once you download a player, you're ready to embed it in your web page. You can take care of that with a simple <embed> element that points to the player file:

```
<embed
src="StarPlayerMultiTrackWithAutoStart.swf"
/>
```

Figure 1-8 shows you what you'll see when you run the page that contains this element.

Flash content is notoriously difficult to patch into a page without breaking XHTML validation rules. The following markup provides a nice, clean solution that works in most browsers without requiring the pesky <embed> element:

```
<object
data="StarPlayerMultiTrackWithAutoStart.swf"

type="application/x-shockwave-flash">

<param                          name="movie"
value="StarPlayerMultiTrackWithAutoStart.swf"
/>

</object>
```

Notice that this technique forces you to put the Flash file name in two places.

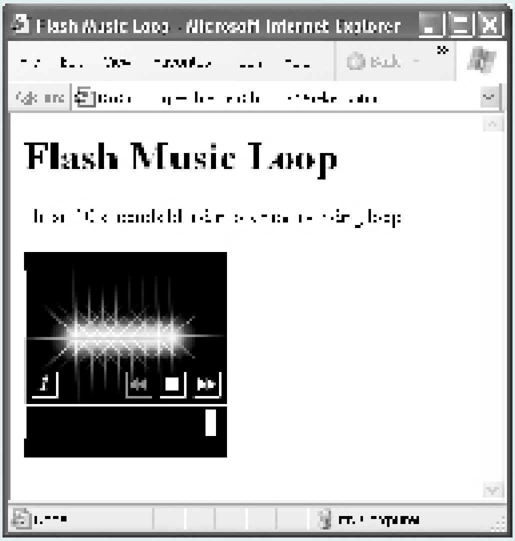


Figure 1-8: Here are the Flash-based audio controls in action, complete with playback buttons and soothing graphics. The best way to try out this example (and the E-Phonic example shown earlier) is to download the sample content for this chapter, available from the Missing CD page at http://www.missingmanuals.com/.

Video Clips

Now that you've conquered the challenges of audio and learned to put everything from sound effects to looping background music into your web pages, it's time to move on to one more challenge—*video content*.

Although browsers use many of the same tools to play video as they do to play audio (plug-ins like Windows Media Player, QuickTime, and Flash), there are some hefty differences. Most importantly, video files are big. Even the smallest of them is many times the size of an audio recording of a full-length Mahler symphony. Handling this data without trying your visitors' patience is a true test. In the following sections, you'll learn how to prepare your video content for the Web, and consider two ways to let visitors view it.

POWER USERS' CLINIC

Unlocking the Power of Flash

Flash files are utterly unlike ordinary multimedia content.

First, Flash stores animations as a series of instructions. So instead of, say, saving three dozen pictures of a circle in slightly different positions to simulate a ball in flight (as you would with an animated GIF or a video clip), you simply instruct Flash to "move this shape from here to there, at this speed." That makes complex animations much easier to create and edit.

Second, Flash uses programming code. That means you can program all kinds of devious logic into a Flash program, like making shapes move and sounds play when a web visitor moves his mouse or clicks a portion of an animation. This ability brings all the tricks of a self-contained program together with all the tools of graphic design to make really slick animations. Best of all, your web server doesn't need any special software to perform these tricks because the Flash browser plug-in does it all.

If you're an ambitious sort, the Flash music players you learn about in this chapter just might have you dreaming big about building your own Flash animations or programs. You can certainly do that, but it's a major undertaking. Before you start, you need to plunk down about $700 for the premier design tool Adobe Flash CS5 Professional. Then, you face a steep learning curve. And once you have the right software and you've fought your way through all the new concepts, you'll find it takes more than a modicum of artistic skill to create a professional Flash animation.

To dip your toe into the fascinating world of Flash, check out the basic online tutorials at *http://www.w3schools.com/flash/*, or read a dedicated book on the subject, like *Flash CS5: The Missing Manual*. To get a sense of what's possible with Flash, check out the gorgeous graphics in the free Flash games at *http://www.ferryhalim.com/orisinal/*, or take on the detailed negotiation simulations at *http://www.zapdramatic.com/*, which pit you against a host of unsavory characters.

