MX

developer's journal

THE LEADING MAGAZINE FOR MACROMEDIA MX DEVELOPMENT, DESIGN, & PRODUCTION TOOLS

volume 3 issue 11 2005 www.mxdj.com

Haven't We Met Before?

Adobe, Macromedia united long ago in digital publishing

DREAMWEAVER
Creating RSS Feeds

FLASH
Open Source & the Flash Platform

COLDFUSION
Streamlining Application Development Using Struts

Rev Up Your Flash Video

Stay Ahead of the Competition With VitalStream and the Enhanced Video Features in Flash 8

With over two years of experience in delivering much of today's most popular media, VitalStream® is the first and most experienced Flash™ video streaming service provider.

Enhanced Flash 8 Video Features:

- New VP6 codec delivers higher quality video at the same bit rate
- 8-bit alpha channel transparency enables you to blend video with other elements
- Improved live video capabilities

VitalStream Complete Toolset for Flash:

- MediaConsole®
- MediaOps™ SDK
- Flash Authentication
- Reporting Dashboard

Integrate Streaming Media Into Your Flash Projects

Take Advantage of the Enhanced Video Features in Macromedia Flash 8
Call (800) 254-7554 or Download Tutorials at www.vitalstream.com/go/mxdj

macromedia®
FLASH VIDEO STREAMING SERVICE

Call (800) 254-7554
Visit www.vitalstream.com

VitalStream®

One little box.
A whole lot of power.

Put it to work for you.
The shortest distance between you
and powerful web applications.

Full speed ahead. The release of Macromedia ColdFusion MX 7 is changing the whole game.
This groundbreaking release introduces new features to help address your daily development challenges.
These features include:

› Structured business reporting? Check. Printable web content? Check.

ColdFusion MX 7 provides a structured business reporting solution that will have you
creating detailed business reports for anyone who needs them. You can also dynamically
transform any web content into high-quality, printable documents with ease. The days of
needing a third-party application to generate dynamic reports are going, going, gone.

› Make rapid J2EE development a reality.

So, you're heavily invested in J2EE but would love to complete projects in less time?
ColdFusion MX 7 is your answer: It delivers RAD productivity on top of the power and
scalability of J2EE and deploys onto standard J2EE server environments.

› New mobile applications are a go.

Innovative new features enable ColdFusion MX 7 applications to reach beyond the web.
So you can rapidly create new applications, or extend existing ones, to connect with mobile
phones and IM clients using a variety of protocols. The new world of mobile communications
is exciting, and this your invitation to the party.

To learn more or take ColdFusion MX 7 for a test drive, go to:
macromedia.com/go/cfmx7_demo

MX
developer's journal

Haven't We Met Before?

*Adobe, Macromedia united long
ago in digital publishing*
by kristen banham

On April 18, 2005 Adobe Systems Incorporated announced a definitive agreement to acquire Macromedia in an all-stock transaction valued at approximately $3.4 billion. What many do not realize is that these compa-nies have been successfully "dating" in the digital publishing world for six years.

In 1999, Integration New Media Inc. (INM), based in Montreal, Canada envis-aged cost-effective, smart, immersive applications that would make for a greatly improved experience for developers and end-users alike. Why not combine the strengths of Adobe and Macromedia to create the best possible user experience for those working in digital publishing?

It was a match made in heaven. Adobe's PDF file format offered many advantages. A worldwide standard, PDF was universal and easy-to-use; it provided high-quality printing and display, cross-platform capabilities and cost-effective production.

Macromedia's Director software offered an established and cost-effective multimedia development platform, full control over user interfaces, advanced multimedia and scripting capabilities.

INM saw a natural link between the two products and thus created a bridge "PDF Xtra" that combined them. This Xtra, which has since evolved into the much more powerful INM Impressario Xtra, enabled PDF users to use Director as a container for their content. They could create a highly usable interface, selectively exposing users only to the functionality they needed. By developing a project with Director, the user interface enabled the delivery of highly intuitive applications and publications for E-Learning, E-Marketing or for any project wherein users must become engaged in the "blink of an eye" – quickly, easily and without a user manual.

Director developers benefited by

figure 1

figure 2

figure 3
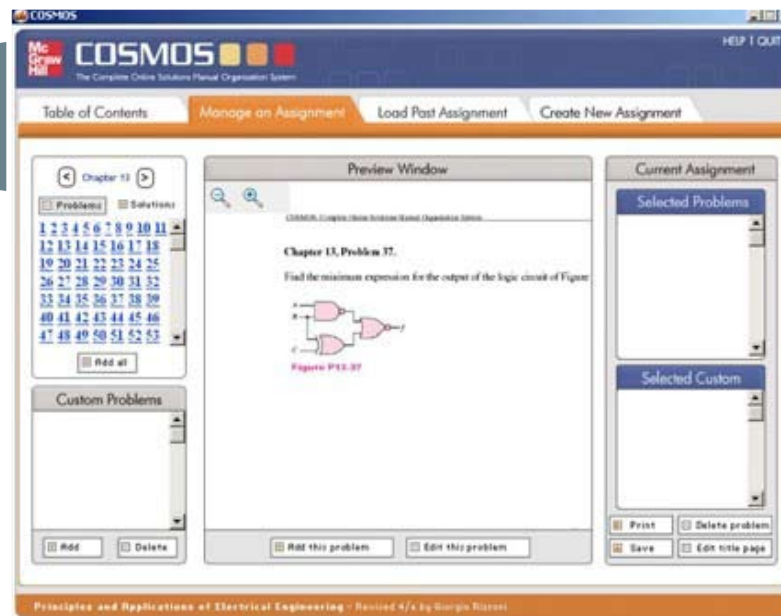
figure 4
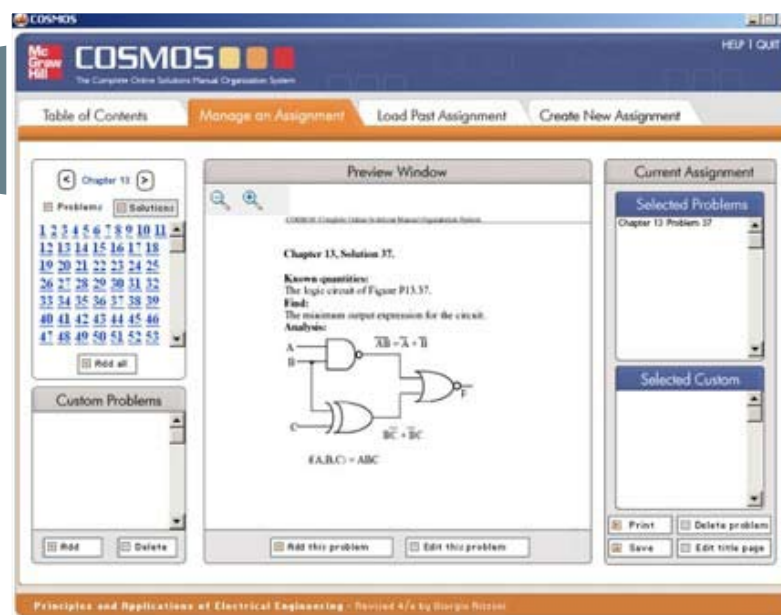
seamlessly integrating PDF documents into their multimedia publications for a blended look and feel. There was no need to recreate documents, as existing data-sheets, drawings, and any other item that could be saved as a PDF could easily be integrated from a variety of sources. PDFs allowed for timeliness as well – content providers could incorporate up-to-date, last-minute content by simply changing the PDF file. No complicated programming or reformatting was required – PDF documents could be changed and replaced without affecting the Director movie itself. Another advantage was PDF technology's ability to preserve advanced page layouts, including inline graphics, text wrapping, multiple columns, stylized fonts, special characters, etc. All of this content could be displayed and printed exactly as is, consistently, across all platforms and systems, which was previously impossible through Director alone. Among other features, PDF documents could be searched within Director movies; content could be password-protected as well as personalized, enabling the use of forms, and more.

All of this led to an improved user experience. Period. And that was INM's vision, now realized in a plethora of content-rich applications. For example, Sony UK recently commissioned developers at Blueburst Ltd. to develop an interactive marketing resource toolkit that would provide all the vital marketing materials required by resellers and distributors to sell the Sony Storage Media product line.

This Toolkit CD enabled resellers and distributors to easily access product-related image and text galleries, and customize/co-brand Sony marketing collateral such as advertisements, direct mail pieces and e-shots, using their own contact information and logos. The material could then be used in catalogs, websites and marketing campaigns, making it easier for resellers and distributors to sell Sony Storage Media. In addition, because they were working with official Sony artwork, the branding of the product line remained consistent and Sony was able to maintain greater control over the product line's image.

Blueburst Ltd. used INM Impressario to display and print several guideline documents pertaining to Sony's logo and campaign text usage, as well as allow for customization of the print-ready artwork

DIGISCOPING

SWAROVSKI
OPTIK

START   EXIT

page 2 of 3

Swarovski Optik Digiscoping

The DCB allows the observation and photography positions to be changed in a second by simply swinging the appliance up or down. Left: Observation position, right: photographing position.
Equipment shown: ATS 80 HD, zoom eyepiece 20-60x S, DCB, Sony DCS-W17

www.swarovskioptik.com

INTRODUCTION   BASICS   GLOSSARY & FAQS   TIPS & TRICKS   CAMERAS   ADAPTERS   TELESCOPES   TRIPODS   BACK

DIVING GUIDE

Back

figure 8

figure 9

figure 10
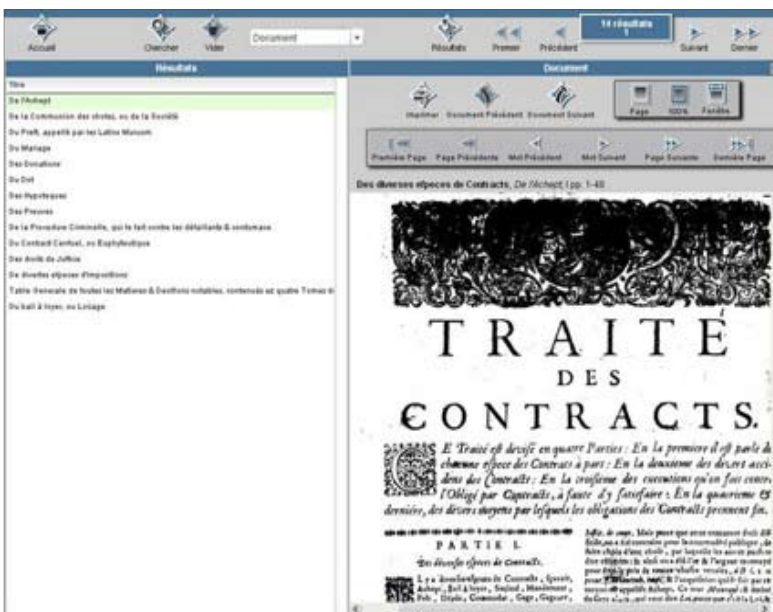
(PDFs) of advertisements and direct mail pieces provided on the CD. "The image-replace function proved invaluable to this project as it allowed end-users to easily customize the print-ready material with their own information," says Ben Francis, Managing Director of Blueburst Ltd. "Without the combined functionality of PDF and Director, programming such a feature would have been much more difficult."

