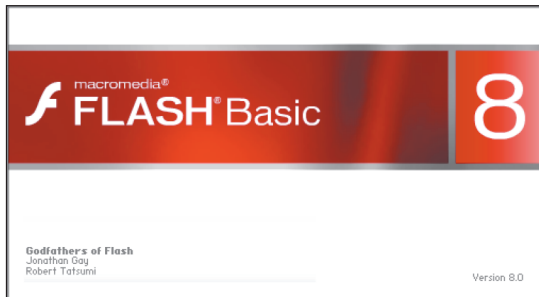


1

Getting Started

The Flash 8 Product Line	3	Most likely, if you've purchased a copy of Macromedia Flash 8, you already know why you want to use the program. You might have experience building Web pages or using other graphics programs and want to
Why Use Flash 8?	3	increase your software skills for today's job market. However, some of
What's New in Flash 8?	6	you might not know the benefits of using Flash 8 rather than HTML for
Project, Player, or Projector?	8	authoring a Web site. This chapter outlines the Flash 8 product line,
File Types Associated with Flash 8	9	including the differences between Flash Basic 8 and Flash Professional 8,
Caution: Player Required!	10	and answers the question, "Why use Flash 8?" It also contains a summary
Beyond Flash 8	10	of the notable new features in Flash 8, and it outlines some of the ways
		you can extend Flash 8 content using other technologies such as CGI, XML, and JavaScript.

Introducing the Macromedia Flash 8 Product Line



Macromedia has again developed the program into two distinct solutions: **Flash Basic 8** and **Flash Professional 8**. Although this book was written using Flash Professional 8, you can complete many of the exercises in Flash Basic 8. The following material, however, requires Flash

Professional 8: Chapter 7, “*Filters and Blending Modes*,” Exercises 5, 8, and 9 of Chapter 8, “*Motion Tweening and Timeline Effects*,” and Exercise 5 of Chapter 16, “*Video*.”

Flash Basic 8 was designed with an emphasis on the creation, import, and manipulation of many types of media (audio, video, bitmaps, vectors, text, and data).

Flash Professional 8 was created for both advanced Web designers and application builders. It is particularly suitable for large-scale, complex projects deployed using Flash Player along with a hybrid of HTML content. Flash Professional 8 includes all the features of Flash Basic 8, along with several powerful new tools. It provides new expressiveness tools for optimizing the look and feel of your Flash files, external scripting capabilities for handling dynamic data from databases, and more.

You may be asking yourself “Which program is right for me?” This chapter includes a quick summary of the new and enhanced features of each program and a list of features found only in Flash Professional 8.

Why Use Flash 8?

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

Download Speed

If you want to design a Web site containing an abundance of visual content, download speed can be a major problem. As most of you 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 differently than GIFs or JPEGs. For this reason, Flash 8 has become the delivery medium of preference for graphic-intensive Web sites.

Visual Control

Another benefit of Flash 8 is that it frees Web designers from many of the restraints of traditional HTML (**H**yper**T**ext **M**arkup **L**anguage). Flash 8 gives you complete and accurate control over position, color, fonts, and other aspects of the screen regardless of the delivery platform (Mac or Windows) or browser (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 Web browsers. Flash 8 lets designers focus on design instead of HTML workarounds.

Enhanced Interactivity

Although Flash 8 is often known as an animation program, it also provides powerful interactivity tools that allow you to create buttons or free-form interfaces for site navigation that include sound and animation. Flash 8 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 pixilated.

In contrast, graphics created within Flash 8 are composed of **vectors**. Vector images use mathematical formulas to describe the images; bitmaps 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 thing about Flash 8 is that you can use either type of image.



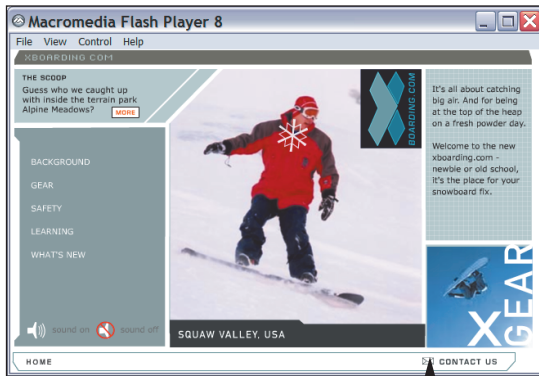
A bitmap graphic, shown in the illustration on the left, is built pixel by pixel and color by color; a vector graphic, shown in the illustration on the right, is built from mathematical formulas. Vector graphics remain the same file size regardless of their physical dimensions, whereas bitmap graphics increase and decrease depending on their size. As a result, you can use Flash 8 to create and display large vector images and animations without increasing file size.

Video

Embedding video inside SWF files is a huge plus for creating media-rich Web sites, and Macromedia has enhanced the video capabilities even further in this release of Flash. Incorporating video opens the floodgates even further for the types of projects you can create using Flash 8. You will get the chance to learn about the video features in Flash 8 in Chapter 16, "Video."