Preparing Video

Putting personal video on a website is a task meant for ambitious multimedia mavens. The key stumbling block is the sheer size of digital video. Consider the popular MiniDV camcorder. It stores an hour of video on a single tape. You can download that video to your computer—but only if you have a spare 13 GB of drive space handy. The ugly truth is that every second of raw, high-quality video chews through a sizeable 3.5 MB of storage. Not only is this enough to take a bite out of any web master's server and bandwidth allocations, it's too big for even the speediest browser to download.

What can you do to make a web video both look good and perform well? You can always use someone else's Web-ready video (or pay a video editing company lots of money to trim yours down to web proportions). Assuming that's not what you want, you have two choices.

- **Record at lower quality.** Some video cameras let you record video using lower quality settings for the sole purpose of putting video on a website. Cellphones, tiny computer spy cams, and digital still cameras all create low-quality movies, letting you both dodge conversion headaches and send video straight to your site. In fact, some video fans find the best solution is to have two cameras, one for ordinary home movies and one for lower-quality web movies.

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- **Lower the quality afterward.** More commonly, you'll need to start with your high-quality video and go through a long process of *re-encoding* it to convert it to a size suitable for the Web. To do this, you need a video-editing program. Video cameras generally include some sort of tool to help you out, although you may want to pony up for more powerful software. Two popular choices are iMovie for the Mac (included with OS X) and Windows Movie Maker, included with Windows XP, Windows Vista, and Windows 7. In addition, some video editing programs have a feature that automatically picks suitably scaled-down quality settings for videos you want to upload to a website.

Note: For full details on how to operate Windows Movie Maker, check out *Windows 7: The Missing Manual*. If you're using iMovie, take a look at *iMovie '09: The Missing Manual*.

Here are the steps to follow to get your video ready for the Web:

1. First, film your movie.

Take a couple of lessons from video aficionados and film your video in a way that makes it easier to compress and introduces less distortion. Keep camera movements smooth and gradual, and don’t film complex patterns. Your compressed video will be smaller and look better.

2. Fire up the video capture program included with your video camera. Use it to download your movie to your computer’s hard drive.

Typically, this step involves connecting your camera to your computer using a *FireWire* cable. Although USB cables aren’t fast enough to keep up with huge chunks of raw video data, you might use one if you transfer video from less powerful devices, like a camera or cellphone that records short video clips.

3. Now you need to use a video-editing program to snip out just the video segment you want to post to your site.

Some programs let you add music or special effects at this point, too.

4. Next, re-encode that piece of video in a highly compressed format. If all the format information in your program sounds like gobbledy-gook, look for an option that clearly says “Web video” when you save your clip.

Technically, you make three choices in this step—you specify a video format (the algorithm your editing program uses to encode your video), the dimensions of the playback window (web pages usually use 320×240 pixels), and the video quality (as with JPEGs, the greater the compression, the more detail you lose).

Note: There is a range of competing web video formats, but the most common is MPEG-4. Just to make life more interesting, MPEG-4 has all kinds of quality settings, so you can use it to create DVD-quality movies or web-friendly video clips. If in doubt, double-check the final file size of your movie. If 60 seconds of video take up 1 MB on your hard drive, you’re doing well.

Re-encoding video is a time-consuming operation—even the speediest computer can take five times as long as the length of the original clip. The good news is that at the end of the process, you’ll have a more manageable web-ready video file—say, 2 MB for a full 90-second clip.

Linking to and Embedding Video

Surprisingly, you can pop a video into your web page using the same techniques you used with digital audio (see Figure 1-1). That means you can link to a video that opens up in another browser window:

```
Click to download or open my home movie

<a href="ouch.mpg">Ouch, That Hurts</a>.
```

Or you can use the <embed> element to put a video window right inside your web page.

```
<embed src="ouch.mpg" autoplay="false" />
```

If you use the <embed> element, make sure you turn *off* autoplay. Otherwise, visitors with feeble dial-up connections will see their web pages slow to a crawl while your video downloads.

