

Enhanced workflow and advanced scripting

Web Media Application Macromedia Flash 5

by Peter Dudar

Dramatically revamping an application interface is a pretty good way to signal a serious upgrade. With Macromedia *Flash 5*, the upgrading goes much deeper than the surface. *Flash* is the application of choice for delivering multimedia SWF files on the Internet—files that are relatively compact, thanks largely to *Flash*'s vector underpinnings. Cognizant of Adobe now competing for the influx of new SWF producers (with *LiveMotion*), Macromedia

ous programmers. *Flash*'s enhanced integration with other Macromedia products puts the icing on the cake.

CROSS-APPLICATION INTERFACE

Though it's been the most non-conforming of Macromedia's applications, *Flash 5* is the first to sport the new standard Macromedia user interface, a move that notably streamlines the workflow between related products. The correspondence is especially obvious in the new releases of *Dreamweaver 4* and *Fireworks 4*.

Tabbed docking panels. A major peeve with *Flash 4* was its reliance on hidden dialogs to access editing features. That's been addressed in version 5 with tabbed docking panels. The upside to these float-

Movie Explorer, Actions, Library. Can't customize the bar though.

Consistent Toolbox layout and Menu structure. *Flash 5*'s tool layout and groupings are more consistent with related applications—at first glance you might think that *Flash* had adopted *Fireworks*' toolbox. The Toolbox breaks down into four sections: Tools, View, Colors and Options. With the shift to panel navigation, the menu structure has accordingly been redone; text functions now have their own menu and the Library Menu has been eliminated.

Bezier pen and Sub-Selection tools. For *Flash 5*, Macromedia has opted for a hybrid drawing toolset. The pre-existing, idiosyncratic cartooning tools have been supplemented with a precision Bezier Pen tool and a Sub-Selection tool, like those used in *FreeHand* and *Illustrator*. Are *FreeHand* and *Illustrator* users going to be thrilled with this underpowered compromise? Not likely. But one convenience has arisen from the hybrid: you can use the Pen and Sub-Selection tools to edit objects drawn with other *Flash* tools, including the Pencil and Brush—just click the objects to unveil their invisible Bezier points and tangent handles. (Bezier points respond to snap options, so turn off snapping when drawing with the Smooth modifier.)

Enhanced color controls. Now you can get at *Flash 5*'s enhanced color controls in the Toolbox, plus related panels: Mixer, Fill, Stroke and Swatches. Swap buttons in the Toolbox and Mixer allow you to swap colors between the fill and the stroke color with one click.

As well, color has been used to enhance selection highlighting (lines, fills, and groups), along with version 5's grid and new draggable guides.

Updated Timeline. *Flash 5*'s Timeline has become more *Director*-like, which not all may consider a good thing; if that's the case, users have *Flash 4* Selection Style and *Flash 4* Frame Drawing prefs avail-



Flash 5 sports the new standard **MACROMEDIA USER INTERFACE**. left: The **TOOLBOX** now has four sections: Tools, View, Colors, Options. centre: The updated **TIMELINE** and the **STAGE** (with its new **LAUNCHER BAR** in the lower right corner). right: Tabbed **DOCKING PANELS** provide customized and immediate access to editing features.

has adopted a two prong strategy for this release. *Flash 5*'s more intuitive interface and streamlined workflow features make it less daunting for designers bred on drawing applications like *FreeHand* and *Illustrator*; and the significant expansion of ActionScript in *Flash 5* should pique the interest of seri-

ing panels is customized and immediate access to those features. The downside is potential workspace clutter, but that's alleviated somewhat by the tabs, which enable you to consolidate related functionality. Also, you can both save and share screen layouts.

Launcher bar access. The addition of a Launcher bar (adapted from *Dreamweaver*) to the bottom of the Stage also facilitates access to common application features: Info, Mixer, Character, Instance,

able. In version 5 though, editing and moving keyframes has gotten easier, thanks to enhanced drag-ability and direct access to info in the Frame panel. To move a keyframe (or frame sequence), just drag it. To extend the duration of a keyframe, just Alt- or Option-drag. And, to add an item from the Library to the current keyframe, just drag it to the Stage.

Customizable keyboard shortcuts. You can customize keyboard shortcuts in version 5 to streamline your workflow; *Flash* conveniently provides existing shortcuts from applications like *Fireworks*, *Adobe Illustrator* and *Adobe Photoshop*, which in turn can be altered.

INTEGRATION AND SUPPORT

FreeHand direct import. *FreeHand* users may likely find the enhanced *FreeHand* import filter of more use than the new drawing tools. You can be really direct and simply drag and drop, or copy and paste



FREEHAND IMPORT: You can preserve *FreeHand* layers, text blocks, library symbols, and elements such as gradient fills and blends. The dialog lets you convert each *FreeHand* page to a scene or keyframe in the *Flash* movie.