McGraw Hill's COSMOS, the Complete Online Solutions Manual Organization System, by Hunt and Gather Inc., is another example of how the merging of PDF and Director benefits digital publishers. COSMOS is an assignment assembly product designed for college professors. This product supplies problems and solutions (in PDF format) which professors can use to assemble and print assignments, as well as enables professors to add their own customized equations. The COSMOS engine easily displays and prints the numerous PDF files from within the Director interface.

When it comes to applications that require an integration of PDF files into a Director interface, a CD-ROM developed by Sony DADC for optical manufacturer Swarovski is a perfect example. Over the last five years, the world of bird watching has been enriched by a new concept called digiscoping – photography taken with a compact digital camera located in the eyepiece of an observation telescope. By combining these two technologies, photos can be captured at a higher magnification level. In order to help potential customers understand this new technology, Sony DADC created a CD-ROM that provides technical terminology, tips for using digiscoping in the field, and other educational data. Sony DADC used INM Impressario to develop a customized navigation toolbar that allows users to easily save, print, zoom in or out of specific areas of the CD-ROM's PDF documents, and move seamlessly between pages.

Or, how about traveling to Tahiti without leaving your office or living room? The Tahiti Travel Guide, developed for Tahiti Tourism by Marc Bolard of GlopGlop Productions, is a collection of useful information for those planning a stay in French Polynesia. The CD-ROM includes maps and information for all the islands, a detailed diving guide, pictures, event calendar, among other features.

METALIQ

Metaliq Components (*m*COM)

Creating data-driven interfaces for online applications can be complicated and time-consuming. Developers and designers worldwide need an extensible solution that saves time and headaches. There needs to be a stable, innovative approach to solving common UI problems, such as navigation, forms, filtering and sorting immense amounts of data.

Start your development with Metaliq Components (*m*COM). Completely new and developed from the ground up specifically for RIA (Rich Internet Applications) and online experiences, *m*COM are easy to integrate, lightweight and built on the same industrial strength code deployed across some of the largest websites, portals and web applications in the world.

*m*COM allow you to quickly create stable, lightweight data-driven interfaces that are extensible by designers and developers alike, both through extending classes and a simpler visual skinning process. *m*COM include a fully implemented advanced focus manager that works seamlessly with all of our components, and allows for easy creation of tab groups. For anyone familiar with Flash components, there is no learning curve. In most cases, Flash components can be easily updated to *m*COM with little or no modifications to your project.

mCOM
Metaliq Components
in sample interface

Component List:

- Accordion
- Button
- Check Box
- Color Pickers
- Combo Box
- Data Grid
- Field Set
- List
- Menu

- Numeric Stepper
- Radio Button
- Scroll Bar
- Scrolling Pane
- Slider
- Tab Box
- Text Area
- Text Input
- And more…
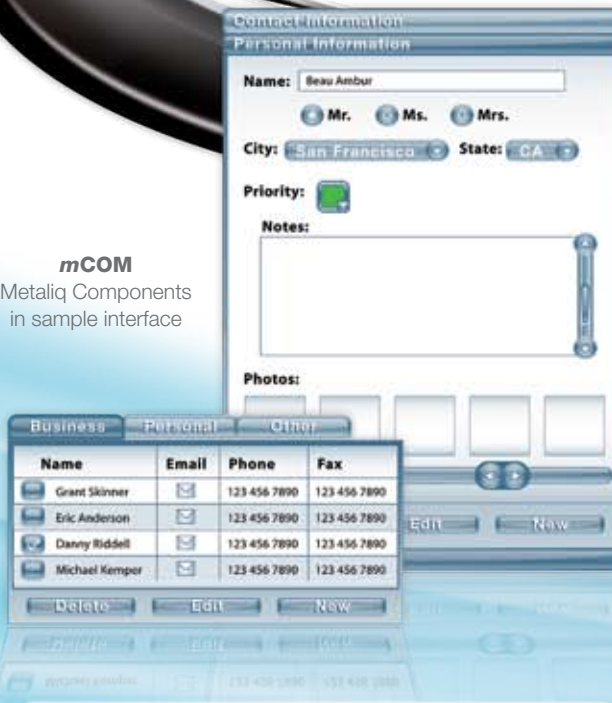
Key Features:

- Up to 75% smaller file size
- Faster download
- Lower CPU usage
- Simplified customization
- Flash Player 6, 7 and 8 compatible
- Reusable
- Easy to integrate

Integrated Technology:

- Effective, understandable code architecture
- Advanced tabbing management
- Improved event model
- Written in ActionScript 2.0
- Advanced focus manager

Metaliq is a solutions company, specializing in industrial strength creative, code and consulting. Identifying, creating, and implementing innovative solutions that are usable, intuitive and appealing. Metaliq offers a suite of solutions for video (*m*VID), dashboards (*m*DAT), applications (*m*CAP) and components (*m*COM). Contact us by phone at 415.642.3332, email us at mCOM@metaliq.com or visit us at metaliq.com/mCOM.

"INM set out to develop a toolkit that would allow Sophonie to easily produce their libraries without any programming and deliver them on CD/DVD-ROM"

The guide is distributed as a cross-platform CD-ROM and is used by tourism professionals worldwide. With the CD, travel agents can quickly look-up information on Tahiti in five different languages. They can perform keyword searches, print documents, save information to their hard drives, and add bookmarks. They are also able to add comments and notes for future reference. Again, this is made possible by the seamless integration of PDFs into the CD-ROM interface.

Developers of content-rich applications like E-Magazines also benefit from the PDF/Director synergy. Take the Military and Aerospace E-Magazine for example. It was created to provide new and existing customers of Xilinx Inc. with an interactive means of viewing their solutions. Meant to captivate the attention of the user while delivering an abundance of content, the 75-page electronic magazine showcases a complete range of Xilinx offerings. Readers can browse through the publication using a page-turning effect; there is also an index that contains thumbnails of each page so that with a click of a mouse, readers can jump straight to the article that interests them. A documentation page includes hyperlinks to over 50 additional product datasheets (PDFs) and web pages. Users are also able to print out the articles and datasheets, which are saved as PDF documents, straight from the application. Again, developers used INM Impressario to import and control the PDF content all the while continuing to design the E-Magazine in Director.

On a larger scale, Sophonie - a private French company specializing in digital document management systems – approached INM's Consulting Services to adapt their INM Impressario technology to allow the company to easily package thousands of digital documents (PDFs) into customized and searchable virtual libraries. Sophonie's systems are designed to handle large volumes of historic documents and rare books that would otherwise not be accessible in their original printed versions (some documents are over 200 years old and date back to the French revolution!).

INM set out to develop a toolkit that would allow Sophonie to easily produce their libraries without any programming and deliver them on CD/DVD-ROM. In turn, Sophonie's clients would be able to sell these libraries and have more control over distribution. As primary end-users of such virtual libraries are researchers and professors seeking articles, each virtual library needed to be able to perform advanced searches in a user-friendly manner and to display and print facsimiles of the required documents.

The result was the Boulix Virtual Library Builder that created customizable virtual, multilingual libraries containing (on average) 60,000-70,000 pages of text and indices. The Library Builder allows Sophonie to easily update content (including Flash movies, graphics, buttons, color schemes, etc.) without any programming whatsoever. And, by

delivering on CD/DVD-ROM or through server licensing, Sophonie's clients can control distribution and access to their libraries.

"This is exactly the ease-of-use we envisioned six years ago for companies developing and using multimedia applications such as these libraries, and the digital publications listed above," says INM president Vahe Kassardjian. "Today, it is not enough to have only stable, fast software applications. Users expect software to be intuitive and cost-effective – they expect an interface that guides them through the application, smoothly and seamlessly. That is what we are striving for."

As evidenced by their long-time and successful "courtship" in the world of digital publishing software, the future certainly bodes well for Adobe and Macromedia as well as for the users of their products-to-be.

Intermedia.NET...

Now serving the hottest ColdFusion.

At Intermedia.NET we go beyond the industry standard by supporting the hottest new Coldfusion software, offering power like never before. For nearly a decade, we've been providing reliable, secure hosting to thousands of companies across the globe. We can do the same for you.

Intermedia.NET's premier hosting services include:

- ColdFusion MX hosting
- Competitive plans
- Security sandboxes
- Custom tag registration
- Verity collections search engine
- Guaranteed service levels

**Unprecedented power, unmatched reputation...
Intermedia.NET is your hosting solution.**

INTERMEDIA.NET

Call us at: **1.888.379.7729**
e-mail us at: **sales@intermedia.NET**
Visit us at: **www.intermedia.NET**

Creating RSS Feeds with Dreamweaver

*Publishing content online is evolving
with a new technology called RSS.*

by ronald northrip

You may have noticed recently that lots of websites now contain little graphical buttons with the word XML on them. For example: or or . When you click on the button, all you see is a bunch of jumbled text and computer code [ed: unless you have a newer web browser or an aggregator]. What's this all about? It's an RSS feed, and they're changing the way people access the Internet.

RSS, or Really Simple Syndication, is a technical format that allows online publishers to share and distribute their

content to other websites or individual Internet users. It's commonly used for distributing headlines on news websites. Bloggers use it to distribute summaries of their blog entries as well. RSS is written in the Internet coding language known as XML, which is why you see RSS buttons labeled that way.

If a website publishes an RSS page, commonly known as an RSS "feed," this feed will contain summaries of all the recent articles posted on that site. For example, Yahoo News publishes news related to world headlines, national news, sports, etc. These you can all read by going to the Yahoo website. But they also publish RSS feeds for each of these subjects. Each RSS feed contains a summary of the most recent news stories posted. Similarly, the Digital Divide Network publishes RSS feeds for our news headlines, events listings and other content on our website. I even have my own RSS feed for articles that I publish on my personal blog, Andy Carvin's Waste of Bandwidth.

So basically, as a consumer of content, RSS allows you to see updated content in news aggregators or web browsers (new ones have integrated this feature). It solves the what's new problem for websites by allowing content consumers to subscribe to content that they find relevant. That means its a great way to communicate with a market that has already defined itself as interested in your content by having taken the first step of subscribing to the feed. It also solves the SPAM problem, because your market has already agreed to be targeted. Its permission marketing done right, and with no SPAM filter headaches.

RSS also solves another problem by

allowing content to be syndicated (or republished) on other websites. This is how tools like Yahoo or Google News work. They collect RSS feeds from across the internet and then publish the relevant ones on their site. Imagine the traffic you would generate by getting a story published on one of those news portals. This opens up an entire new way to drive traffic to your site.

RSS is probably the most powerful marketing tool emerging in internet publishing today.