The video window shows up wherever you place the <embed> element (see Figure 1-9).

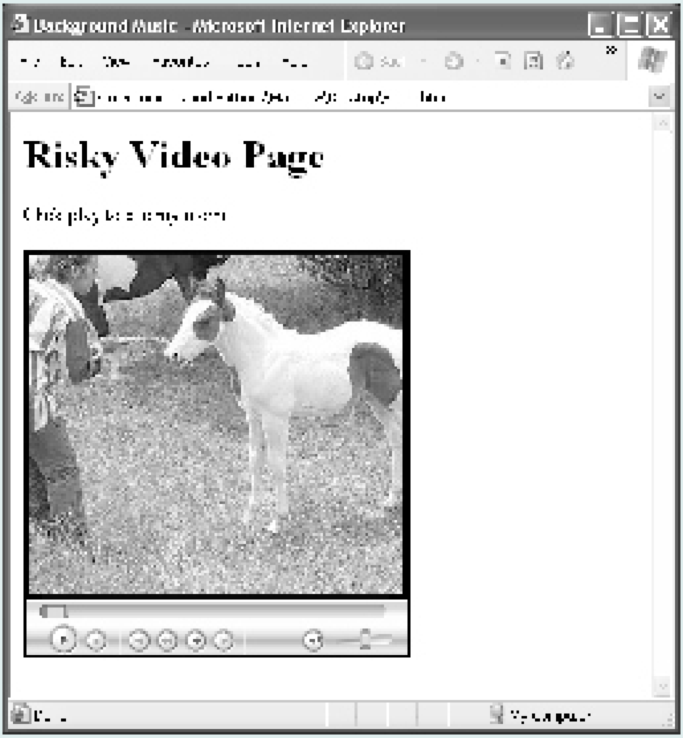

Figure 1-9: You can add a video window to your web pages almost as easily as adding basic audio playback controls. If you don't specify a fixed size, the window automatically adjusts to the dimensions of your video.

If this seems too easy to be true, that's because it is. Although this simple test page works well most of the time, it's not entirely reliable. Depending on your movie's encoding format and your browser's settings, visitors may be forced to download the entire movie before they can start watching it. And if their browsers don’t have the right plug-in or it’s incorrectly installed, your video might not play at all.

Heavyweight companies that show videos on their websites use special web server software to ensure good performance. Budget web hosting companies can’t compete. However, if you want to get serious about video but avoid the hosting and compatibility headaches, there’s an easy solution. You can use a video hosting service like the insanely popular YouTube.

Uploading Your Videos to YouTube

Before YouTube hit the scene, video clips hadn't really taken off on the Web. Movie clips were all-around inconvenient. They were slow to download, and playback was often jerky and sporadic. But in a mere 5 years, the landscape has shifted. Web connections are faster and browser plug-ins that support movie playback (like Flash and Microsoft's Flash competitor, Silverlight) are more common. Ordinary people own all sorts of digital video gadgets that can shoot short movies, from true video cameras to digital cameras, cellphones, and webcams. Popular clips rocket around the world, going from unknown to Internet sensation in a matter of hours. Family members, adventurers, and wannabe political commentators all regularly use video to keep in touch, show their skills, and dish the dirt.

YouTube (*http://www.YouTube.com/*) is at the forefront of this revolution. Despite being a web newcomer (YouTube was created in 2005), it currently ranks as the world's second-most popular website. And YouTube's range of content is staggering. With a quick search, you can turn up a range of both amateur and professional content, including funny home videos, product reviews and announcements, homemade music videos, clips from movies and television shows, and ordinary people spouting off on just about any topic.

If you’re still considering options for putting your video content online, there are two great reasons to use YouTube:

- **It performs well.** YouTube uses Flash to ensure that virtually all browsers can play back its videos. In addition, its videos support *progressive downloading*, which means you can watch the beginning of a video as your browser downloads the rest of it, rather than waiting for the whole enchilada.
- **YouTube extends the reach of your website.** YouTube is one of the most popular sites on the Web. Videos that get lucky can increase their audience size from a few people to millions of eager clip-watchers. By putting your movies on YouTube, you increase the odds that someone will discover it and possibly visit your site afterward. For example, many of the most popular clip-makers capitalize on their YouTube popularity by selling themed merchandise on their sites.

