

**Tip**

If you're a freelance designer or operate a small company, keep in mind that there is no such thing as a useless computer—recycle your older computers as test platforms for target audiences.

After QA has finished rugged testing of the production, then, pending approval by the client (or company executives), the material is ready to go live on the site.

## Maintenance and updates

After you've celebrated the finished production, your job isn't over yet. If you were contracted to build the site or presentation for a third party, then you may be expected to maintain and address usability issues provided by follow-ups with the client and any support staff they might have. Be sure to account for periodic maintenance and updates for the project in your initial budget proposal. If you don't want to be responsible for updates, make sure you advise your clients ahead of time to avoid any potential conflicts after the production has finished.

You should have a thorough staging and testing environment for any updates you make to an all-Flash site, especially if you're changing major assets or master architecture files. Repeat the same process of staging and testing with the QA team that you employed during original production.

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## Interface Design, by Eric Jordan

Macromedia Flash has been present in the industry for some time now as the preferred mechanism by which a Web site is designed and engineered. Not limited by the rigid constraints of HTML, it allows for the construction of more sophisticated components, which better streamline and enhance the user experience. The Web is now a far more familiar and common platform for delivering and retrieving information, and users are becoming more accustomed to its interactive nature. The job of the interface designer is to create and mold a platform by which the user can complete a specific task, and ultimately gain knowledge or information about a specific topic. It is important to note that, out of the depths, two competing visions of interface design have arisen and present us with an ongoing struggle to define the way Web sites should be conceived and engineered:

- ♦ **Structuralists** are advocates of a conservative Web, a Web based on the ultimate goal of simply driving information to the user, a tool void of artistic impositions that may inhibit the reception of pure information. Structuralists maintain that the Web is intended as a universal platform for delivering standardized content, and that document presentation is better left up to the desires and preferences of the end user or the device on which it is being presented.
- ♦ **Presentationalists** see the Web platform in a slightly different light. Advocates of this viewpoint maintain that the presentation of information is best delivered as an experience, rich with sensory feedback and interactive metaphors.

At 2advanced Studios, we are believers in the latter view; that the Web is a diverse platform in which artistic expression can enhance the delivery of complex messages or information. This involves the fusing of a sort of "narrative" with the content, which ultimately gives life

to the presentation of information. It is a way of translating the intricacy of our experience into something we can better understand and soak up. Because you're reading a book about Flash technology, we're going to assume that you either share, or are open to, the same viewpoint. Thus, in this tutorial we highlight the use of Flash MX, Macromedia's latest installment of the powerful authoring tool, as it applies to the design and development of interactive interfaces with narrative expression.

Flash MX now empowers designers and developers with the ability to create rich Web-based environments that are more interactive and sophisticated than ever before. In the pursuit of wrapping an artistic narrative around the presentation of information, Flash designers seek to develop rich and engaging interfaces, which the user can navigate through and react with on a more challenging interactive level. By tapping the new enhancements built into Flash MX, designers now have a much more efficient and opportunistic approach to the conception and implementation of this new breed of interfaces.

## Conceptualization and implementation

Whenever you begin the process of creating a Flash interface, it's important to consider one important factor: After an interface is animated, it is intensely difficult to backtrack if the client wants a change in the overall design layout. Although the greatest impact of a Flash site normally comes from its animated elements, it's important to lock down an interface design that pleases the client from the very start. We have created a development process at Zadvanced Studios that works very effectively for conceptualizing and finalizing an interface design before moving onto the actual use of Flash. This process normally begins with three roughs, which are three stylistically different interface concepts envisioned by the designer. These designs vary in look and feel, to give the client an opportunity to settle on a general aesthetic style for the Web site. Then we move onto the next phase, in which we provide three comprehensive designs that follow the same aesthetic theme of the chosen rough, yet vary in their execution of the layout structure. After the client has selected the final comprehensive, we then proceed to create a working model of the interface that includes the use of animated elements and functionality.