Publishing RSS Feeds

There are several tools for publishing RSS feeds widely available on the internet, with a range of prices from free on up. The problem with most of the tools is that they require a good bit of work to get your content into the feed you are creating. With some, you have to copy and paste your content into their tool, which is simple for small amounts of content but not for larger websites. With other, you have to have PHP, ASP, or Perl on your webserver and use those tools to rework your content into a feed. In all cases, none of them are designed to integrate directly with the primary tool you use to create the content of your website — Dreamweaver.

The right solution would take advantage of the content you've already created and the way that you manage that content using Dreamweaver. It would give you a way to leverage what you know to accomplish the task of creating a feed, without having to learn new tags for RSS and without having to become a CGI expert to program PHP/ASP/Perl.

That's what RSS DreamFeeder does.
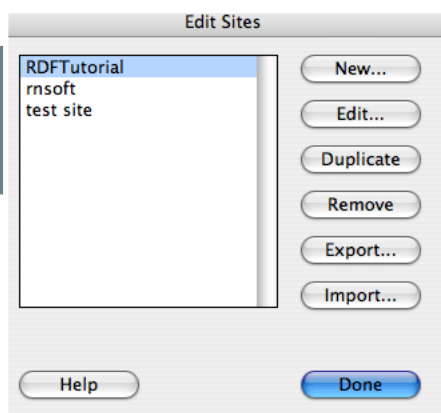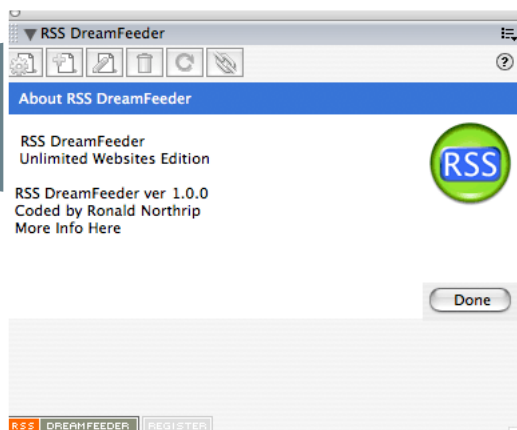
RSS DreamFeeder allows you to specify elements of the content you're already creating for your website to be reformatted as an RSS feed. It integrates specialized search-engine technology into Dreamweaver with a simple floating panel where you can create, edit, and process your content into RSS feeds. DreamFeeder's panel lists new content that has been added to your site since the feed was last updated and will add that new content to your feeds when you tell it to. You don't have to edit every entry in the feed, all you do is tell it to do the job. And it only does it when you're ready and your new content is ready — avoiding problems with feeds pointing to articles still being created.
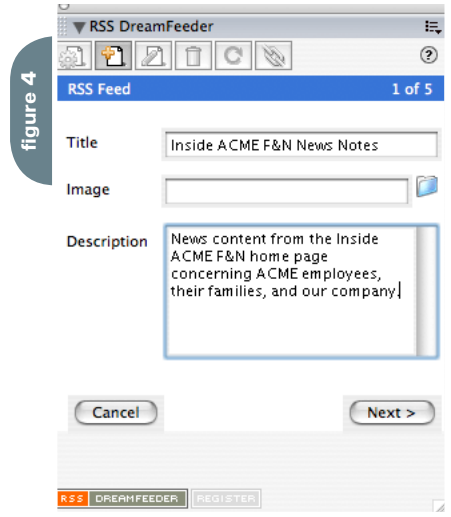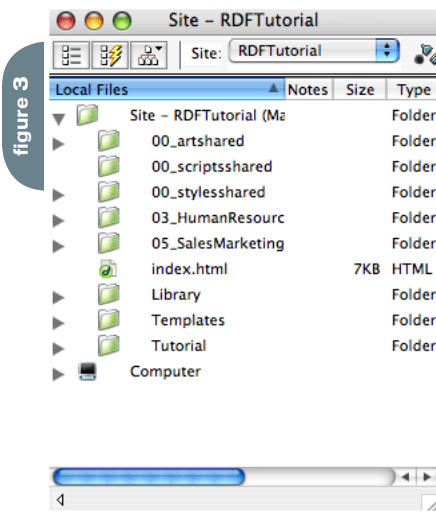
So Tell Me How!

OK. Let me tell you how. In this tutorial I'm going to outline two different styles of content, which broadly encompasses the two primary sets of web content that get converted to feeds — Single Pages and Directories. Single pages are single html files that contain multiple stories, each of which is treated as a unique entry to be linked to by the RSS feed. Directories contain multiple html files, each of which contains a single story and links to each must be entered in the RSS feed. RSS DreamFeeder, once configured, will do all of this automatically for you when you process the feed. You can define multiple feeds for your website and each feed can have its own configuration.
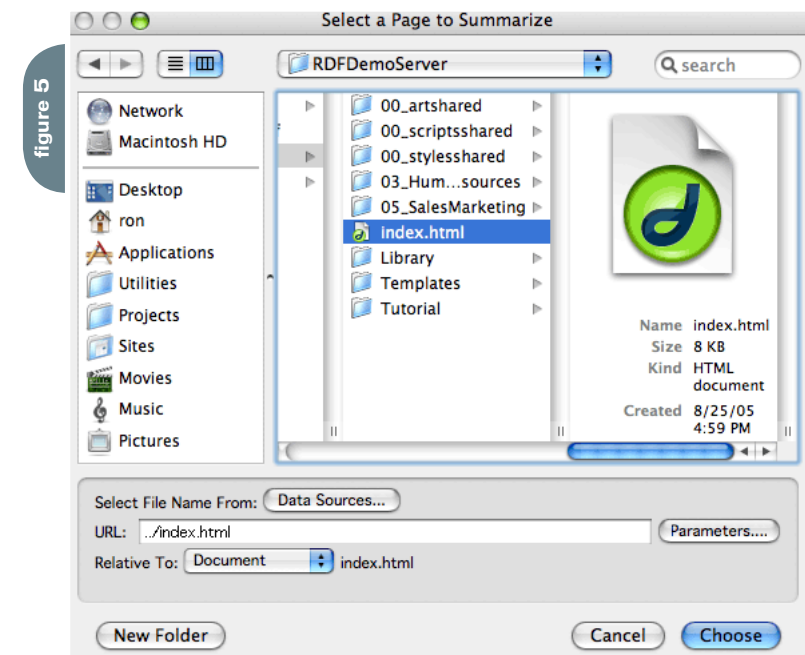
Download the Pieces

You will, of course, need a copy of RSS DreamFeeder, available from RNSoftware at http://www.rnsoft.com/products/rss-dreamfeeder

You install RSS DreamFeeder using the Extension Manager application that came with your copy of Dreamweaver. All you should have to do is double-click the MXP file that you downloaded and Extension Manager should launch and ask you if its OK to install. You may need to restart Dreamweaver after installing the extension but you don't need to restart your computer.

To launch RSS DreamFeeder select RSS DreamFeeder from the Window menu in Dreamweaver. This will open the DreamFeeder panel and display a

figure 3

figure 4

figure 5

figure 7

figure 8
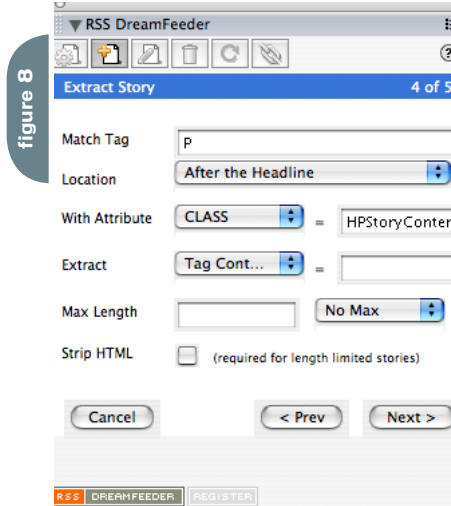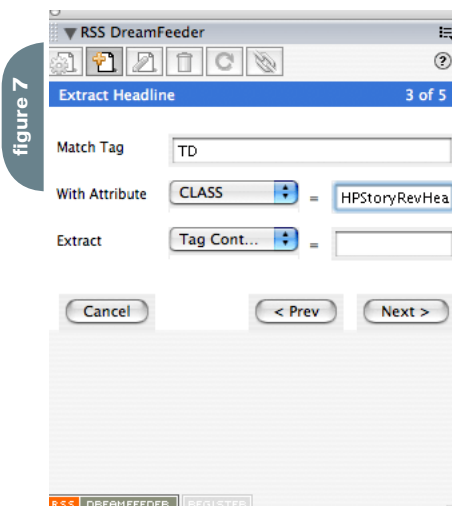
list of rss files within the current website — you shouldn't have anything in the list because you haven't created them yet. If you click on the RSS DreamFeeder button in the bottom left corner you should see this panel. Click the Done button to go back to your feeds list.

You'll probably want a news aggregator to test the feed with. You can use any one that you like, but here are a couple (the first ones that come up when I google "news aggregators download"):

• Ampheta Desk
• NetNewsWire

(more at http://blogs.law.harvard.edu/tech/directory/5/aggregators)

You might also try Firefox's active bookmarks or Safari's RSS reader.

I've also created a simple website with some basic content so you can see the process in action.You can download this demo site at http://www.rnsoft.com/products/rssdreamfeeder/content/tutorial/RDFDemoServer.zip

You will have to define this as a new website within Dreamweaver. I called the site RDFTutorial. You don't need a remote site defined, just a local one, because RSS DreamFeeder works right from your local files, and includes only the new files you create. When you're ready to publish the feed you create on your website you simply upload the RSS or XML file you created, just like you would for any HTML file. That means you get to manage your content the way that works best for you and your workflow.

The Files in the Site

To keep things simple, the demo website only contains a limited number of files. But to be authentic we created this site using CSS styles, templates, and library items, just like you would for your website. The files we are most interested in are the Home page — index.html in the root of the website — and the JobBank page — jobbank.html in the 03_HumanResource directory (the individual jobs listed are stored in a the JobBank directory in there).