Layers can be flattened, retained as *Flash* layers or converted to keyframes. And you can import all or just some of the pages in a *FreeHand* file.

native *FreeHand* 7, 8, or 9 elements into *Flash* 5, where they remain editable as vector graphics.

But the real goodies are in version 5's *FreeHand* import dialog options. You can preserve *FreeHand* layers, text blocks, library symbols, and elements such as gradient fills and blends. For animation, the dialog lets you convert each *FreeHand* page to a scene or keyframe in the *Flash* movie. Layers can be flattened, retained as *Flash*

layers or converted to keyframes. And you can import all or just some of the pages in a *FreeHand* file. Keep in mind that overlapping objects should be placed on separate layers in your source file since *Flash*, by default, divides intersecting shapes at their intersection. Also, limit gradient fills to eight colors, the maximum that *Flash* supports, and reconsider the use of blends, since *Flash* interprets each step to be a separate path. If the imported file is CMYK, *Flash* converts it to RGB.

Consider this: you can storyboard an entire *Flash* site for client approval in *FreeHand*, then leap into production by mapping the *FreeHand* pages and layers to their *Flash* equivalents.

Launch *Fireworks* or *Photoshop*. Version 5 lets you launch *Fireworks* or other editors like *Photoshop* to edit bitmap images imported into *Flash*. To edit with *Fireworks* 3 or later, you access a bitmap's context menu in the Library and then specify whether the PNG source file or the bitmap file is to be opened; when the modifications are done in *Fireworks*, you simply select File>Update and return to *Flash* 5.

Generator 2 solution. Need a data-driven solution for dynamically updating *Flash* sites on a Web server or in off-line production? Macromedia, of course, suggests that you do so with their *Flash* 5 *Generator 2 Pro Developer Upgrade*.

QuickTime 4 native support. Macromedia has extended native support to *QuickTime* 4, making it easier to overlay clean, compact *Flash* interface elements (like navigational controls, titling, text effects and animation) on imported movies. Now, any of the Basic Actions in the Actions panel can be applied to imported *QuickTime* movies. But you still have to manually add frames to an imported movie's timeline to view its entirety.

Publish *RealPlayer* content. *Flash* now provides a *RealPlayer* panel in its Publish Settings for sending *RealFlash* content to *RealPlayer* G2 and *RealPlayer* 7 and 8. Options enable you to export all necessary streaming *RealAudio* tracks (including



MACROMEDIA FLASH 5

AUTHORING

WINDOWS

133 MHz Intel Pentium processor,
Windows 95/98, NT4, 2000, or later
32 MB of free available system RAM
40 MB of available disk space
256-color monitor, 800x600 resolution
CD-ROM drive

MACINTOSH

Power Macintosh with MacOS 8.5 or later
32 MB of free available system RAM
40 MB of available disk space
256-color monitor, 800x600 resolution
CD-ROM drive

PLAYBACK

Microsoft Windows 95, 98, Me, NT, 2000,
or later
Macintosh System 8.1 or later
Linux Redhat 5.1 or 5.2 (Pentium-based only) or
Linux Slackware 3.5 (Pentium-based only)
Solaris 2.5 or 2.6 (24-bit color, SPARC only)

PRICING

US\$399; upgrade US\$149
Flash 5 FreeHand 9 Studio US\$599,
upgrade US\$249

Macromedia, Inc.
Telephone 800-457-1774
Web www.macromedia.com

SureStream technology for varied playback connections), determine bandwidth tuning, and apply properties to exported SMIL code.

MP3 import and export. *Flash* 5 opens up possibilities for engineering more sophisticated, longer audio tracks for low-

bandwidth delivery, by supporting the import and export of MP3 compressed audio.

EXPLORING AND SHARING

Hierarchical Movie Explorer. As content becomes more complex and who-knows-how-many collaborators need to access a project, having an expedient means to assess and navigate the structure becomes more critical. *Flash 5*'s solution is the Movie Explorer panel, which displays a hierarchical tree of your movie elements, with collapsible sub-categories. Six filtering buttons let you categorize the output: Text; Buttons, Movie Clips and Graphics; ActionScripts; Video, Sounds and Bitmaps; Frames and Layers; Customize which Items to Show. The Explorer enables you to search by name, call up the properties panel for a selected element, find all the instances of a symbol or action, replace all the occurrences of a font, and print the current list view.

When you want to view and/or edit a listed item, just double-click the icon. If it's a frame icon, the playhead moves to

numbers of asset files is the Shared Symbol Library. A shared library is stored externally to the project, and acts as a central resource for tracking and controlling revisions, while allowing access to multiple personnel.