## Aesthetic considerations

Specializing in Flash technology, Zadvanced Studios has had the opportunity to develop a variety of interfaces, with a wide range of navigation types, thematic approaches, and bandwidth considerations. Based on the individual requirements of each project we undertake, we attempt to infuse as much artistic narrative as we can, while still maintaining control over the usability guidelines that have been set forth. Technical requirements aside, the visual appearance of an interface is a creative endeavor that is entirely subjective. It is a matter of one's style. Although our imaginations tend to run wild at times, it is a designer's duty to execute a site design that properly presents its content based on the branding strategy, corporate mentality, and goals of the client. At Zadvanced Studios, our strength lies in the ability to implement interfaces that organize content in an engaging, yet usable manner. To better showcase these abilities, we began translating the latest installment of our Web site ([www.zadvanced.com](http://www.zadvanced.com)) using the enhancements of Flash MX. The Zadvanced interface (shown in Figure 3-5) uses many of the metaphors that we build for our clients. Components

such as animated drop-down menus and conveniently swappable modules provide the user with rich interactive navigation and a sense of control, and enhancing usability within the environment. These elements are by no means a requirement for an interface design; they are simply consistent with our understanding of design/layout and usability. The key is to provide the user with a straightforward metaphor for navigating the content, coupled with a visually compelling environment.



**Figure 3-5:** The 2advanced Studios Web site, after the opening animation has completed and the interface has peaked

Color is also an indispensable factor for successful interface design. It's an integral part of the visual appeal, and it plays a crucial role in highlighting functionality or important areas of content. The correct colors attract the eye to the most important areas of the interface. They enhance readability and diminish optical exhaustion. Incorrect colors distract the user and decrease the level of comprehension. Paying close attention to color theory as it applies to interface design will help you to better communicate the message to the audience and aid the users in their experience.

## Beginning the design process and understanding the tools

Typically, we create our conceptual layouts using Macromedia Flash MX, Macromedia FreeHand, or Adobe Photoshop. Flash MX improves the design process with a workspace that is both flexible and intuitive. The new application environment allows for complex customization, which accelerates the productivity for both designers and developers. In

addition, new pre-developed interface components have been included in order to rapidly increase the time it takes to implement customizable scroll bars, form elements, list menus, and so on. This allows us to save a lot of time and effort by reusing the custom components across multiple interface projects.

At Zadvanced Studios, we are very visual people. We believe that if a picture is worth a thousand words, a video is worth a million. Flash MX's video support has given us the ability to enhance our narrative style by making use of full-motion video-formats such as QuickTime and AVI. The opportunity for complete control over the look and feel of these components helps us to better refine the user experiences we develop.

With the addition of the new graphic design tools in Flash MX, sophisticated interfaces can be created easily, even without the aid of an illustration program such as FreeHand. Generally, we find that the Flash MX drawing tools are more than sufficient for creating the overall interface. However, if we choose to make use of raster graphics in combination with the vector graphics of Flash, then we have to use a raster-based authoring application such as Photoshop. With direction from the client, the design team begins the creation of three rough designs, keeping in mind the various aspects of the decided GUI guidelines, which include:

- ♦ Target resolution (640x480, 800x600, and so on)
- ♦ Navigational metaphors (horizontal, vertical, drop-down, draggable, sliding, and so on)
- ♦ Technical requirements such as cross-browser compatibility, frames, and so on
- ♦ Color palette support (16-bit, 32-bit, and so on)
- ♦ Color usage guidelines

When these requirements have been established, we begin laying out interface concepts using the drawing tools in Flash MX. However, constant attention is paid to every factor that may affect the outcome of the final file. The most prominent advantage of using Flash to develop an interactive environment is its combined capability to carry out the construction of graphical layout, content delivery, and functionality, all in one place. This does, however, require careful planning on the part of the designer to ensure that he doesn't get backed into a corner by making a few wrong turns during the design process. Without forethought, a Flash site can quickly become an ill-fated nightmare full of unforeseen hurdles such as misplaced elements on keyframes and bloated file sizes.