One disadvantage of YouTube is that you lose control over video quality. YouTube is notorious for applying a heavy dose of compression to shrink video size, making some clips look terrible.

In the following sections, you’ll see how to upload your first YouTube video, and even learn how to embed it in a window on one of your own pages.

Signing up with YouTube

Anyone can browse and view YouTube's full catalog of videos (six million clips at the time of this writing). But to upload your own, you need a YouTube account. Here's how to create one:

1. Go to *http://www.YouTube.com/*. Click the Sign Up link (you can find it in the top right-hand corner of the page).

2. Fill in your account information.

You need to supply the usual information, including your email address, password, location, and date of birth. Unlike some websites, which identify you solely by your email address, YouTube requires a *user name*, which is a string of letters and numbers like *JoeTheMovieMaker403*. Given the site's popularity, it may take a few tries to find an available name. To find out if a potential name is taken, click the Check Availability link after you type it in.

Tip: If you already have a Google account, you can use that with YouTube. Scroll down to the bottom-left of the sign-up page, and then click the "Sign in with your Google Account" link. You'll still need to pick a YouTube user name and supply your address, but you'll be able to log in to all the Google services you use with the same email and password combination.

3. Click Create My Account.

YouTube sends a confirmation message to your email address. When you get this email, click the link inside it to confirm your account.

Preparing a video

Now you're ready to post a video. But before you do, it's time to double-check your video format to make sure YouTube supports it.

YouTube helps out quite a bit in this regard. You can upload a video in just about any popular video format, including AVI, MOV, WMV, MPG, DivX, FLV, OGG, and 3GP. Best of all, YouTube automatically re-encodes your video with the right quality settings so web visitors can download it without teeth-gnashing delays. This doesn't mean you can upload a video straight out of your camcorder, however. YouTube limits uploads to files that are less than 1 GB (1,000 MB) in size, and even a movie file that's half that size is still too large for many people to upload in a reasonable amount of time. Best-case scenario, it takes hours. Worst-case, your browser conks out halfway through the process.

With that in mind, you need to use the re-encoding process described in "Video Clips" above. Although it may take a bit of trial and error to get the best settings for your video, here are some guidelines:

- YouTube supports standard and widescreen video formats. The device you use to make your video usually determines which format you

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choose. If you record video in standard size, use a resolution of 480×360 pixels. For slightly lower-quality content with standard video, you can use the original YouTube playback window size, which is 320×240. Either way, YouTube uses a widescreen video window to play back your standard video content, which means you'll see a black bar of empty space on the sides of your video. For widescreen video, use a resolution of 640×360 pixels for best results.

- Although YouTube supports a kitchen sink of video formats, it recommends you use the MPEG-4 or H.263 codecs when preparing your video.
- Ordinarily, you should encode your videos at 30 frames per second. However, you can sometimes cut this down to 15 frames per second to save space, and still get good results.
- The longer your video, the more compression you'll need to get the file size down to manageable proportions.
- Aim to create a file that's less than 100 MB in size. You may need to fiddle with your settings and re-encode your video several times to get the right balance of size and quality.

UP TO SPEED

Understanding Bit Rates

The main way you control video quality settings is by adjusting the *bit rate*. The bit rate determines how much raw information each frame of your movie includes. For example, a mid-range bit rate of 400 kbps means there are 400 KB of data in every second of video. If your movie is about 4 minutes long, it will total about 96 MB in size.

Life isn't quite that simple however, because many encoding programs use variable bit-rate encoding. That means they use a higher bit rate to encode more complex sections (like fast-moving action), and a lower bit rate to save space during simpler scenes. No matter what encoding rate you use, you'll always run into the same trade-off. Bigger files have the potential for better quality video after YouTube converts them. But the smaller the file, the faster you can upload it.

Because every encoding program works a bit differently, you need to experiment (and sit through a few YouTube uploads to find out how fast your Internet connection *really* is). You might also want to try scouring the Web for tips on using your video editor to prepare YouTube videos. You can even hunt down one of the free programs that are designed to streamline YouTube uploads.

