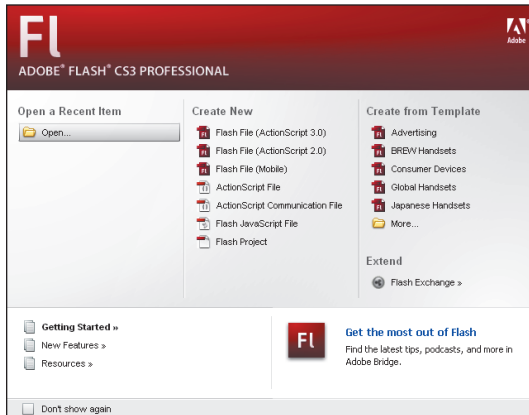


1

Getting Started

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Introducing Adobe Flash CS3 Professional



In the previous release of Flash, Macromedia offered two versions of the program, Basic and Professional. However, since acquiring Macromedia, Adobe has decided to develop the program into one distinct solution: Flash CS3 Professional.

Flash CS3 Professional was developed, like Macromedia Flash 8 Basic, so users can create, import, and manipulate many types of media, such as audio, video, and text. But it also integrates some of the complex features previously offered only in Macromedia Flash 8 Professional, built for advanced Web designers and application builders. You can use Flash CS3 to create everything from export-ready slideshows to large-scale, complex projects deployed using the Adobe Flash Player along with a hybrid of HTML content. Flash CS3 also includes a number of valuable enhancements, including superior integration with other Adobe applications such as Adobe Illustrator and Adobe Photoshop, rich drawing tools, and full support for ActionScript 3.0 development.

This chapter summarizes the new and enhanced features of Flash CS3 Professional.

Why Use Flash CS3?

Flash has several key benefits, including small file sizes, fast download speeds, precise visual control, advanced interactivity, the capability to combine bitmap and vector graphics and include video and animation, and scalable and streaming content.

File Size and Download Speed

If you want to design a Web site containing an abundance of visual content, download speed can be a major problem. As you probably know, nothing can be more frustrating than a slow-loading site. Even limited use of compressed bitmap graphic file formats (GIF and JPEG) can result in slow Web sites that frustrate visitors. Because of this, Web developers are often forced to use less visual but faster-downloading designs.

Flash content is often smaller than HTML content because it uses its own compression scheme, which optimizes vector and bitmap content differ-

ently than GIFs or JPEGs. For this reason, Flash has become the delivery medium of preference for graphic-intensive Web sites.

Visual Control

Another benefit of Flash is that it frees Web designers from many of the restraints of traditional HTML. Flash CS3 gives you complete and accurate control over position, color, fonts, and other aspects of the screen regardless of the delivery platform (Windows or Mac) or browser (Internet Explorer, Firefox, Netscape, Safari, and others). This is a radical and important departure from traditional HTML authoring, which requires precise planning to ensure that graphics and content appear reliably and consistently on different computer platforms and with various browsers. Flash CS3 lets designers focus on design instead of HTML workarounds.

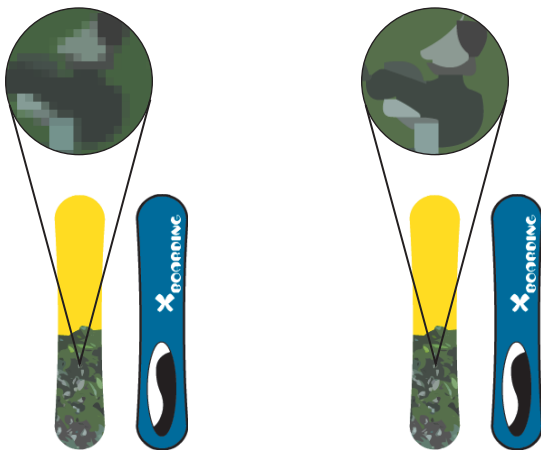
Enhanced Interactivity

Although Flash is often known as an animation program, it also provides powerful interactivity tools so you can create buttons or free-form interfaces for site navigation that include sound and animation. Flash CS3 provides powerful scripting capabilities that make it possible to create complex presentations well beyond the capability of standard HTML or JavaScript. This book covers interactivity in a number of later chapters.

Combine Vectors and Bitmaps

Most graphics on the Internet are bitmap images, such as GIFs or JPEGs. The size of a bitmap file depends on the number of pixels it contains; as the image dimensions increase, so does the file size and download time. In addition to file size disadvantages, bitmap images that are enlarged beyond their original size often appear distorted, out of focus, and pixelated.

In contrast, graphics created within Flash are composed of vectors. **Vector images** use mathematical formulas to describe the images; **bitmap images** record information pixel by pixel and color by color. Vector graphics offer much smaller file sizes and increased flexibility for certain types of images, such as those with solid color fills and typographic content. Some images will have a smaller file size as bitmaps, and some will be smaller as vectors. The great aspect of Flash CS3 is that you can use either type of image.