## Roughs

Although the three roughs that we create are simply conceptual approaches to the interface, we still maintain constant scrutiny of the file size during the design process. Our design team is well aware that two of the three designs are likely to be thrown out completely, but if we don't pay attention to the optimization of the file from the very start, the chosen rough may have to be redesigned and restructured in order to ensure that it makes efficient use of symbols, and other elements that ultimately affect the size of the file.

While designing the latest version of the 2advanced Studios Web site, our main concern was file size. Although this site was a project of our own undertaking, and would not come under the scrutiny of a client, we used the same rough-and-comp approach to ensure that we thoroughly explored the possibilities for our own branding in a strategic way. As we envisioned the site, the main background of the interface would consist of a large raster graphic that would add a great deal of size to the Flash file. The upper and lower portions of the interface would be built with vectors to accommodate navigation and so on. To avoid further bloating the file size, we focused our efforts on efficient use of symbols wherever possible. This included reusing simple shapes such as rectangles, lines, and circles within the upper and lower interface bars. Although these areas of the interface appear to consist of 13 blue rectangular shapes, each was derived from a singular symbol. If some rectangles needed to be a different color or size, we didn't go in and draw another rectangle. (This is what eventually causes the file size of a Flash movie to inflate.) Instead, we simply used instances of the same rectangle symbol, while changing the tint (in the Color Effect panel) and size (in the Info or Transform panel) of its instance. The advantage of this method is that the final movie needs to load only 1 shape during playback, rather than 13 different shapes of various colors and sizes. We used the same technique with lines. Everywhere a line appears, no matter what color or size, it's always an instance of the same symbol. Changes are only made to each particular instance, by using the Effect panel to modify the tint color and by using the Info panel to modify the length. If you pay close attention to these details, you can eliminate many design headaches. Thus, we end up with three optimized designs that are ready to be refined and built out.

## Comprehensives

When a rough has been chosen, we move onto the comprehensive phase. In this stage, we develop three new designs that have their aesthetic roots based in the stylistic elements of the selected rough. The only variance is the way in which these elements are structured. Using the symbols that are already created, we shift the layout around and come up with three distinctly different renditions of the same basic theme. In this phase, we have already locked down the visual feel of the site, and we're developing options to offer the client further choices for the way in which that feel will be executed. A comprehensive can be thought of as the peak of the Web site, where animation ceases and the full interface is revealed in all its glory.

Figure 3-6 is a view of the source FLA for the completed 2advanced Web site. Note how many layers appear in the Main Timeline, yet how many more are obscured — as evinced by the scroll bar to the far right of the timeline. In this shot, the play head is halfway to the peak of the interface animation.

Fortunately, Flash MX now includes an efficient method for organizing large amounts of layers. Folders enable multiple layers to be condensed into organized categories or sets, similar to the way a file manager organizes files.

Figure 3-7 is another view of the source FLA file for the completed 2advanced Web site after all layers have been reorganized using the Folders feature in Flash MX. Now note how the layers appear in the Main Timeline. All layers have been re-organized into Folder sets that allow us to more easily understand how the interface is structured. This helps our designers to pass the files back and forth, without confusing one another with hundreds of unorganized layers.