Feeding the Home Page

Open the home page and take a look at it. The home page is an example of a single html files that contain multiple
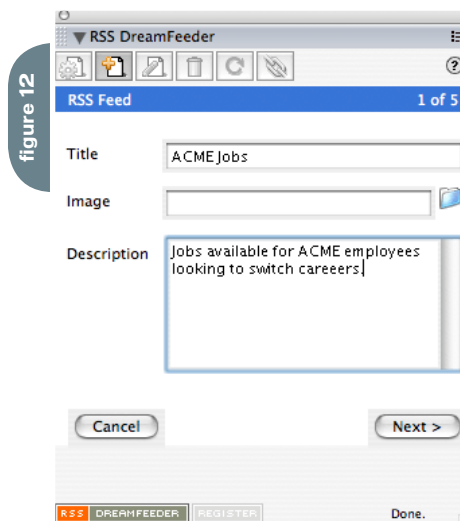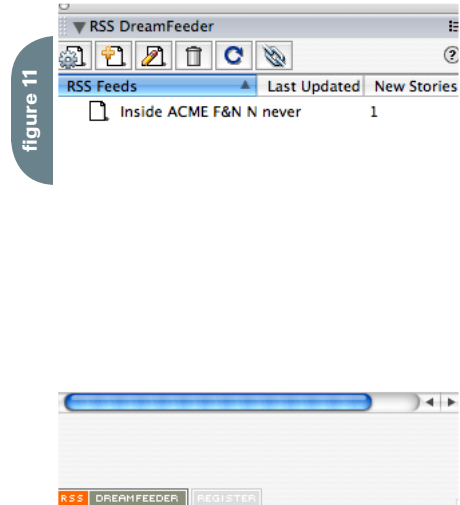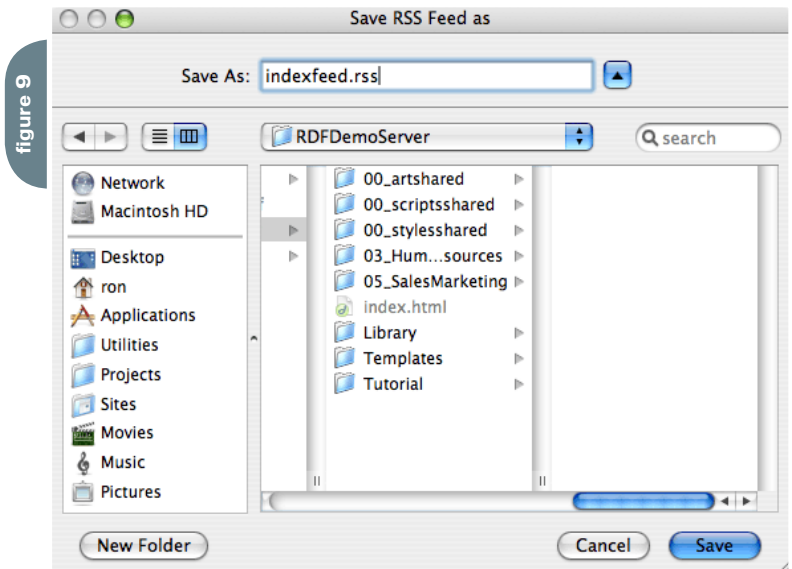
figure 9

figure 10

figure 11

figure 12

figure 13

Select a Folder to Summarize

JobBank | search

Network
Macintosh HD

Desktop
ron
Applications
Utilities
Projects
Sites
Movies
Music
Pictures

art
index.html
JobBank
jobbank.html

050825_...Mgr.html
050826_...oper.html
050827_...Exec.html

New Folder   Cancel   Choose

figure 14

▼ RSS DreamFeeder

Extract Headline   3 of 5

Match Tag   H3

With Attribute   No Setting   =

Extract   Tag Cont... =

Cancel   < Prev   Next >

RSS DREAMFEEDER REGISTER   Done.

figure 15

▼ RSS DreamFeeder

Summarize   2 of 5

Summary of   a DIrectory

Dir/Page   file:///Macintosh HD/Users/ron/Si

Subdirs   (search subdirectories for files)

Capture   File Creation

Base URL   http://inside.acme.com/

Max Stories

Cancel   < Prev   Next >

RSS DREAMFEEDER REGISTER   Done.

figure 16

▼ RSS DreamFeeder

Extract Story   4 of 5

Match Tag   P

Location   After the Headline

With Attribute   No Setting   =

Extract   All Matchi... =

Max Length   200   Words

Strip HTML   ☑ (required for length limited stories)

Cancel   < Prev   Next >

RSS DREAMFEEDER REGISTER   Done.
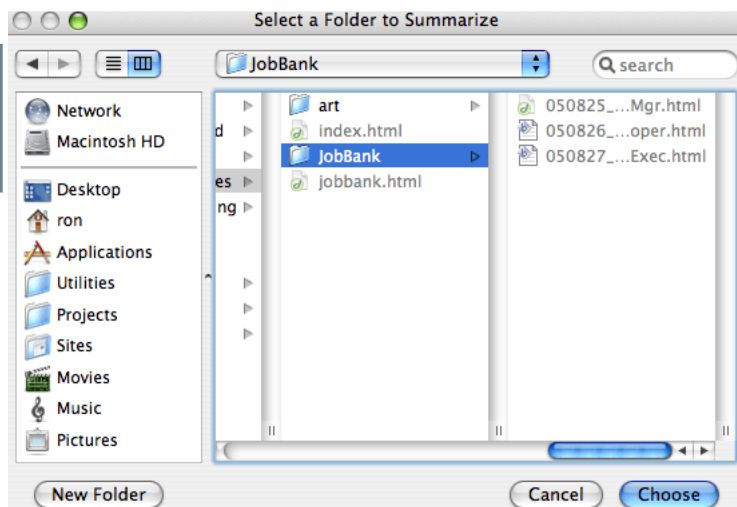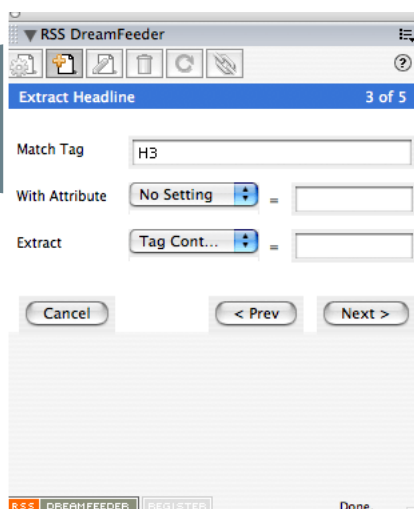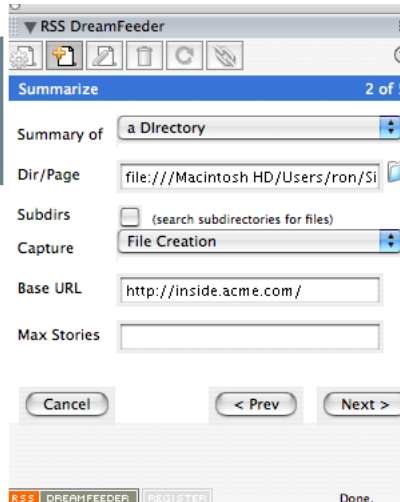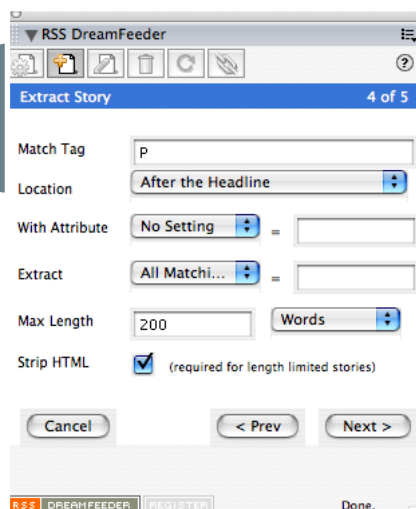
stories. I used a repeating block with a template, but you don't have to, RSS DreamFeeder looks at the HTML code for the page, not the Dreamweaver markup. Each of these stories will need to be treated as a unique entry to be linked to by the RSS feed.

Imagine that we've just edited the content to add our update — Aug 27 Employee Special. This content represents the story that we'll want to collect for use in our RSS feed. The way we'll collect this content is based on the HTML code used to layout the content. Take a close look at the content and notice a few things:

The headline is in a TD tag with a CSS style applied — HPStoryRevHead. The anchor defines the location to link to within the page for each story — it will get picked up by the RSS feed. The story content is a P tag with a CSS style applied — HPStoryContent

Now based on what we just looked at you'll be able to define a feed for this page and use those attributes to identify the content to extract from the page and put into the RSS feed.

If RSS DreamFeeder isn't already open, you can open it by selecting RSS DreamFeeder from the Window menu.

To create a new feed you click the New Feed button in the toolbar at the top of the panel. The panel will change and you will create the settings for the

"RSS, or Really Simple Syndication, is a technical format that allows online publishers to share and distribute their content to other websites or individual Internet users"

new feed. You'll go through 5 panels with various settings that effect how your feed will work. Don't worry, you only have to do this once, when you create the feed. These settings stick with the feed and are used when you process the feed to control its content. We'll talk more about processing the feed later on. (Note: If your window doesn't show the Next and Cancel buttons you may need to make it taller — I would have done it automatically for you but Dreamweaver doesn't allow it).

The first panel collects descriptive information about the RSS feed. You will need to enter the Title of the feed. You will also need to enter a Description for the feed. You may optionally include a graphic or icon to be used to represent the feed, but only in aggregators that support RSS v 1 formatted feeds. If you specify a graphic you probably also need to stick to RSS v1 for the format of your file (specified in a different step). Once you're happy with your content you may click the Next button to proceed to the next panel in the series.

The second panel defines what files to summarize when creating the feed. You can set this up any number of different ways depending on what you would like to accomplish with your feed. The settings I'm going to outline here are best for summarizing a single page, like our home page or a blog-style page. Set the first popup to make a summary of a Page. Then you need to tell it which page will be summarized - you could type in the file:// url for the page, but really what you'll do is click the little folder icon to the right of the text field. You'll be presented with a dialog box to select an html file — pick the index.html file in the root directory of the site (the home page) and click choose. Subdirectories only applies to directory summaries, not to files, so it should be turned off. You'll want to add entries to the RSS feed for all changes to this file so set Capture changes to File Modifications. Enter the base url for the website you will be publishing to, it will be used to create the links in the RSS feeds (RSS feed links are full URLs because you never know where the feed will be republished). Set Max stories to 30 because we don't want the feed to contain more than 30 news entries — this is arbitrary, and just what I happened

figure 17

figure 18

figure 19

MX

figure 20

figure 21

there will be no limit. Be warned, though, unlimited RSS feeds just keep accumulating content, which probably isn't what you really want.
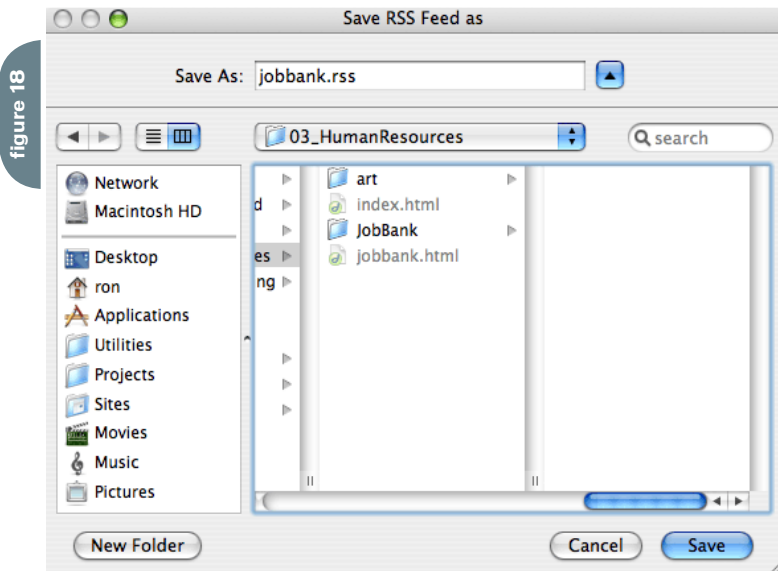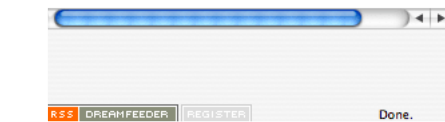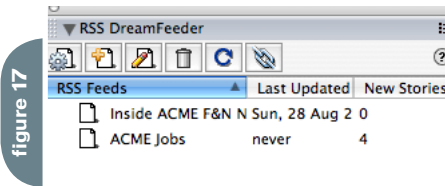
The third panel determines how the headline will be extracted from the html page. The headline was within a TD tag with a CSS style (called a CLASS) of HPStoryRevHead applied. The content of that table cell should be used as the headline of the story in the RSS feed. So set the Match Tag to be TD (its not case sensitive). Set the CLASS attribute to be HPStoryRevHead to further uniquely identify the item we want. Extract the Tag Content to be used as the headline.