And you can use assets from one library in multiple Flash movies—to do so, you define linkage properties for each asset. The shared library is saved along with your FLA file, and subsequently has to be posted on the Web so that movies that link to the shared library can display the linked assets.

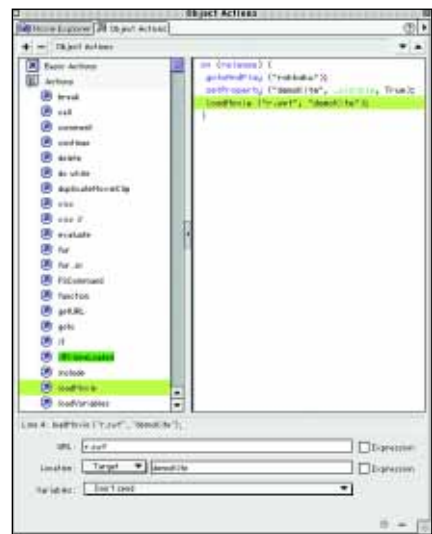
Also, you can now create font symbols and turn them into shared library symbols by assigning identifier strings to them, rather than having to embed the fonts in the movie itself.

The payoff in all this for the end user is that shared symbols only need to be downloaded once for repeat display. Consequently, download times can be reduced substantially.

SCRIPTING AND CLIPPING

JavaScript-like ActionScript. Sophisticated interactivity was first added to *Flash 4*, enabling designers with minimal programming experience to use variables and conditional logic, and to manipulate object properties at run time. But version 4's interfaces weren't intended for serious programmers. *Flash 5*'s ActionScript has now been exposed and matches the syntax and structure of JavaScript—it's a full-fledged object-oriented programming language. (ActionScript is based on the ECMA-262 specification that was derived from JavaScript.) Macromedia has decided that ActionScript warrants a separate 453 page reference guide—if you're a JavaScript virgin, the learning curve is pretty steep. (Gee, why does Macromedia *Director's* Lingo come to mind?)

Dual mode ActionScript Editor. Anyway, Macromedia has been merciful enough to equip its ActionScript panel with both Normal (novice) and Expert modes. (The panel is either titled Object Actions or Frame Actions, depending on what you're



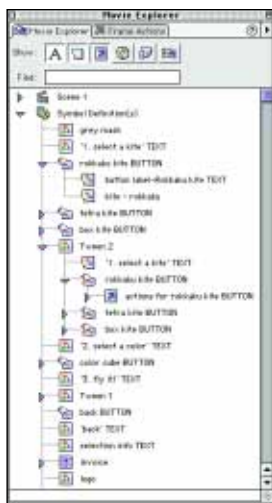
The **ACTIONSCRIPT** panel in Normal mode: You grab Actions from the Toolbox list on the left and drop them into the Actions list on the right, where your partially complete action statement appears. Relevant parameter dialogs for the selected actions show up in the Parameters box at the bottom of the panel. As you fill in the blanks in the Parameters box, your input shows up in the right place in the action statement.

working with.) In Normal mode, you basically grab Actions from the Toolbox list on the left of the panel and drop them into the Actions list on the right, where your partially complete action statement appears. Relevant parameter dialogs for the selected actions show up in the Parameters box at the bottom of the panel. As you fill in the blanks in the Parameters box, your input shows up in the right place in the action statement. In Expert Mode, you enter ActionScript directly into the Actions list on the right or select actions from the Toolbox list on the left. You then do all editing and parameter input directly within the list. The sheer number of Actions provided in the Toolbox list is impressive.

ActionScript syntax can be exported to an ASCII file for editing with an external text editor, then re-imported into *Flash*. Version 5 also provides a Debugger for isolating ActionScript variables in order to debug complex applications during development.

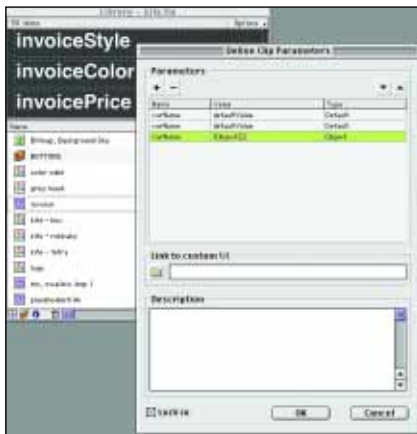
Smart Clip reusability. *Flash 5*'s Smart Clips can be used to bridge the divide between programmers and designers. To do this, programmers prepare interface com-

The **MOVIE EXPLORER** panel displays a hierarchical tree of your movie elements, with collapsible sub-categories. Six filtering buttons let you categorize the output: Text; Buttons, Movie Clips and Graphics; ActionScripts; Video, Sounds and Bitmaps; Frames and Layers; Customize which Items to Show. You can call up the properties panel for a selected element and find all the instances of a symbol or action.



that frame in the Timeline. If it's another icon type, the associated panel appears, so you can manipulate asset properties. Or select Find in Library from the Movie Explorer's pop-up menu, and voila: the library opens with the symbol highlighted.