Uploading a video

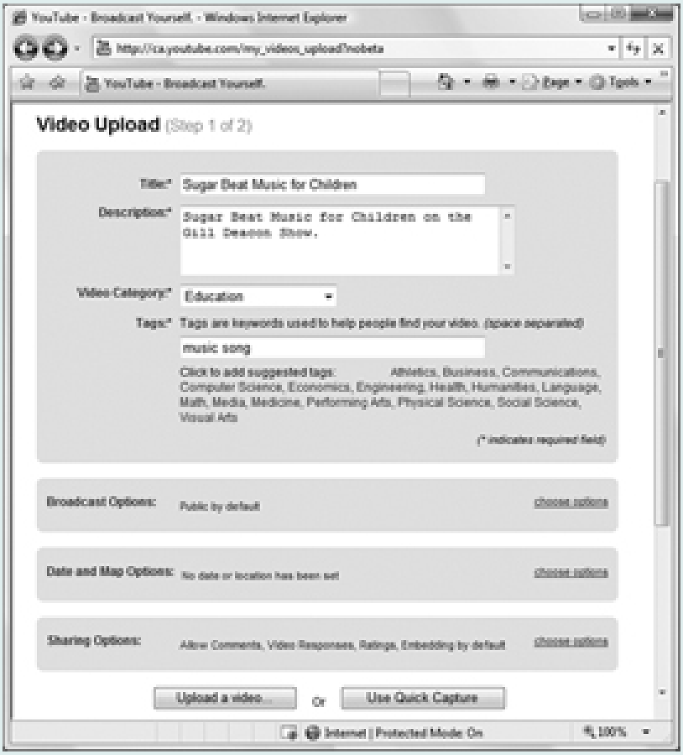
Once your video's ready, it's time to put it online. The process is refreshingly straightforward:

1. Head back to YouTube and sign in.

   You'll see that YouTube offers plenty of features to help you track down the videos you like. It keeps track of the videos you watch, recommends related videos for you to check out, and lets you subscribe to specific video groups. But right now, ignore these features and concentrate on adding your own video creation to the mix.

2. Click the yellow Upload button at the top right-hand side of the page.

This takes you to the upload page shown in Figure 1-10.


YouTube - Broadcast Yourself. - Windows Internet Explorer

http://ca.youtube.com/my_videos_upload?nobeta

Video Upload (Step 1 of 2)

Title:* Sugar Beat Music for Children

Description:* Sugar Beat Music for Children on the Gill Deacon Show.

Video Category:* Education

Tags:* Tags are keywords used to help people find your video. (space separated)

music song

Click to add suggested tags: Athletics, Business, Communications, Computer Science, Economics, Engineering, Health, Humanities, Language, Math, Media, Medicine, Performing Arts, Physical Science, Social Science, Visual Arts

(* indicates required field)

Broadcast Options: Public by default choose options

Date and Map Options: No date or location has been set choose options

Sharing Options: Allow Comments, Video Responses, Ratings, Embedding by default choose options

Figure 1-10: YouTube uses just a single page to collect all the necessary information about your video and lets you configure options like comment support. (Click the “choose options” links to expand these sections.)

3. Fill in the information for your video.

You need to supply a title and description, which YouTube displays on your video page and when your video appears in the YouTube search results. You also need to specify a category for your video, and add one or more *tags*. When other people search YouTube using keywords that match your tags, there's a better chance that your video will turn up in the search results.

Along with this required information, YouTube offers several sections of optional settings. You can click the "choose options" link in any of these sections to change your options.

Use Broadcast Options to switch your video from public to private. Public videos turn up in YouTube search results, while you share private videos only with YouTubers you explicitly identify.

Use Date and Map Options to identify when and where you recorded your video.

Use Sharing Options to control how other people can offer feedback or use your video. For example, you can ban people from commenting on your video, or allow only comments that you approve. You can also specify whether people can rate your videos, post a video response (a video linked to yours), and play your video on their own web page. YouTube allows all these options automatically, giving the site a somewhat raucous community atmosphere.