A bitmap graphic, shown in the illustration on the left, is built pixel by pixel and color by color; a vector graphic, shown in the illustration on the right, is built from mathematical formulas. A vector graphic remains the same file size regardless of its physical dimensions, whereas a bitmap graphic increases and decreases depending on its size. As a result, you can use Flash CS3 to create and display large vector images and animations without increasing file size.

Video

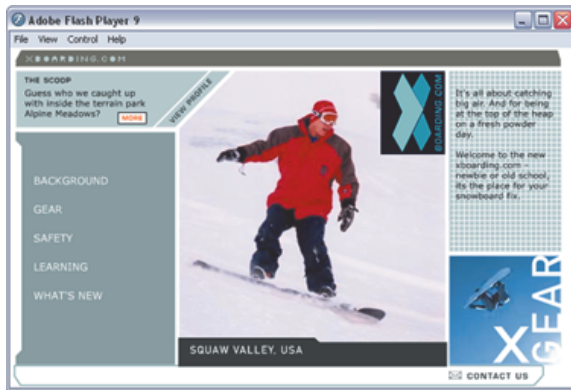
Embedding video in SWF files is a huge plus for creating media-rich Web sites, and Adobe has enhanced the video capabilities even further in this release of Flash. Incorporating video increases the types of projects you can create using Flash CS3. You will get the chance to learn about the video features in Flash CS3 in Chapter 16, "Video."

Scalability

Because Flash movies can use vectors, they can be resized in any browser window and still retain their original scale and relative position. Most important, the file size of a vector graphic is independent of the display size, making it possible to create full-screen vector animations displaying at any resolution that are only a fraction of the file size of a comparable bitmap graphic.

You can set Flash CS3 content to scale dynamically within the browser window, as shown in the illustration on the next page.

Does all this mean you should use only vectors in your Flash CS3 movies? Absolutely not. Although Flash CS3 is known for its vector capabilities, its support of bitmap images is excellent and far exceeds the support offered by HTML. Specifically, if you scale a bitmap image larger than its original size in HTML, the graphic will become distorted and unattractive. Flash CS3 lets bitmaps scale, animate, and transform (skew, distort, and so on) without much image degradation, which means you can, and often will, combine bitmap and vector images in your movies. Delivering both



Regardless of the browser window size, the Flash content remains crisp and scales proportionally.



bitmap and vector graphics together lets you create movies that look good at different resolutions and still deliver a bandwidth-friendly file size. You can even use Flash CS3 to convert bitmap images into vectors, which you will learn to do in Chapter 9, *Working with Bitmaps.*

Streaming Content

Vectors are not the only way Flash CS3 makes itself more bandwidth friendly. Flash CS3 files download to browsers in small units so that the files display some content while the rest is still downloading in the background. Ideally, the content will play more slowly than it downloads so that the viewing experience is not interrupted. This method of playing one part of an entire Web site while the rest is still downloading is called **streaming**. It differs significantly from the way HTML files are downloaded and displayed in a browser, which takes place one page at a time.

With HTML, all content is organized into **pages** (HTML files). When you load a page, all the parts

of its content are downloaded to the browser and then displayed. Flash CS3 movies, on the other hand, can be organized in a very different way.

Imagine a Web site with four or five pages. If it were a pure-HTML site, each time you traveled from one page to another you would have to wait for the new page to download before being displayed. With a site built in Flash CS3, however, all the “pages” could be contained in a single movie. When you visit the site, the first page would download and be displayed. While you were reading the first page, the other pages would be downloading in the background. When you clicked a link to go to another page, you would see it displayed immediately! This is the real beauty of streaming. When used correctly, it lets you build a site that eliminates a lot of unwanted waiting plaguing much of the Internet. You’ll learn more about how to optimize your Flash CS3 content for streaming in Chapter 17, *Publishing and Exporting.*”

What's New in Flash CS3?