Shared Symbol Libraries. Another efficiency booster in *Flash 5* that especially benefits development teams with large



SMART CLIPS: programmers prepare interface components and then pass them along as parameterized movie clips. Designers can change the values of their variables in the Clip Parameters panel without opening the Actions panel. To define clip parameters, you select a movie clip symbol in the Library, access the Define Clip Parameters dialog and then fill out Name, Value and Type fields for each parameter.

ponents such as pop-up menus, surveys and avatars, and then pass along these components as parameterized movie clips. Designers can access the control variables attached to the smart clip's actions, then change the values of those variables in the Clip Parameters panel without need to open the Actions panel. Also, custom interfaces can be created for the Clip Parameters panel, to facilitate reuse and modification of the clips.

To define clip parameters, you first select a movie clip symbol in the Library, access its Define Clip Parameters dialog and then fill out Name, Value and Type fields for each parameter. The Type field provides a pop-up menu with data type options: string or number value; array (dynamic list); object (to declare several related elements); and list (to limit the selection).

Once defined, you can right- or control-click smart clip instances on the Stage and revise the values of the parameters in the Clip Parameters panel.

XML TRANSFER AND HTML TEXT

XML structured data. With XML becoming the standard for the interchange of structured data in Web applications, it was inevitable that *Flash* would incorporate

the technology. Developers can integrate data in *Flash 5* with servers that use XML to build sophisticated e-commerce applications, ranging from virtual shopping carts to brokerage systems. A predefined XMLSocket object (provided via ActionScript) enables a continuous connection with a server, nullifying latency issues when used for real-time applications such as chat systems.

HTML-rich text. *Flash 5* enables rich text formatting in editable text boxes. You can select the HTML formatting option for dynamic or input text boxes in the Text Options panel, subsequently preserving both primary HTML 1.0 text tags (<A>, , , , , <I>, <P>, <U>) and hyperlinks. (The panel also lets you to specify which characters from the font set used will be embedded.) As well, you can apply HTML tags to text boxes in the Actions panel, as part of the variable value for a text box.

What makes this development especially interesting is that HTML can be dynamically loaded from external text files during run-time for immediate text content updates.

ENHANCED DOCUMENTATION, PRINTING AND PLAYABILITY

Improved documentation. The days of the skimpy Macromedia manual are over—*Flash 5* includes 800+ pages spread over two books (Using Macromedia *Flash* and the previously mentioned ActionScript Reference Guide), along with pretty decent online help. As well, a resource panel built into *Flash 5*, called the Dashboard, provides ongoing access to resources from Macromedia and the *Flash* developer community—it can be set to automatically update from Macromedia's servers each time you launch *Flash*.

Web-native printing. Being a vector application, *Flash* is essentially made for printing. And just as *Flash* content plays consistently onscreen, printable *Flash* content is consistent across browsers and platforms. With *Flash* Web-native printing,

which Macromedia calls WYPINWYS (What You Print Is Not What You See), printable content can be downloaded on demand. The end user sees content tailored for display and outputs a separate design suitable for print.

You set certain frames in the movie to be printable, so that users can output them with the Flash Player, the only software necessary. The user ends up with a catalog, coupon, information sheet or whatever, produced at the high resolutions available from his or her printer.

Specified material can be protected from unauthorized printing. And even movie clips that are not visible can be assigned print actions, thereby conserving browser space.

Playback compatibility. Macromedia states that more than 96.4% of online users can view *Flash* content without having to download a player, which is good enough for most producers. But for 96.4% to see all your *Flash 5* features, they would all need to have Flash Player 5. To this end, *Flash 5* has tools to automatically export HTML detection scripts when publishing, so that you can direct viewers to download the latest version of the Player.

FLASH 5 NOW?

If you're a current *Flash* user, then going for *Flash 5* is a no-brainer. Likewise, if you're an advanced programmer—*Adobe LiveMotion* doesn't deliver *Flash 5*'s level of scriptability. *Flash 5* provides serious perks for users already in a Macromedia application workflow, especially *FreeHand* and *Fireworks* users. Same for *QuickTime* producers. If your workflow is primarily Adobe-based and you're not interested in *Flash 5*'s advanced capabilities, then *LiveMotion* may be preferable because of its still less-steep learning curve.

Since some of *Flash 5*'s most potent features require the Flash 5 player, you may have to refrain from putting them into play until enough users are up to speed. Even so, the interface and workflow enhancements alone make *Flash 5* a must upgrade. ■