Note: You can prevent other people from embedding your video by choosing the "External sites may not embed this video" option. If you do this, however, it not only stops *other* people from showcasing your video, it prevents *you* from embedding your own video on your web pages.

Don’t worry if you can’t decide on all your options right now. You can change them (along with the descriptive video information) any time.

4. Click the “Upload a video” button.

This is the simplest way to submit your video. However, YouTube offers other options.

Click the Use Quick Capture button to record and upload your video on the spot. You need to have a webcam connected to your PC.

Click the “Use multi-video uploader” button on the right side of the page to use a special uploading interface. The multi-video uploader makes it easy to upload several files at once. This way, if you have a bunch of videos you want to put online, you can queue them all up and walk away from your computer for the day. The multi-video uploader also lets you upload files larger than 100 MB, up to the 1,000 MB maximum. If you click this button, YouTube prompts you to install the free Google Gears web browser extension (*http://gears.google.com/*), which YouTube requires to make the multi-video uploader work.

5. It’s time to upload your file. Click Browse, find your video file on your PC, and then click OK.

Finally, click Upload Video to start the transfer process.

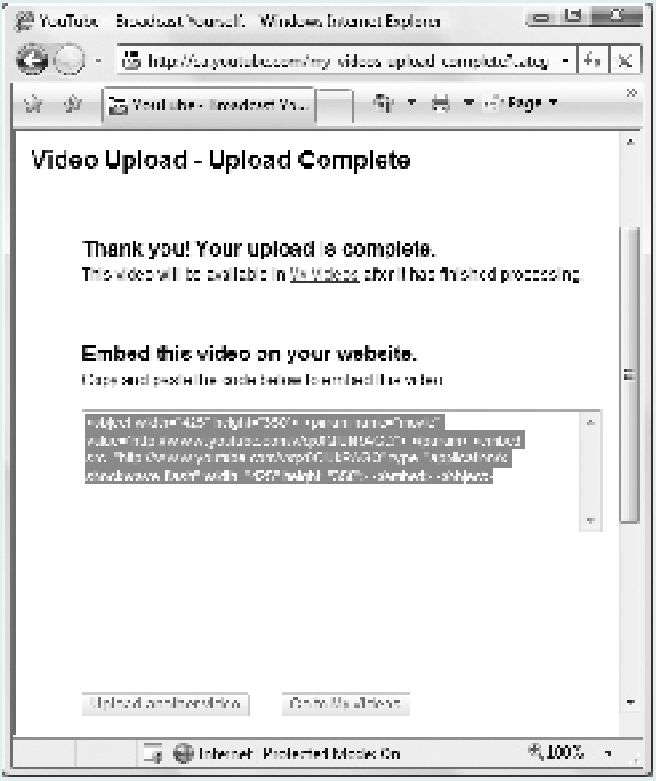
As YouTube uploads your video, it displays a status message that counts the number of bytes copied and displays the percent of the entire process it's completed.

YouTube says it typically takes 1 to 5 minutes to upload each megabyte of video if you have a high-speed connection, so this is a good time to get a second cup of coffee.

6. When YouTube finishes the upload, it displays a confirmation message.

The process isn't really finished yet, however. YouTube still needs to convert your video to the streamlined Flash format, and that process could take minutes or hours, depending on the number of requests ahead of yours.

As long as you didn't switch off video embedding in step 3, YouTube gives you the block of XHTML you need to embed the video on your own site (see Figure 1-11).


YouTube - Broadcast Yourself. - Windows Internet Explorer

http://uk.youtube.com/my_videos_upload_complete?v=[illegible]

Video Upload - Upload Complete

Thank you! Your upload is complete.

This video will be available in My Videos after it has finished processing.

Embed this video on your website.

Copy and paste the code below to embed the video.

```
<object width="425" height="355"><param name="movie"
value="http://www.youtube.com/v/[illegible]"></param><embed
src="http://www.youtube.com/v/[illegible]" type="application/x-
shockwave-flash" width="425" height="355"></embed></object>
```

Figure 1-11: Even though your video isn’t ready yet, you can already copy the markup needed to display it on a Web page. At the moment, that markup won’t have much effect—it’ll just create a blank YouTube window. But once your video goes live on YouTube, you’ll see it in your page.