Flash CS3 offers many upgraded and new features providing a more efficient workflow, greater control over the look and feel of your finished

projects, enhanced text support, scripting improvements, and improved video support. The following chart outlines the new features:

Flash CS3 New Features	
Feature	Description
New, improved interface	Flash CS3 is now consistent with the rest of the Adobe applications in the new CS3 suite, including Photoshop and Illustrator. Panels and docks are now fully collapsible, and you can save your workspace setup preferences. Save one workspace for animation and another for drawing. (See Chapter 2, <i>"Understanding the Interface."</i>)
Seamless integration with other Adobe applications	Photoshop and Illustrator files can now be imported intact with the advanced import wizard. With the wizard, you can individually convert layers to vectors, bitmaps, or editable text and import them as either Flash layers or individual keyframes.
Advanced drawing tools	Flash CS3 now includes a more advanced Pen tool, with the features previously found only in Illustrator and Adobe InDesign. You can copy and paste artwork directly from Illustrator and modify it using the same keyboard shortcuts. I discuss the drawing tools in detail in Chapter 3, <i>"Using the Drawing and Color Tools."</i>
Adobe Device Central	With this new application in the CS3 suite, you can preview your projects on a variety of mobile devices, working with the actual device interfaces. This makes it easier than ever to customize your Flash projects for maximum cross-compatibility.
Scripting improvements	Flash CS3 now includes a new ActionScript debugger offering improved flexibility and feedback and is consistent with Adobe's Flex 2 debugger. You can also convert animations directly to ActionScript and copy and paste ActionScript animation properties from one object to another.
Improved QuickTime export	Now you can export Flash projects containing ActionScript, nested movie clips, and even effects such as drop shadows to the Apple QuickTime (.mov) format.
New video encoder	The new stand-alone video encoder application, Flash Video Encoder, significantly improves the video production workflow by providing an easy way to convert video files to the Flash Video (FLV) format. This encoder application can also batch process video files. (See Chapter 16, <i>"Video."</i>)

Flash, Flash Player, or Flash Lite?

Flash as a term can be confusing. Adobe uses the word to mean Flash as an authoring tool, Flash as a player, and Flash Lite (the player for mobile

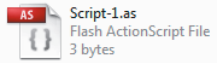
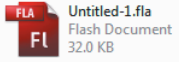
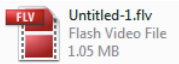
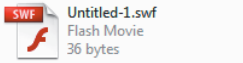
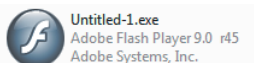
devices). The following chart should help you understand the differences among the authoring tool and the different players:

Adobe Flash Applications	
Application	Description
Flash	The Flash software application creates and edits artwork, animation, audio, and other interactive elements, storing the results in the Flash project file format (FLA). Any changes to the Flash movie must be edited in the production FLA file. FLA files are exported the SWF file format, which is typically embedded in an HTML document and published to the Web.
Flash Player	The Flash Player plays the published SWF files. The Flash Player plug-in for browsers must be installed in order for users to see Flash content on the Web. This plug-in comes preinstalled in most current browsers. If for some reason you do not have the current Flash Player, you can download it from the Adobe Web site for free.
Flash Lite	Flash Lite is a version of the Flash Player for use on mobile devices. The latest version (2.0) supports ActionScript 2.0.

File Types Associated with Flash CS3

You can save and output Flash CS3 media in many formats. The most common types of Flash CS3 files are project files, movie files, and published files. The file types can become very confusing, because all of them are commonly referred to as

movies. The following table explains the three most prominent Flash CS3 formats. You will learn about all the file types that Flash CS3 can produce in Chapter 17, "Publishing and Exporting."

Flash File Types	
File Type	Description
ActionScript file (.as)  Script-1.as Flash ActionScript File 3 bytes	The file containing source code for a project file or movie. ActionScript can also reside directly within a SWF file, but on occasion it will be exported separately.
Project file (.fla)  Untitled-1.fla Flash Document 32.0 KB	The master project file format, sometimes referred to as the <i>production file</i> . This stores all the settings and resources for your Flash CS3 project. You can reopen and reedit the FLA file at any time using the Flash CS3 authoring tool. (.fla stands for FLA sh.)
Video file (.flv)  Untitled-1.flv Flash Video File 1.05 MB	The Flash video file format, which is usually embedded in a SWF file. Encoding video as an FLV file, using Flash's stand-alone Video Encoder or another program, results in better compatibility with your Flash project.
Movie file (.swf)  Untitled-1.swf Flash Movie 36 bytes	The movie format, sometimes referred to as the <i>published file</i> or the <i>optimized file</i> . This can be embedded in Web pages for Web-based Flash presentations. These files are generally not editable in Flash. (.swf stands for S mall W eb F ile.)
Windows Projector file (.exe) and MacProjector file (.app)  Untitled-1.exe Adobe Flash Player 9.0 r45 Adobe Systems, Inc.	A stand-alone projector file that can play on any computer without the need for the Flash Player. Flash CS3 writes both Windows and Mac format projector files.

Caution: Player Required!

Flash content is not visible in a browser unless either the Flash Player or the Shockwave Player has been installed in that browser. In the past, this has been seen as a serious limitation of the format, although over the past few years the number of Internet users who have the Flash Player has increased exponentially because current browsers now come with it preinstalled. The Shockwave Player is for viewing content created with Adobe Director, which has not reached quite the same level of popularity as Flash.