The fourth panel determines how the story will be extracted from the html page, in a similar manner to the way that headlines are extracted from the page. The story was within a P tag with a CSS style of HPStoryContent applied. The content of that paragraph should be used as the story in the RSS feed. So set the Match Tag to be P. The paragraph to include follows the headline, so set the Location to After the Headline. Set the CLASS attribute to be HPStoryContent to further uniquely identify the item we want. Extract the Tag Content to be used as the story. You may alternatively specify a maximum length for the content in characters or words, but as the stories a pretty short blurbs already there really isn't a reason to here. You also might want to strip any HTML tags from the story (like the P tag or BR tag). Some aggregators have problems rendering HTML content. Good ones will just ignore the tags, but bad ones will actually display the HTML tags. To be more compatible you would want to check Strip HTML.

The fifth and final panel determines where the file is saved and in what RSS

figure 22

figure 23

format. Tell it where to save the RSS file you are creating — you could type in the file:// url for the page, but really what you'll do is click the little folder icon to the right of the text field. You'll be presented with a dialog box to save a file — go to the root directory and type in "indexfeed.rss" and click save (you can call it whatever you want, that's just what I used, but you should end the file with RSS or XML). Then pick which version of the RSS format to use — Version 1.0 is the most popular, DreamFeeder supports 0.9.X, 1.0 and 2.0. Older formats are more broadly compatible, but newer formats support dates and times for each story, and graphics for the feed. Finally, click the Save button and the RSS file will be created and added to your list of feeds.

After completing these steps the file for your feed has been created. It is now listed in the list of RSS feeds. The list entry indicates that it has never been updated — that means that the feed doesn't have any stories in it yet. Also, the entry lists that there is 1 new story to be processed (actually, 1 modified file to be processed, but who's counting?).

To process/update the feed you can simply click the Update button and the settings you defined before will be used to identify and extract new content which will then be added to the feed. So try it out, select your feed from the list and click the process/update button. The RSS feed will now have content that you can examine in your favorite news reader.

Feeding the JobBank

Open the JobBank and take a look at it — it's the jobbank.html file in the 03_HumanResource directory. This page is just a listing of the pages that are in the JobBank directory, each page is a differ-

ent entry offering a different job. We can list these same pages in an RSS feed automatically. This is an example where each file is a single story, and we'll be summarizing all the files within a directory.

Open the any Job Description file and examine it. This content represents the story that we'll want to collect for use in our RSS feed. The way we'll collect this content is based on the HTML code used to layout the content. Take a close look at the content and notice a few things:

The headline is a H1 but it's the same for all the pages, so it's not a good headline — Job Announcement

The subhead is a H3 but it actually contains the relevant headline content.

The story content is in P tags, but there are multiple paragraphs that we'll want to collect.

`Now based on what we just looked at you'll be able to define a feed for this page and use those attributes to identify the content to extract from the page and put into the RSS feed. You're going to go through the same feed creation process as before, but with slightly different settings appropriate to this content.

Enter descriptive information about the RSS feed in the first panel. You will need to enter the Title of the feed. You will also need to enter a Description for the feed. You may optionally include a graphic or icon to be used to represent the feed.

Define the files to summarize in the second panel. Set the first popup to make a summary of a Directory. Then you need to tell it which directory will be summarized - you could type in the file:// url for the page, but really what you'll do is click the little folder icon to the right of the text field. You'll be presented with a dialog box to select a directory — pick the JobBank directory. If we wanted to include subdirectories in our summary you would want to check it, but that doesn't matter for this example because there are no subdirectories. You'll want to add entries to the RSS feed for all new files so set Capture changes to File

Creation. Enter the base url for the website you will be publishing to, it will be used to create the links in the RSS feeds (RSS feed links are full URLs because you never know where the feed will be republished). Set Max stories to 30 because we don't want the feed to contain more than 30 job entries — this is arbitrary, and just what I happened to want when I c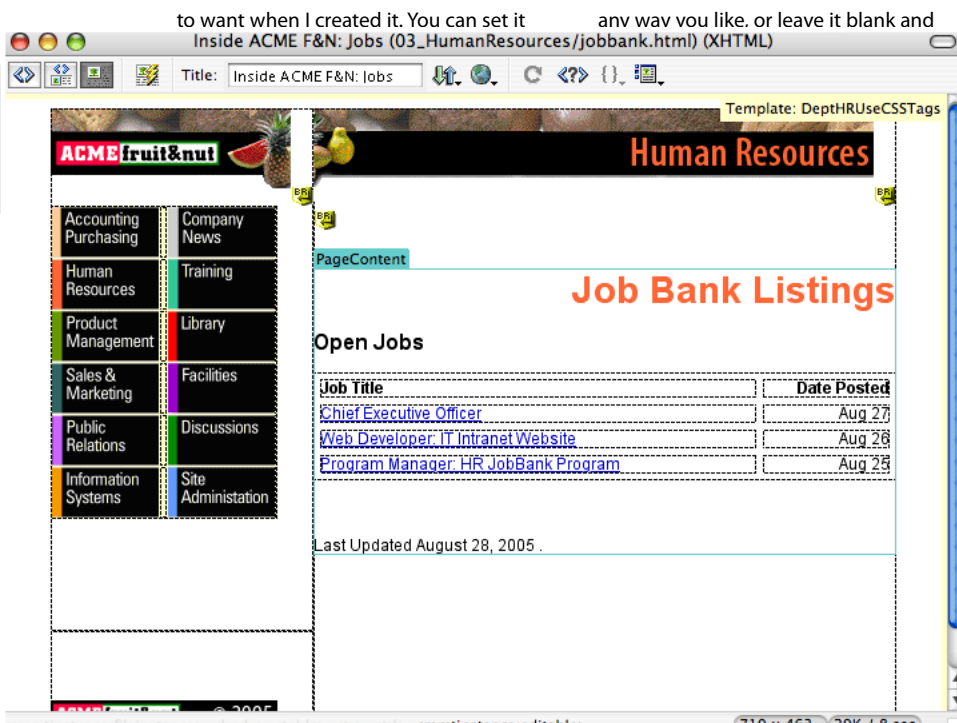reated it. You can set it any way you like, or leave it blank and there will be no limit. Be warned, though, unlimited RSS feeds just keep accumulating content, which probably isn't what you really want.

Setup headline extraction in the third panel. Set the Match Tag to be H3 (its not case sensitive). Extract the Tag Content to be used as the headline.

Setup story extraction in the fourth panel. Set the Match Tag to be P (its not case sensitive). The paragraphs to include follow the headline, so set the Location to After the Headline. Set Extract the All Matching Tags to be used as the story content. That means multiple paragraphs will be collected. Finally limit the length of the story because multiple paragraphs might be a lot of text. Set Max Length to 200 words.

In the fifth and final panel save your new feed.I saved it as "jobbank.rss" right next to the jobbank.html file.

After completing these steps the file for your feed has been created. It is now listed in the list of RSS feeds. The list entry indicates that it has never been updated — that means that the feed doesn't have any stories in it yet. So process it and then test the results.

Linking to the Feeds

The last step in setting up your feeds is to link to them. You can do it the same way that you link to any file with Dreamweaver, but that only creates relative links, not Feed:// protocol links, and does not provide alternative content header links — which is how Safari knows to display the little RSS icon in the location bar, or how NetNewsWire knows where to find a feed when given a regular
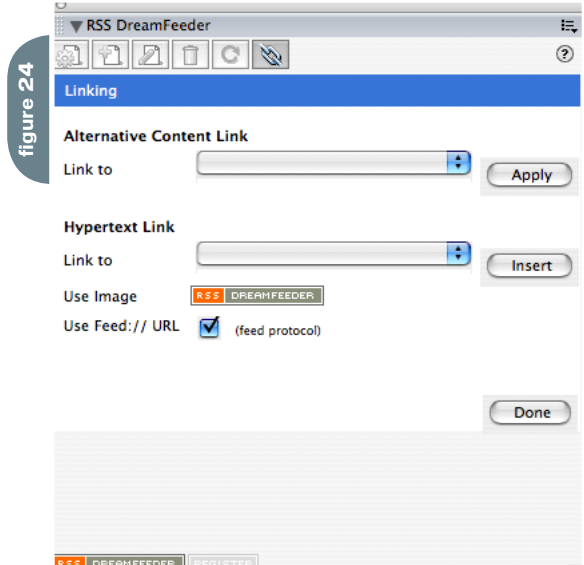
figure 24

figure 25

Set Max stories to 30 because we don't want the feed to contain more than 30 job entries – this is arbitrary, and just what I happened to want when I created it
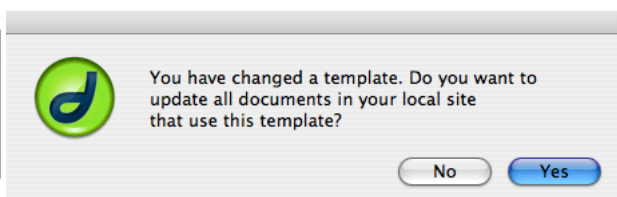
URL. So there are some deficiencies in the way that Dreamweaver treats linking to an RSS feed. RSS DreamFeeder provides an interface in the Link panel to address these issues (you may need to make the panel wider to see the Apply buttons — I'd have done it for you but Dreamweaver doesn't allow it).

The panel is broken into two groupings: Alternative Content Link and Hypertext Link.

Alternative Content Link settings provide the way to setup the header links to the feed as an alternative to displaying HTML. If an aggregator see the page it will load the Feed instead of the page. The Link To popup menu allows you to select from the RSS feeds you have already created without having to select the file itself. Click the Apply button to apply your setting to the current page being edited. You can only have one RSS feed alternative per page, so any changes you make will modify that setting for the page.

Hypertext Link settings insert a hypertext link at the selection in the current document. The Link To popup menu allows you to select from the RSS feeds you have already created without having to select the file itself. To change the graphic click on it. You will be presented with a new popup menu where you can select a different graphic. Upon selection that graphic will be displayed. To use the Feed:// protocol check the box. This alternative protocol is associated with RSS feeds so that news aggregators can be triggered as helper applications from within a web browser. Click the Insert button to insert your link.