Watching a video

Once your video is ready, you can watch it in several ways:

- You can search for it on YouTube.
- You can browse through the videos in your account. Log into YouTube, click the Account link (at the top right-hand side of the page), scroll down to the My Videos section, and then click the Uploaded Videos link.

Tip: You can handle other management tasks in the Uploaded Videos page as well. For example, click Delete to remove a video, Edit to change the video information and options you specified when you uploaded your video, and Insight to get some fascinating statistics on the people who've seen your video.

- You can play it back in a YouTube window on one of your web pages. To do so, copy the markup shown in Figure 1-11 into your page. If you neglected to copy this markup when you uploaded your video, go to the YouTube page for your video, where you'll find these details (see Figure 1-12).
- You can put a link on your web page that leads to the YouTube video page. Figure 1-12 shows the information you need to create this link.

Of all these options, embedding your video in a YouTube window on your web page is the most interesting. It lets you combine the look and feel of a self-hosted video with YouTube's high performance and solid browser support. Best of all, embedding videos is as easy as copying a snippet of XHTML markup into your page. You simply put this markup where you want the video window to appear. Often, you'll put it in a <div> element, and use style rules to position the <div> element.

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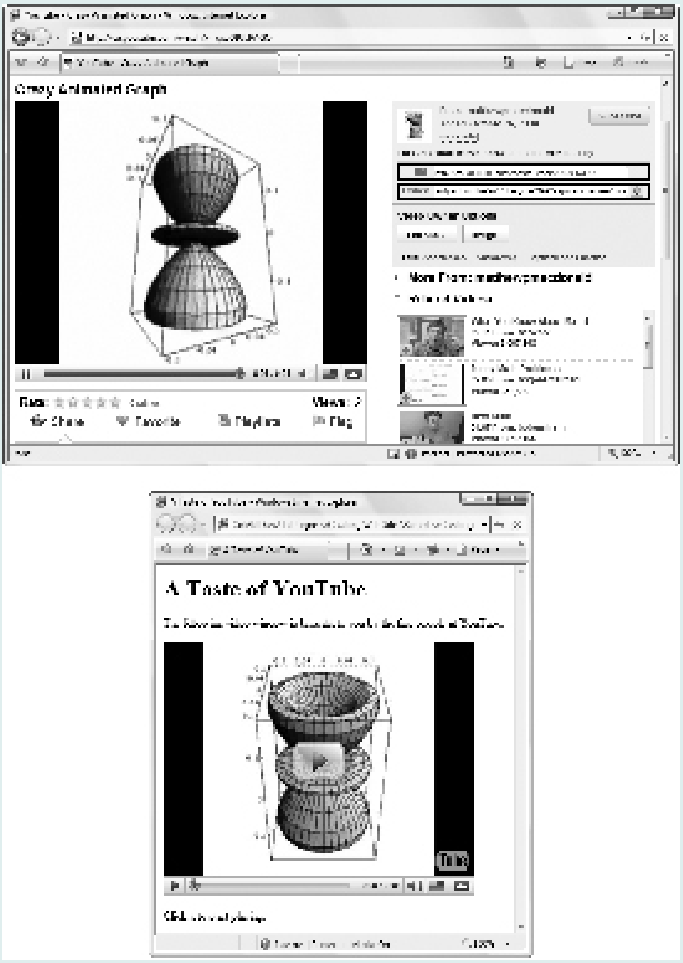


Figure 1-12: Top: You can watch your video at its YouTube home. The page provides two useful text boxes (circled here): a URL box with the address you need to link to this page, and an Embed box with the

markup you need to embed this video window in another web page.
Bottom: Embedding lets you watch your video in a page of your own devising.