Figure 3-6: The Main Timeline of the source Flash document

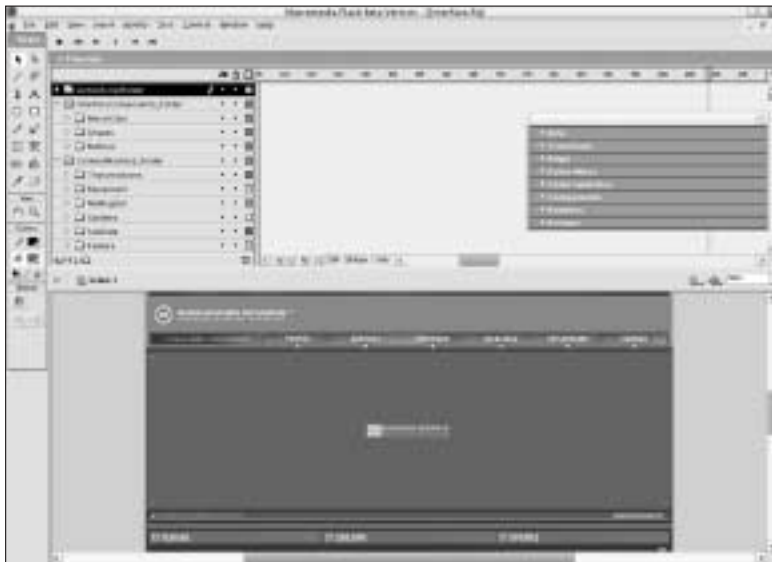


Figure 3-7: The reorganized Main Timeline in Flash MX

We use layers to design the basic levels of the interface elements so that when it comes time to animate the site, everything is organized on its own layer in a categorized folder set and ready for movement and/or functionality. As we add elements to the timeline, each layer and/or folder is labeled in order to provide clarity for the execution of the animation process. At the end of this phase, we will have a series of folders, each of which contain several layers with one keyframe on each. Each keyframe consists of a single symbol instance that makes up a different part of the interface.

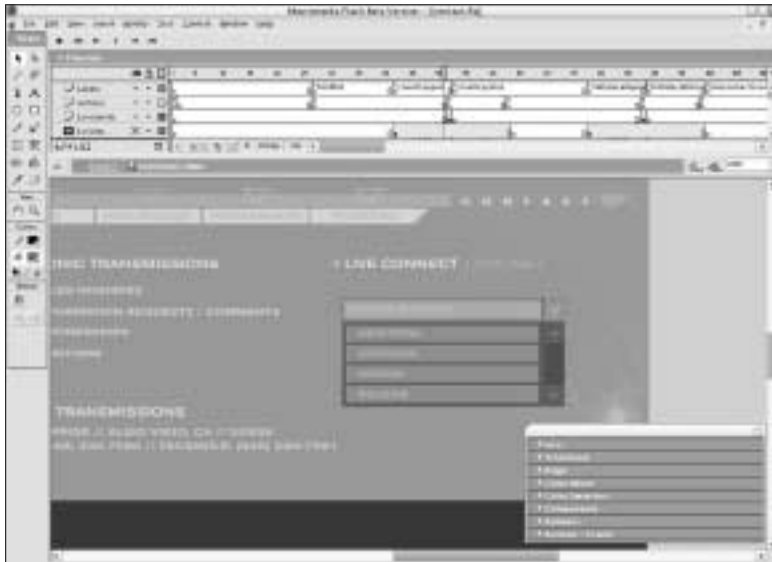
## Build-out

After our client has chosen one of the three comprehensives, we begin the process of Flash-ing the interface. In this phase, we add motion and functionality to the site design. Because we have placed each element of the layout on a different layer, it is easy for us to now animate each symbol so that the design will move and manifest into the peak design that we've created. It's almost like deconstructing the interface in reverse, so that it may reconstruct itself through animation when played back. We typically insert a set of new keyframes about 100 frames deep in our Flash timeline to be the predetermined peak moment when the site will have achieved its full manifestation. We then proceed to set the properties for the symbol instances at frame 1. This is the very beginning of the animation, where the interface begins to manifest itself. Usually, we set items to have an alpha value of 0, a tint value similar to that of the background, or — if we want the element to slide into place — a position off stage. After we create our Motion Tweens for each animated element of the interface, we then set values for easing in the Frame Panel to ensure fluid motion of each symbol. For aggressive and energetic interfaces, we usually set elements to Ease In and use short Motion Tweens to simulate fast movement. For calmer, more conservatively animated interfaces, we set elements to Ease out and use longer Motion Tweens to simulate softer motion. These techniques are, of course, completely subjective, and each project may follow a different style and/or feel. Of course, some interfaces may not require animation at all, and some interfaces may only use Flash for its implementation of functionality through ActionScripting.