So to link to our feed for the JobBank open the JobBank file, then click on the Link button in the RSS DreamFeeder panel. Set the alternative content to point to your JobBank feed. Then click on the page in front of open jobs and insert a Feed protocol link to the same feed. Click after the newly inserted link and press return to put the headline on a new line.

To link to our feed for the home page we have to edit content that isn't available within the file, but rather is only editable in the template. No problem, open the HomePageTemplate file (in the Templates directory), and setup your link and alternative content header.

When you save, Dreamweaver will prompt you to update the pages that the template is based on. Click OK and it will update the home page to include the new links.

Nothing is Perfect

There are a few final details with what you did.

First, the content that you created probably has the words "UNREGISTERED" in it somewhere. Until you register your version of RSS DreamFeeder it will continue to include that content in both the headline and the story. You can purchase a serial number for RSS DreamFeeder at http://www.rnsoft.com. Click on the "REGISTER" button at the bottom of the RSS DreamFeeder panel and enter the serial number there.

Second, the feed protocol hypertext links you inserted point to some website that doesn't exist, so don't expect them to work. If you did publish the feeds on your website and configured the Base URL part of the feed correctly it would work. But its good enough for this tutorial.

Third, for single page summary feeds like the home page feed we created you'll notice that the dates all say the same thing. They are listing the modified date of the file for each new entry. Since all 3 entries are new, all 3 are listed with the same modified date. If you put a new entry on the home page, and run it now, it's date would be different from the others. Nothing a quick text-editing couldn't fix, but to be fair, it isn't quite right.

Fourth, for directory summary feeds like the job bank feed we created, remember that we configured it to capture files are based on their creation dates. I duplicated a file and tried to edit it only to discover that by doing so I didn't change its creation date. The solution is to open the file and do a Save As, which creates a whole new file.

That's All Folks

I hope you found this tutorial useful, and I hope that you'll get a lot of use out of RSS DreamFeeder.

Thanks for you support.

"Alternative Content Link settings provide the way to setup the header links to the feed as an alternative to displaying HTML"

Backing Up Site Definitions in Dreamweaver

Back up your site definitions
by jolantha belik

have you ever looked for missing remote server names, user names, and passwords? Have you ever tried to transfer a site definition to another system by copying the data stored in the Site Definition dialog box? If so, you probably discovered that it doesn't work because the password is encrypted.

Tip: If you are not in a hurry, try my Get Dreamweaver FTP Password feature at my Web site (www.moredw.com/getPW.php).

Fear of losing user names and passwords is but one reason to back up your site definitions. You should also back up your site definitions each time you add a new site or edit an existing site because your computer could crash and you might lose your data, or something could go wrong when you install an upgrade or update that causes you to lose your site definitions. Backing up your site definitions also safeguards you against an occa-

figure 1

sionally temperamental Dreamweaver installation that might "forget" your site definitions.

Requirements

To complete this tutorial you will need to install the following software and files: level 2 subhead Dreamweaver 8
- Try: www.macromedia.com/cfusion/tdrc/index.cfm?product=dreamweaver&promoid=devcenter_tutorial_product_090903
- Buy: www.macromedia.com/cfusion/store/html/indexcfm?event=displayStoreSelector&keyword=dreamweaver&promoid=devcenter_tutorial_dreamweaver_090903
- MM-Exporter: http://mm-exporter.joexx.de/
- Site Import Export extension (Dreamweaver 4/4.01): http://macromedia.com/cfusion/exchange/index.cfm#loc=en_us&view=sn106&viewName=Exchange%20Search%20Details&authorid=60639501&page=0&scrollPos=0&subcatid=0&snid=sn106&itemnumber=4&extid=157851&catid=0

Getting Started

As a Dreamweaver user, you have the following options to back up your site definitions. You can:
- Use the Dreamweaver export and import feature (available for Windows and Mac users)
- Back up the registry key (Windows users)
- Back up the Site Prefs file in the Sites folder (Mac users)
- Use the MM-Exporter extension (Windows user)

Note: This extension currently does not

recognize Dreamweaver 8. An updated version will be available in early 2006.

Tip: Always print out and store everything that contains the remote server access data, even if you are a paperless office fan!

Considering the Number of Sites

Your back-up strategy also depends upon the number of site definitions you want to back up. For a single site definition or a small number of site definitions, the best way is to use the export and import functions of the Dreamweaver site manager. If you have to back up many site definitions at the same time, you might be better off working with the Dreamweaver Sites registry key (Windows users) or back up the Site Prefs file (Mac user).

Transferring Site Definitions Between Platforms

The only way to transfer site definitions between Windows and Macintosh platforms is to use the export and import feature.

Note: Don't forget to edit your site definitions after importing the site definitions on the new operating system. You'll have to point the site folder to the correct local folder where all the site's files are stored!

Using the Dreamweaver Export/Import Feature

One easy and fast way to back up a site definition is to use the built-in export and import feature in Dreamweaver. This built-in function is available in Dreamweaver MX, Dreamweaver MX

2004, and Dreamweaver 8. Dreamweaver 4 users must download and install a special extension, Site Import Export.

Note: The export feature backs up only the site definition. It does not back up your site's files. You have to do that manually!

Exporting Site Definitions in Dreamweaver 4

Dreamweaver 4 doesn't have a native import and export feature. Instead, you have to use a special extension for exporting and importing site definitions.

1 Download and install the Site Import Export extension for Dreamweaver 4/4.01 (http://macromedia.com/cfusion/exchange/index.cfm#view=sn106 &viewName=Exchange%20Search%20)
2 To export a site definition, choose File > Export > Export Site.
3 To import a site definition into Dreamweaver 4, choose File > Import > Import Site. After importing a site definition you must shut down and restart Dreamweaver before the imported site appears in Dreamweaver.

Note: The Site Import Export extension is not compatible with Dreamweaver MX/ MX2004/8. These versions have a built-in export and import feature. Dreamweaver 4 does not recognize STE files used in Dreamweaver MX and later. Therefore, you cannot import a site definition exported from Dreamweaver 4 into a newer Dreamweaver version. However, when you install Dreamweaver MX, Dreamweaver MX2004, or Dreamweaver 8, your existing Dreamweaver 4 and UltraDev site definitions will be imported automatically into the newer version of Dreamweaver. In short, do not uninstall Dreamweaver 4 before installing a newer version of Dreamweaver.

Exporting Site Definitions in Dreamweaver MX/MX 2004/8

To export site definitions in Dreamweaver MX/MX 2004/8, follow these steps:

1 Choose Site > Edit Sites (Dreamweaver MX) or Site > Manage Sites (Dreamweaver MX 2004/8) to access the site manager. Alternatively, in Dreamweaver MX 2004/8, you can also select Manage Sites from the pop-up

list in the Files panel to access the Site Manager (see Figure 1).
2 Highlight the site name you want to export and click Export (see Figure 2).
3 In the Export Site dialog box, Select the "Back up my settings" option and click OK (see Figure 3).
4 Save the SiteName.ste file.

Tip: Use the name of the site for the SiteName so that you can recognize it easily later when you want to import it.

When you export a site definition, Dreamweaver writes the settings into an XML file with an STE extension. Do not change, add, or remove anything in that file!

Importing a Site Definition File

To import a Site Definition file, follow these steps:

1 Open the Manage Sites window.
2 Click the Import button (see Figure 4).
3 Dreamweaver adds a new site name called Unnamed Site 1 to the list. This is a placeholder for the name of the site you want to import (see Figure 5).
4 Navigate to the STE file you want to import, select it, and click OK. It might take a few seconds until your imported site name appears in the list. The imported site's name will replace

Unnamed Site 1.
5 Click Done to save the new extended list and to close the Manage Sites window.

Note: Always use the Done button. Dreamweaver can behave strangely if you leave the Manage Sites window using the X in the upper right corner!

Backing Up the Registry Key (Windows Users)

If you are on Windows and you want to back up all of your site definitions in one single step, export the registry key that contains all of your site definitions and settings.

To export the registry key for your site definitions, follow these steps (Caution: Do not to change, add, or delete anything in the Windows registry!):

1 Select > Start > Execute.
2 Type regedit into the dialog box and click Execute to open the Registry editor.
3 In the left-side window navigate to:
• Dreamweaver 4 users: HKEY_CURRENT_USER\Software\ Macromedia\Dreamweaver 4\Sites
• Dreamweaver MX users: HKEY_CURRENT_USER\Software\ Macromedia\Dreamweaver 6\Sites
• Dreamweaver MX 2004 users: HKEY_CURRENT_USER\Software\
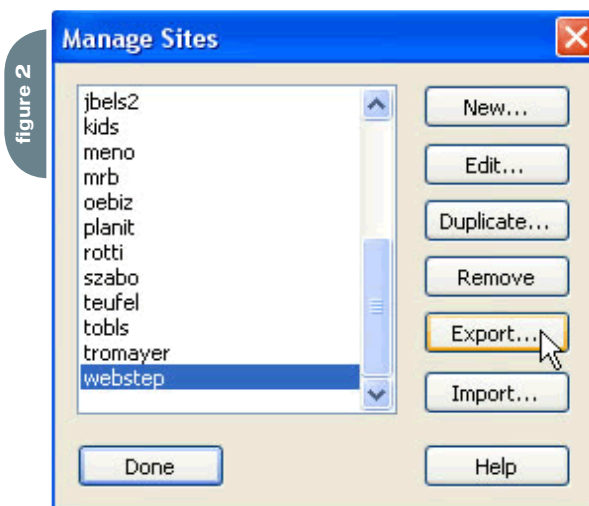
figure 2

figure 3

Macromedia\Common\2004\Sites
- Dreamweaver 8 users:
  HKEY_CURRENT_USER\Software\
  Macromedia\Common\8\Sites

4 Highlight the Sites key (see Figure 6).
5 Select File > Export in the menu bar.
6 Select Selected branch in the Export Range section of the Export Registry File dialog box.
7 Choose a name you can easily remember. (Tip: I always add the month and year to a file's name. For example, sitesDW8_11_05.reg for the sites definition key in Dreamweaver 8, saved in November 2005. This way, I always know when I backed up of the Sites registry key.)

8 Click Save to save your site definitions as a Registration File (*.reg).

To import and restore the Sites key in the registry, follow these steps:
1 Open the Registry editor.
2 Select > File > Import.
3 Go to the folder where you stored your REG file and click Import. The registry editor automatically imports the key to the correct place in the registry.

Alternatively, double-click the REG file. It will be automatically imported to the correct place in the registry.

Note: The imported registry key overwrites the existing key. If you have added new site definitions since you backed up the registry key, you will lose the new definitions. Also, if you removed some site definitions, those definitions will be written to the registry again. To avoid any problems, always back up new site definitions using the export/import feature. To remove site names of sites that you have already deleted from the list, go to the Manage Sites window. Never change anything within the Sites key in the Registry!

Also, do not import old registry keys after installing a newer version of Dreamweaver. The newer version will automatically import the old site definitions.