Here’s the complete markup that creates the page from Figure 1-12:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional //EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<title>A Taste of YouTube</title>

</head>

<body>

<h1>A Taste of YouTube</h1>

<p>The following video window is brought to you by the fine people

at YouTube.</p>

<object width="425" height="344">

<param name="movie"

value="http://www.youtube.com/v/qx0QIUkRAGQ&hl=en&fs=1"></param>

<embed src="http://www.youtube.com/v/qx0QIUkRAGQ&hl=en&fs=1"
```

```
type="application/x-shockwave-flash"
allowfullscreen="true"

width="425" height="344">

</embed>

</object>

<p>Click it to start playing.</p>

</body>

</html>
```

Keen eyes will notice that this video window consists of an <embed> element wrapped in an <object> element. This messy markup is great for browser compatibility, because browsers that support the <object> element will ignore the content inside, and browsers that don't recognize the <object> element will use the <embed> element instead. However, like all uses of the <embed> element, it has the unhappy side effect of breaking the rules of XHTML. This simply goes to show that making a page work perfectly still trumps any standard—at least for the Web's hottest video-sharing site.

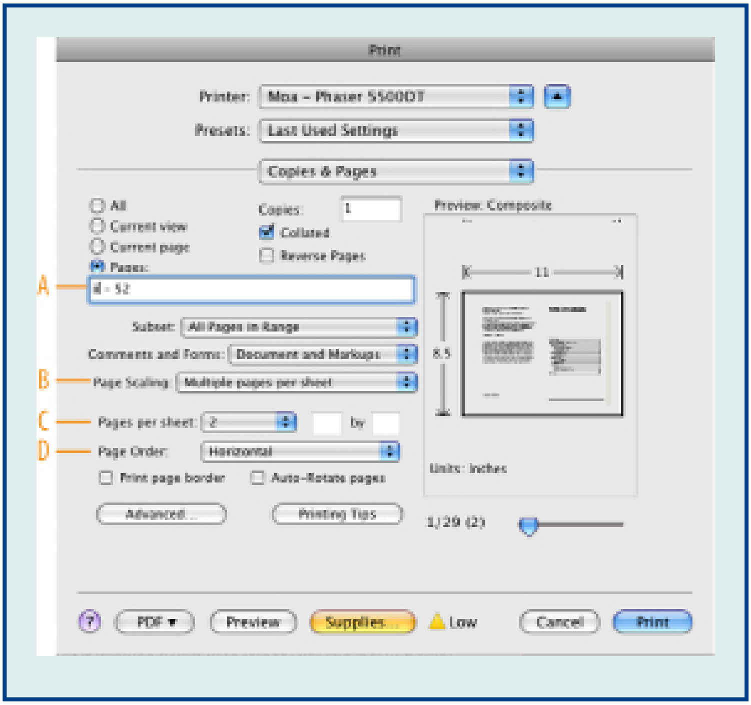
Tip: To change the color of the border around your video window, make it start playing automatically, give it support for fullscreen mode, or tweak one of several other details, you need to adjust the parameters inside the markup. For the complete scoop, check out *http://code.google.com/apis/youtube/player_parameters.html/*.

Colophon

Peter McKie was the editor for *Add Audio and Video to Your Site: The Mini Missing Manual*. Nellie McKesson was the production editor.

Nellie McKesson designed the interior layout, based on a series design by Phil Simpson. The text font for the PDF version of this book is Myriad Pro; and the heading and note font is Adobe Formata.

For best printing results of the PDF version of this book, use the following settings in the Adobe Reader Print dialog box: A: Pages: ii–[last page number]; B: Page Scaling: Mulitple pages per sheet;
C: Pages per sheet: 2; D: Page Order: Horizontal.



Printer: Moa – Phaser 5500DT

Presets: Last Used Settings

Copies & Pages

All [ ]
Current view [ ]
Current page [ ]
[✓ Pages:] 41 - 52

Copies: 1
Collated [✓]
Reverse Pages [ ]

Subset: All Pages in Range

Comments and Forms: Document and Markups

Page Scaling: Multiple pages per sheet

Pages per sheet: 2 by

Page Order: Horizontal

Print page border [ ]
Auto-Rotate pages [ ]

Preview: Composite

Units: Inches

1/29 (2)