Adobe has hired an independent consulting firm to maintain an estimate of the number of the

Flash Players in use. At the time of this writing, the Flash Player was installed on 98 percent of Internet-enabled desktops globally, and more than 200 million Flash-enabled mobile devices are in existence. Flash Player 9 comes preinstalled on all new browsers shipped by AOL, CompuServe, Microsoft, and Netscape. Additionally, all versions of Microsoft Windows 98 and newer and Apple Mac OS 8 and newer include the plug-in.

The following chart describes the two players and where you can download them:

Adobe Players	
Player	Description
Flash Player	The Flash Player is used for viewing Flash content on the Web. You can download the latest version of the Flash Player at www.adobe.com/downloads/ . This player installs in the player folder for your browser of choice.
Shockwave Player	The Shockwave Player is used for viewing Director content on the Web. You can download the latest version of the Shockwave Player at www.adobe.com/downloads/ .

Beyond Flash CS3

Flash CS3 is an incredibly powerful tool by itself. However, it can't perform a few functions. Here are some of the Web technologies you should know about if you want to extend Flash CS3 beyond its basic capabilities.

What's Apollo?

Apollo is the code name for a new project under development by Adobe. It is a cross-operating system runtime, or a framework that works along with the operating system to support applications

written specifically for the framework. C++ is an example of an existing popular runtime. For years, Web developers have been developing RIAs (Rich Internet Applications) for the Web. With Apollo, these developers can use the programming knowledge they already have (such as HTML, Flash, Ajax, and so on) to build and publish desktop applications. Unlike Web applications, Apollo applications will not have to run within a browser environment and can support traditional desktop application features, such as drag-and-

drop interactivity, desktop shortcuts, Clipboard access, and integration with other desktop applications. It's an exciting prospect and one that Flash users are eagerly anticipating.

For further information about Apollo, please check out the following URLs:

<http://labs.adobe.com/technologies/apollo/>
www.codeapollo.com/

What's CGI?

A CGI script is a program that defines a standard way of exchanging information between a browser and a server. You can write CGI scripts in any number of languages (Perl, C, ASP, and others). If you plan to create a complex Web application that requires using something like CGI, it is recommended that you work with a Web engineer who has experience creating these kinds of scripts. Flash CS3 can communicate with CGI scripts, although that topic is beyond the scope of this book.

For further information about using CGI, please check out the following URLs:

www.cgidir.com/
www.cgi101.com/
www.ichthus.net/CGI-City/

What's XML?

XML is a standard that handles the description and exchange of data. With XML, developers can define markup languages that in turn define the structure and meaning of information. Therefore, an XML document is much like a database presented in a text file. You can transform XML content into a variety of formats, including HTML, WML (Wireless Markup Language), and VoiceXML.

XML differs from HTML in that it is not predefined—you create the tags and attributes. You can also use XML to create your own data structure and modify it for the data you want it to carry. In Flash CS3, you can use the XML object to create,

manipulate, and pass that data. Using ActionScript, a Flash CS3 movie can load and process XML data. As a result, an XML-savvy Flash CS3 developer can develop a movie that dynamically retrieves data from the external XML document instead of creating static text fields within a project file.

Just as HTML provides an open, platform-independent format for distributing Web documents, XML has become the open, platform-independent format for exchanging any type of electronic information. Like CGI, XML is also a topic beyond the scope of this book.

For further information about XML, take a look at the following URLs:

www.ait-usa.com/xmlintro/xmlproject/article.htm
www.xml.com/
www.xmlfiles.com/

JavaScript and Flash CS3

The Flash CS3 scripting language is ActionScript, which is based on JavaScript, another scripting language. Although they share a similar syntax and structure, ActionScript and JavaScript are two different languages. One way to tell them apart is that ActionScript uses scripts processed entirely within the Flash Player, independently of the browser used to view the file. JavaScript, on the other hand, uses external interpreters that vary according to the browser used.

You can use ActionScript and JavaScript together because Flash CS3 lets you call JavaScript commands to perform tasks or to send and receive data. A basic knowledge of JavaScript can make learning ActionScript easier, because the basic syntax of the scripts and how objects are handled are the same in both languages. However, JavaScript is not a requirement for learning ActionScript.

You will be introduced to ActionScript in Chapter 12, "ActionScript Basics," which gives you hands-on experience in applying the powerful scripting

language. For further information and tutorials about JavaScript and how to use it in conjunction with Flash CS3, check out the following URLs:

www.javascript.com/

<http://javascript.internet.com/>

www.flashkit.com/links/Javascrpts/

That's a wrap for this chapter. You've familiarized yourself with the new features of Flash CS3 and how to extend Flash content using various technologies. Now it's time to learn more about the Flash interface. On to the next chapter!