Backing Up the Site Prefs File in the Sites Folder (Mac users)

On Mac OS X, the site definitions are stored in the preferences. On OS X (as a multi-user OS) there is one Prefs file for the installation, and one for each user using Dreamweaver. Back up the file, which you can find at the following locations:
- Dreamweaver 4 users:
  users/<user>/Library/Preferences/
  Dreamweaver/Preferences
- Dreamweaver MX users:
  users/<user>/Library/Preferences/
  Dreamweaver MX Prefs
- Dreamweaver 2004
  users/<user>/Library/Preferences/
  Dreamweaver MX 2004 Prefs
- Dreamweaver 8 users:

users/<user>/Library/Preferences/
Dreamweaver 8 Prefs

To back up the file, make a back-up copy and store it on a safe place. Do not change, add, or remove anything in that file!

How To Restore Site Definitions

To restore your site definitions, copy the Site prefs file back into the prefs folder.

Note: This will work only if you did not change anything like path to the sites, site names, etc.

Tip: Also on a Mac, the best and safest way to back up site definitions is to use Dreamweaver's export/import feature! In this way, Dreamweaver creates the STE, which you can import into Dreamweaver on other Macs and Windows too.

Where to Go from Here

In this article, you learned how to back up your site definitions in Dreamweaver. For more information, check out the following resources:
- Get Dreamweaver FTP Password feature on my Web site: www.moredw. com/getPW.php
- MM-Exporter: http://mm-exporter. joexx.de/
- Site Import Export extension (for Dreamweaver 4/4.01 users): http:// macromedia.com/cfusion/exchange/ index.cfm#loc=en_us&view=sn106&vie wName=Exchange%20Search%20Deta ils&authorid=60639501&page=0&scroll Pos=0&subcatid=0&snid=sn106&itemn umber=4&extid=157851&catid=0
- Dreamweaver Best Practices: http:// macromedia.com/devnet/dreamweav- er/best_practices.html

Jolantha Belik is the author of Dreamweaver 8 – CSS, Templates, Dynamische Seiten, written in German. She also recorded a Video training on Dreamweaver 8. She runs her own company, jbel's design, in Vienna, Austria. It offers Web site development and software training, especially coaching "woman to woman." Jolantha is a Team Macromedia member and has published several tutorials for beginners at moreDW. www.jbels-design.com
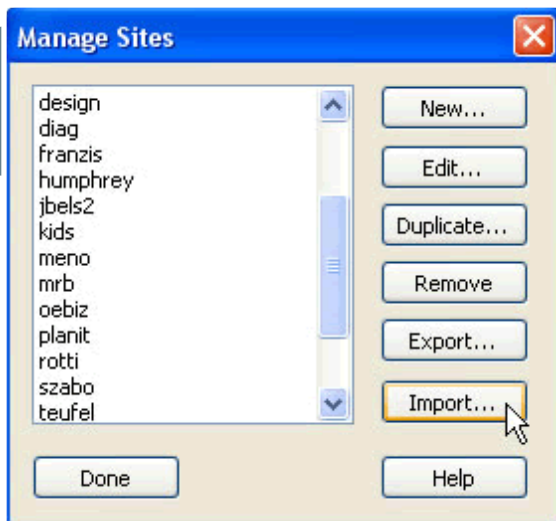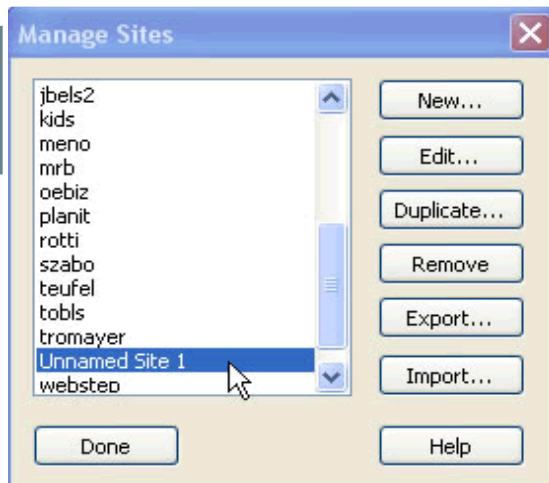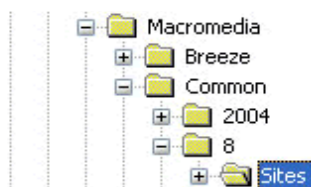
ENGAGE AND EXPLORE...

The Technologies, Solutions and Applications that are Driving Today's Initiatives and Strategies...

CALL FOR PAPERS NOW OPEN!

SOA WebServices Edge 06
10th International
conference+expo

June 2006 | New York, NY

The Sixth Annual SOA Web Services Edge 2006 East - International Web Services Conference & Expo, to be held June 2006, announces that its Call for Papers is now open. Topics include all aspects of Web services and Service-Oriented Architecture

Suggested topics...

> Transitioning Successfully to SOA
> Federated Web services
> ebXML
> Orchestration
> Discovery
> The Business Case for SOA
> Interop & Standards
> Web Services Management
> Messaging Buses and SOA
> Enterprise Service Buses
> SOBAs (Service-Oriented Business Apps)

> Delivering ROI with SOA
> Java Web Services
> XML Web Services
> Security
> Professional Open Source
> Systems Integration
> Sarbanes-Oxley
> Grid Computing
> Business Process Management
> Web Services Choreography

CALL FOR PAPERS NOW OPEN!

2006 ENTERPRISE> OPENSOURCE
CONFERENCE+EXPO

June 2006 | New York, NY

The first annual Enterprise Open Source Conference & Expo announces that its Call for Papers is now open. Topics include all aspects of Open Source technology. The Enterprise Open Source Conference & Expo is a software development and management conference addressing the emerging technologies, tools and strategies surrounding the development of open source software. We invite you to submit a proposal to present in the following topics. Case studies, tools, best practices, development, security, deployment, performance, challenges, application management, strategies and integration.

Suggested topics...

> Open Source Licenses
> Open Source & E-Mail
> Databases
> ROI Case Studies
> Open Source ERP & CRM
> Open-Source SIP

> Testing
> LAMP Technologies
> Open Source on the Desktop
> Open Source & Sarbanes-Oxley
> IP Management

Submit Your Topic Today! www2.sys-con.com/events

***Call for Papers email: jimh@sys-con.com**

Attention Exhibitors:
An Exhibit-Forum will display leading Web services and OpenSource products, services, and solutions

For Exhibit and Sponsorship Information ▸ Call 201 802-3066

Open Source and the Flash Platform

Has open source caught Macromedia off-guard?
by jim phelan

although "Although SWF is not an open standard like SVG, Macromedia has been forthright in making SWF accessible to everyone, even competing software vendors"

In a major repositioning effort in June of 2005, Macromedia unveiled the "Flash Platform."

The conception of Flash, the company had decided, needed to change: Flash had evolved from a tool for designers to an interoperating set of technologies appropriate for web application development. The time had come for Macromedia to abandon Flash's winsome singularity and start talking in terms of solutions rather than products.

The OSFlash Initiative

Around the same time, a group of developers was working to bolster Flash's support as a platform in a different way. The Flash development community had already produced a significant amount of tools that were open source, and it seemed due time to provide a way to centralize and organize those projects.

Aral Balkan, respected Flash developer, author, and instructor, set out to champion such an initiative. With the assistance and support of like-minded developers (in particular Nicolas Cannasse, author of MTASC, and Sonke Rohde) Aral created OSFlash.org (http://OSFlash.org) as a much-needed home for the Open Source Flash development community.

OSFlash was explosive. At this writing, OSFlash is host to more than thirty open source Flash projects. Aside from providing these projects with a place to call home, OSFlash offers project-based mailing lists, project management tools, and

a presence on the OSFlash wiki. OSFlash also provides a general mailing list where developers can commune, brainstorm, and discuss new project ideas.

As the Flash Platform matures, the presence of a dynamic, spirited community of developers could be one of the most important factors in its success. With its Macromedia Labs site (http://labs.macromedia.com), Macromedia has already made a commitment to involving developers in the retooling of Flash as a platform. Undoubtedly, developers will be a major driving force in the Flash Platform's success.

From Open Format to Open Source

The SWF file format, much like Adobe's PDF format, is open. Macromedia publishes its "SWF File Format Specification" with each new version of the format. This document and its accompanying license are intended to "aid in the creation of software which creates SWF files."

Although SWF is not an open standard like SVG, Macromedia has been forthright in making SWF accessible to everyone, even competing software vendors (see: Adobe LiveMotion.) The role of SWF as an open format is undoubtedly a large factor in its success as well as the feasibility of many of the open source solutions in discussion. Thus, we can draw the conclusion that an open format enables open source. The question that remains, however, is: does open source enables the growth of the Flash Platform?

Open source must in some way present itself as a bit of a dichotomy to Macromedia. It's generally accepted that open source solutions foster innovation

and adoption. However, with an open file format and a free player, is it possible that some projects could eventually challenge Macromedia's own role by creating competing tools?

Several projects that provide "alternatives" to Macromedia products come to mind. OpenAMF is an open source alternative to Flash Remoting for Java and started as a port of the more innocuous AMF-PHP. OpenLaszlo employs a similar methodology for creating SWF applications as Flex, and the nascent Red5 project aims to provide a server product which provides some of the same functionality as Flash Media Server. John Grden, Red5's project manager, commented: "We'd like to get the community more involved in the types of features offered by Flash Media Server and make them available to third world countries, non-profits, and others who might not otherwise take a look at Flash. That helps the Flash Platform by getting more developers into the fold of doing these types of applications."

With Macromedia at the helm of the SWF file format and the ActionScript language, it seems unlikely that any of these OS tools could replace the Macromedia offerings. In fact, the vast majority of the open source projects leaders surveyed regarded their projects as complementary rather than competitive. Edwin can Rijkom, author of Screenweaver, went as far as to call Macromedia his "mothership." Even Grden, whose project could be viewed as competitive with Flash Media Server, doesn't believe that his team is building an FMS replacement:

"We're pro Macromedia people; we're not anti Macromedia people by any stretch of the imagination. I don't know

that we'll get their blessing so to speak, but we do hope that they'll see the value and the void that I think it's going to fill."

Darron Schall's view of Macromedia's stance on open source is as follows:

"The momentum behind OSFlash right now is a testament to the growth of the Flash Platform and lets businesses feel more comfortable relying on the Flash Platform… Macromedia overall has been very supportive of open source projects since it helps them establish the Flash Platform in the marketplace. The biggest conflict of interest that I see would be if open source developers were competing with Macromedia on a tool level. That is, I doubt Macromedia would support an open source Flash IDE replacement."

Balkan draws an interesting parallel to the success of Java: "As a platform, Flash has to be more than just a single technology that is tightly controlled by one company. Take, for example, an established platform like Java. The Java VM is not open source and yet Java has probably one of the largest and most active open source communities of any platform. A multitude of servers, frameworks and tools, both open-source and closed-source, co-exists happily in the Java world and there is no reason why they cannot in the Flash world."