Scalability

Because Flash 8 movies can use vectors, they can be resized in any Web browser window and still retain their original scale and relative position. Most important, the file size of vector graphics is independent of their 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.



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

Flash 8 content can be set to scale dynamically within the browser window, as shown in the illustration here.

Does all of this mean you should use only vectors in your Flash 8 movies? Absolutely not. Although Flash 8 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 8 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 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 8 to convert bitmap images into vectors, which you will learn to do in Chapter 9, "Bitmaps."

Streaming Content

Vectors are not the only way Flash 8 makes itself more bandwidth-friendly. Flash 8 files download to Web browsers in small units, which lets 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 8 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 8, however, all of 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 on a link to go to another page, it would be 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 that plagues much of the Internet. You'll learn more about how to optimize your Flash 8 content for streaming in Chapter 17, "Publishing and Exporting."

What's New in Flash 8?

Flash 8 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 table outlines the new features:

Flash 8 New Features		
Feature	Flash Basic 8	Flash Professional 8
Gradient enhancements: New, simplified controls allow you to apply more complex gradients containing up to 16 different colors. You can also control gradient focal points more precisely. (See Chapter 3, <i>"Using the Drawing and Color Tools."</i>)	✓	✓
Object drawing model: Provides more control and flexibility when creating multiple or overlapping objects. You can now create shapes directly on the Stage that do not interfere with other shapes. Creating a shape with the new object drawing model does not cause changes to other shapes that exist underneath the new shape. (See Chapter 3, <i>"Using the Drawing and Color Tools."</i>)	✓	✓
Flash type: Text objects now have a more consistent appearance across both the Flash authoring tool and Flash Player. See Chapter 13, <i>"Working with Text."</i>)	✓	✓
Scripting improvements: A new Script Assist mode in the Actions panel lets you create scripts without knowledge of ActionScript. (See Chapter 12, <i>"ActionScripting Basics and Behaviors."</i>)	✓	✓
Expanded work area: Macromedia expanded the work area around the Stage and renamed it the Stage pasteboard. You can now store more graphics and other objects on the Stage pasteboard without having them appear during playback of the SWF file. (See Chapter 2, <i>"Understanding the Interface."</i>)	✓	✓
Mac document tabs: On the Macintosh only, you can now open multiple Flash files and choose among them from document tabs at the top of the window. (See Chapter 2, <i>"Understanding the Interface."</i>)	✓	✓
Enhanced user interface: Macromedia reorganized and streamlined the design of the Preferences dialog box, making it easier to understand and use. (See Chapter 2, <i>"Understanding the Interface."</i>)	✓	✓
Single Library panel: You can now view multiple Flash libraries simultaneously in a single Library panel. (See Chapter 11, <i>"Movie Clips."</i>)	✓	✓

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Flash 8 New Features *continued*

Feature	Flash Basic 8	Flash Professional 8
Easier publishing: Macromedia streamlined the Publish Settings dialog box, making it easier to publish your Flash projects. (See Chapter 17, <i>"Publishing and Exporting."</i>)	✓	✓
Object-level undo mode: You can now track file changes on a per-object basis. When you use this mode, each object on the Stage and in the Library has its own undo list, which lets you undo the changes you make to an object without having to undo changes to any other object.	✓	✓
Blending modes: Flash Professional 8 contains image compositing effects called blending modes. Blending is a method of mixing the color information of a graphic object with the color information of graphic objects beneath it. You can use blending modes to change the appearance of an image on the Stage by combining it in interesting and varied ways with the color content of objects beneath it. (See Chapter 7, <i>"Filters and Blending Modes."</i>)		✓
Custom easing controls: New tween animation controls provide improved control over the rate of change at the start, end, and middle of a tween. With these new controls, you can create more complex and realistic tween animations. (See Chapter 8, <i>"Motion Tweening and Timeline Effects."</i>)		✓
New video encoder: A new stand-alone video encoder application, Flash 8 Video Encoder, significantly improves video production workflow by providing an easy way to convert video files into the Flash Video (FLV) format. This encoder application can also perform batch processing of video files. (See Chapter 16, <i>"Video."</i>)		✓
8-bit alpha support: Flash Professional 8 supports 8-bit alpha channels at video runtime, allowing you to overlay video composited with a transparent or semi-transparent alpha channel over other Flash content. (See Chapter 16, <i>"Video."</i>)		✓
Enhanced text anti-aliasing: Improved anti-aliasing settings makes normal and small-sized text appear clearer and easier to read. (See Chapter 13, <i>"Working with Text."</i>)		✓
Bitmap smoothing: Bitmap images now look much better on the Stage when greatly enlarged or reduced and also maintain more consistency between the Flash authoring tool and the Flash Player. (See Chapter 9, <i>"Bitmaps."</i>)		✓

Project, Player, or Projector?