Now that we have a semi-animated site, with a key moment in time acting as the peak of the interface, we begin developing content sections either within the main movie (using scenes) or externally for sections that will be loaded into the main movie (using the `LoadMovie()` command). The 2advanced interface requires the use of `LoadMovie()` to introduce additional content into the host Flash movie. Thus, the steps that were pursued during the design and build-out process differed from the normal process. The navigation and content windows for the various sections of the 2advanced Web site were intended to consist of separately loaded modules, and would be externally loaded into the host movie in order to avoid bloating the file size. Instead of designing the content windows blindly in a separate movie file, we have developed a technique by which we design and animate them on their own layers within the host movie. This type of workflow enabled us to see how the content sections would appear aesthetically within the main interface. During build-out, we simply copy the frames being used by the navigation and content sections and paste them into their own Flash file (with the same dimensions as the host movie), which is then saved out as a separate SWF file to be externally loaded using button triggers in the main movie. By copying and pasting the frames, we are able to retain all positioning or animation properties they possessed while in the main movie.

After the layout is completed and the file structures are established for the externally loaded interface elements (the navigation and content sections), we begin using ActionScript to make everything function, such as the navigational elements or the loading of the external SWFs into the host movie.

Within the interface, we created a top panel to house the navigation of the main movie, a middle area in which external SWFs would be loaded/positioned, and a larger lower panel that contains controls for audio and modules for important content such as dynamic news, downloads, and other related data. In certain sections (the Contact movie, for instance), we implemented interface components such as drop-down selection menus. Using drop-down menus (as shown in Figure 3-8) is an effective way to organize an interface because they avoid cluttering the main GUI. Features such as these are important for providing an intuitive interface that is easily navigable and that does not overwhelm the user with too many options at once.



**Figure 3-8:** Drop-down menus save valuable real estate in the interface.

## Reflection

Interface design within Flash concerns two factors:

- ♦ How effectively users complete tasks (in other words, comprehend content)
- ♦ How well-represented the content is aesthetically

Flash MX has accelerated our ability to create new forms of advanced interactive environments. Without a fundamental understanding of interfaces in general, however, it can be difficult to make these environments become a reality. Our current understanding of interface design, usability, and layout in non-Web-based interfaces can be applied and expanded to maximize the impact and comprehension of information on the Web. To take full advantage of Web efficiency, it's important to explore the use of guidelines, develop new methods of interactivity, and push beyond the existing boundaries of conventional interface design.

## Using Visio to Create Flowcharts

Microsoft Visio 2002 is a flowcharting application for Windows. It is available for Windows XP, 2000, NT, ME, and 98 in Standard and Professional editions. Visio makes it easy to produce a diverse range of flowcharts and technical drawings using a variety of artwork symbols, custom symbols, technical diagrams, even floor plans and database structuring diagrams. The utility of Visio extends far beyond the organizational and process flowcharts discussed in this chapter.

Visio is a powerful tool for many forms of technical diagrams and drawings. It has several advantages, the option of displaying Visio diagrams on the Internet (much like you can display PowerPoint presentations) through the use of a plug-in for Internet Explorer 5+ is particularly relevant to web designers. It is also possible to export your diagrams to other Microsoft programs such as Word, Excel, Access, and even SQL Server. Many downloadable add-ins and toolsets are available to expand the capabilities and graphical icons available within Visio.

In the following sections of this chapter, we will use Visio 2002 to show you how to create a site map—also referred to as an organizational chart (or **orgchart**)—and a process flowchart. These simple tools will help you to design and develop solid project structures. We will also go through the steps for creating site maps of existing web projects.

**Note**

You can obtain a trial of Visio Standard or Professional 2002 by requesting a copy from Microsoft at [www.microsoft.com/office/visio/evaluation/trial.asp](http://www.microsoft.com/office/visio/evaluation/trial.asp). This location handles US and Canadian requests only. There are links from this location for international requests as well.

## Creating an organizational chart

To create an organizational chart (site chart) for your Flash or Web concepts, you need to have a list of all the sections included in the concept. For the portfolio site that we'll use as an example, we'll create a chart that diagrams the following elements:

- ♦ A **Main Page** area containing navigation/links to sub-areas.
- ♦ Sections dedicated to each type of work in the **Portfolio: Video work, Animation, Web sites, Graphic design, and Audio.**
- ♦ A featured **Current Project** loaded into the main menu screen (or main page) of the site.