Flash as a term can be confusing. Macromedia uses the word interchangeably to include Flash as an authoring tool, Flash as a player, and Flash as a stand-alone projector. The following table should





help set the groundwork for understanding the differences among the authoring tool, the player, and the stand-alone projector:

Macromedia Flash Applications	
Application	Description
Flash authoring tool	The Flash software application creates and edits artwork, animation, sound, and interactive elements, storing the results in the FLA file format. Any changes to the Flash movie must be edited in the production FLA file. It's also the file you need to export the SWF file format, which is embedded into an HTML document and published to the Web.
Flash Player	The Flash Player must be installed in users' Web browsers to see Flash 8 content in the SWF file. This player comes preinstalled in current Web browsers. If, for some reason, you do not have the Flash Player, you can download it from the Macromedia Web site for free.
Flash Projector	You can also store Flash 8 content in stand-alone projectors that do not require a Web browser in order to play. You can distribute these files via email, on CD-ROMs, or on disk, but not typically over the Web. The file extension for a Flash 8 projector is .exe (Windows) or .hqx (Mac).

File Types Associated with Flash 8

You can save and output Flash 8 media in many formats. The most common types of Flash 8 files are project files, movie files, and projector files. The file types can become very confusing, because all of these are commonly referred to as

“movies.” The following list explains the three most prominent Flash 8 formats. You will learn about all the file types that Flash 8 can produce in detail in Chapter 17, “Publishing and Exporting.”

Flash File Types		
Icon	File Type	Description
 Untitled-1.fla	Projector file (.fla)	The master project file format, sometimes referred to as the <i>production file</i> , stores all the settings and resources for your Flash 8 project. You can reopen and reedit the FLA file at any time using the Flash 8 Authoring Tool. (.fla stands for FL ash.)
 Untitled-1.swf	Movie file (.swf)	The movie format, sometimes referred to as the <i>published file</i> and/or the <i>optimized file</i> , can be embedded in Web pages for Web-based Flash 8 presentations. These files are generally not editable. (.swf stands for S mall W eb F ile.)
 Untitled-1.exe  Untitled-1 Projector	Windows Projector file (.exe) and Mac Projector file (.hqx)	A stand-alone projector file that can play on any computer without the need for the Flash Player. Flash 8 writes both Windows and Mac format projector files.

Caution: Player Required!

Flash 8 content is not visible in a Web browser unless either the Macromedia 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 player has increased exponentially because current Web browsers now come with the Flash Player preinstalled.

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

Macromedia Flash Players that are in use. At the time of this writing, the Flash player was installed on over 600 million desktops and mobile devices globally, and new versions reach 80 percent of computers on the Web in approximately 12 months. The Macromedia Flash Player 8 comes preinstalled on all new browsers shipped by AOL, CompuServe, Microsoft, and Netscape. Additionally, all versions of Microsoft Windows 98 and newer and Apple OS 8 and newer operating systems include the plug-in.

Macromedia Players	
Flash Player	The Macromedia Flash Player is used for viewing Macromedia Flash content on the Web. You can download the latest version of the Macromedia Flash Player at http://www.macromedia.com/downloads/ . This player installs inside the player folder for your Web browser of choice.
Shockwave Player	The Shockwave Player is used for viewing Macromedia Director content on the Web. You can download the latest version of the Shockwave Player at http://www.macromedia.com/downloads/ .

Beyond Flash 8

Flash 8 is an incredibly powerful tool by itself. However, there are a few functions it can't perform. Here are some of the Web technologies you should know about if you want to extend Flash 8 beyond its basic capabilities.

What's CGI?

A CGI (Common Gateway Interface) script is a program that defines a standard way of exchanging information between a Web browser and a Web 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 the use of something like CGI, I recommend you work with a Web engineer who has experience creating these kinds of scripts. Flash 8

can communicate with CGI scripts, although that topic is beyond the scope of this book.

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

<http://www.cgidir.com/>

<http://www.cgi101.com/>

<http://www.ictus.net/CGI-City/>

What's XML?

XML (EXtensible Markup Language) is a standard that handles the description and exchange of data. XML enables developers to define markup languages that 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 different formats, including HTML, WML, 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 8, you can use the XML object to create, manipulate, and pass that data. Using ActionScripting, a Flash 8 movie can load and process XML data. As a result, an XML-savvy Flash 8 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 provided 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 on XML, take a look at the following URLs:

<http://www.ait-usa.com/xmlintro/xmlproject/article.htm>

<http://www.xml.com/>

<http://www.xmlfiles.com/>

JavaScript and Flash 8

The Flash 8 scripting language is ActionScript, which is based on JavaScript, another scripting language. Although they share a similar syntax and structure, they are two different languages. One way to tell them apart is that ActionScript uses scripts that are processed entirely within the Macromedia Flash Player, independently of the browser that is 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 8 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 the handling of objects is

the same in both languages. However, this is not a requirement for learning ActionScripting.

You will be introduced to ActionScripting in Chapter 12, “*ActionScript Basics and Behaviors*,” 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 8, check out the following URLs:

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

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

<http://www.flashkit.com/links/Javascripts/>

That’s a wrap for this chapter. You’ve familiarized yourself with the Flash 8 product line, the new features of Flash 8, 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!