Tools like Flashout, ASDT, MTASC, Eclipse, and Swfmill (collectively referred to as FAMES) allow developers to create Flash applications without using any commercial Macromedia tools. Most developers using these tools see them as an enhancement to workflow rather than a replacement for the Flash IDE. Another benefit of such tools might be that they are a "safety net" – an assurance that non-commercial methods exist to create Flash applications.

When asked if open source had the potential to draw developers to the Flash Platform, Balkan replied:

"I know for a fact that the Open Source Flash initiative has attracted non-Flash developers and developers who might not otherwise have considered Flash to the Flash Platform. In fact, at the Open Source Flash Panel at Spark Europe, an engineer from the BBC's Research and Development department told the audi-

ence how their department only allowed her to use Flash for a project after she presented them with the projects on OSFlash and how they have now added Flash to their toolset. This is big: It's an example of how Open Source Flash helps bridge the gap between the Flash world and the greater web development community."

Cannasse also sees open source as an enabler: "I think people need alternatives. Macromedia is very good at focusing on medium and big business, but they can't focus on everything at the same time. When they come up with a solution, it's very difficult to make it financially accessible to everyone. One of our goals is to provide software to those other organizations so they can use Flash where they couldn't before."

Although Macromedia hasn't taken an official stance on many of the Flash-related open source projects, it does seem supportive. OSFlash even hosts the JavaScript Integration Kit, which was authored by none other than Mike Chambers of Macromedia. Tim O'Reilly, founder, chairman, and CEO of O'Reilly Media and a strong advocate of open source, sits on the Macromedia board and describes his role as "bringing Macromedia the open systems/open source perspective."

Round-Up of FlashOS Initiatives

Macromedia, Eclipse and Flex Builder 2

In June of 2005, Macromedia made a commitment to enabling developers to use Eclipse for ActionScript development and joined the Eclipse Foundation. Macromedia's new commercial IDE, Macromedia Flex Builder 2, is built on top of the open source Eclipse platform.

MTASC and ASDT

Two projects which have attracted a lot of attention from the Flash development community are MTASC and ASDT.

MTASC (Motion-Twin ActionScript 2 Compiler) is an open source ActionScript 2 compiler which operates independently of the Flash IDE. When it was released, MTASC gained popularity not only because it was open source, but also

because it could be integrated seamlessly with existing workflow in a way that the Flash IDE could not.

ASDT (ActionScript Development Tool) is a plugin for the Eclipse IDE, enabling developers to create and edit ActionScript files in a way they couldn't before. Because Eclipse is a mature and standard editor, tools like ASDT (and the commercial Eclipse ActionScript plugin, FDT) allow developers to maintain their workflow.

Since MTASC is a command line compiler it can also be integrated with Eclipse, and proves quite useful when used in conjunction with ASDT.

MTASC won't be upgraded for ActionScript 3 support; instead, Cannasse is working on a new language called haXe (http://www.haxe.org).

FlashDevelop

For the developer looking for a straightforward editor, FlashDevelop is an open source solution that offers developers a simple, clean IDE with code completion and highlighting. MTASC can also be integrated with FlashDevelop.

Red5

Since it was conceived of and started in August 2005, Red5 has been one of the most talked-about OSFlash projects. It aims to deliver an open source alternative to Macromedia Flash Media Server (FMS) – formerly Flash Communication Server.

Red5 is currently in version .2, a prototype release. The Red5 team anticipates a 1.0 release by the second quarter of 2006. Currently, Red5 can stream video to the Flash client and has also been used to push a live stream.

RTMP (Real Time Messaging Protocol) is a proprietary messaging protocol developed by Macromedia. RTMP is employed in Flash Media Server, and will also be used for messaging services in Flex Enterprise Services 2. In order to make Red5 work, the Red5 team had to reverse-engineer the RTMP protocol, a process which is explained in detail on the Red5 website.

One thing that's not completely clear to the Red5 team is the legality of creating such a product. Project manager John Grden commented: "As far as legalities of

protecting the actual protocol, we don't have an answer. We've been told that if we're using a protocol for interoperability then we are fine within US law. However, we've been told by Macromedia that they have a right to protect what they've invested in, which would include FMS and RTMP. That doesn't mean that they're threatening us; I think that they're trying to decide what they're going to do. I think one thing that's clear is that they're unprepared for open source, and Red5 has caught them a little bit off guard."

Grden stressed that Red5 was not a "replacement" for Flash Media Server: "FMS has edge and origin servers and tools for enterprise deployments. We have plans for that, but that's beyond 1.0. Right now we're just trying to come out with a server that does the basic things that FMS does."

Frameworks: ARP and Cairngorm

ARP and Cairngorm are two examples of pattern based frameworks for Flash development.

ARP, developed by OSFlash coordinator Aral Balkan, is appropriate for Flash or Flex development. Like Cairngorm and other frameworks, ARP provides a core set of lightweight classes to aid in design pattern based development.

Cairngorm is a framework for Flex application development, and has some commonalities with ARP. Cairngorm was developed by iteration::two (recently acquired by Macromedia). Alistair McLeod, RIA Practice Director (EMEA) at Macromedia and Cairngorm developer, noted that one key benefit of Cairngorm is the employment of accepted patterns. Cairngorm may be especially useful for Java developers who are transitioning to Flex.

"Cairngorm is based upon the design patterns used by Java enterprise developers and this makes it much easier for Java developers to reach across the divide into the Flash platform. We have already seen substantial evidence from clients that this framework has made it much easier for their enterprise Java developers to start working with Flex," said McLeod.

Balkan and McLeod both agree that the choice between ARP and Cairngorm depends on the project and the develop-

ers involved, and that in some cases a framework may not be appropriate at all.

ActionStep Component Framework

ActionStep is a project worth watching. Although not currently in a final release, the ActionStep team has made some interesting accomplishments in creating an open source component framework for Flash.

ActionStep is based on the OpenStep API specification created by NeXT which was later purchased by Apple. Developers familiar with Cocoa or GNUstep will have an easy time picking up ActionStep and diving into Flash development.

ActionStep promises some very exciting features, including layout components, a declarative layout language called ASML (a la MXML, XUL, or XAML), and simplified skinning. The ActionStep team, comprising Scott Hyndman, Richard Kilmer and Ray Chuan, anticipates that a beta release of ActionStep will be available for the New Year.

Screenweaver: Open Source Flash on the Desktop

Screenweaver started as a commercial project, but was later released as an open source project. Currently, Screenweaver 3 can be used to create Windows applications with SWF content.

An interesting development is the Screenweaver 4 project. Screenweaver 4 represents a shift away from the typical "SWF2EXE" approach and instead attempts to provide a toolkit for developers looking to create desktop applications that use Flash for the presentation tier.

On the difference between Screenweaver 3 and Screenweaver 4, developer Edwin van Rijkom comments: "SW3 is aimed at Flash developers who want to create Windows desktop applications using Flash. It does so by bringing Windows operating system functionality to ActionScript. Using this model, all application logic is contained in Flash and written by the Flash developer. At a high level, the SW3 GUI tool also offers several wizards for quickly putting together relatively simple projects like screen savers or small desktop widgets. SW4 is a platform for traditional desktop application programmers who

wish to deploy Flash as a GUI for their application. As a result SW4 consists of a set of libraries these developers can link to. Additionally, the SW4 platform offers tools that manage the workflow between the traditional coder, and the Flash designer/developer that will be responsible for creating the GUI."

Screenweaver 4 is currently in Alpha release.

AFLAX: Flash, Sans ActionScript

Developer Paul Colton recently released a toolkit which supports a technology he calls AFLAX. The AFLAX project provides a small "bootstrap" SWF file which can be interacted with through JavaScript. The project is presumably aimed at AJAX developers who wish to use Flash for the drawing and video without adopting ActionScript into their workflow.

Using the AFLAX toolkit, a developer can instantiate ActionScript objects and create graphical assets using pure JavaScript on the client side. The Aflax.org website provides some compelling examples (most of which are ported from ActionScript examples) that are based completely in JavaScript.

But Wait, There's More

As with any platform, the role of the developer community is essential to the success of the Flash Platform. When we look at the open source community surrounding Flash, we see a dedicated group of developers working incredibly hard to create tools to shape the future of the Flash Platform.

It just isn't possible, in the ambits of a single MXDJ article, to cover all of the great projects that are going on in the open source Flash community right now. For a comprehensive list of these projects, or to get involved, visit the OSFlash.org website.

Jim Phelan is VP of Development at Stream57, a New York City firm specializing in creating Rich Internet Applications for live video events, videoconferencing, and e-learning. Jim, who had been programming since age eight, is an avid enthusiast of Flash and now develops primarily in ActionScript. jphelan@stream57.com

BY NOW THERE ISN'T A SOFTWARE DEVELOPER ON EARTH WHO ISN'T AWARE OF THE **COLLECTION OF PROGRAMMING TECHNOLOGIES KNOWN AS AJAX!**

REAL-WORLD
AJAX
ONE DAY SEMINAR

www.ajaxseminar.com

March 13, 2006

Marriott.

**Marriott Marquis Times Square
New York City**

**For more information
Call 201-801-8022 or
email events@sys-con.com**

REAL WORLD

How, in concrete terms, can you take advantage in your own projects of this newly popular way of delivering online content to users without reloading an entire page?

How soon can you be monetizing AJAX?

This "Real-World AJAX" one-day seminar aims to answer these exact questions...

Led by "The Father of AJAX" himself, the charismatic Jesse James Garrett of Adaptive Path, "Real-World AJAX" has one overriding organizing principle: its aim is to make sure that delegates fortunate enough to secure themselves a place – before all seats are sold out – will leave the seminar with a sufficient grasp of Asynchronous JavaScript and XML to enable them to build their first AJAX application on their own when they get back to their offices.

Jesse James Garrett
Father of AJAX

Scott Dietzen
Creator of WebLogic, Ph.D., President and CTO, Zimbra

Bill Scott
AJAX Evangelist of Yahoo!

David Heinemeier Hansson
Creator of Ruby on Rails

Satish Dharmaraj
Father of JSP, Co-Founder & CEO, Zimbra

Rob Gonda
Best-Selling AJAX Author, CTO, iChameleon Group

Dion Hinchcliffe
Co-founder & CTO, Sphere of Influence Inc.

Ross Dargahi
Well-known AJAX Evangelist & Co-founder and VP of Engineering, Zimbra

Early Bird $995
(Before January 31, 2006)

Discounted Price.. $1,195
(Before February 28, 2006)

Seminar Price $1,295
(After February 28, 2006, and if any seat is available)

HURRY!
LIMITED SEATING
THIS SEMINAR WILL
SELL-OUT
CALL 201-802-3022
TO REGISTER!

Jeremy Geelan

Jeremy Geelan
Conference Chair, Real-World AJAX
jeremy@sys-con.com

MEDIA SPONSOR

ajax developer's journal

LIVE SIMULCAST!
AROUND THE WORLD ON SYS-CON.TV

PRODUCED BY
SYS-CON EVENTS

> "OSFlash and Macromedia have a symbiotic relationship. The existence of a strong, active Open Source Flash community is a primary legitimizing f actor for the Flash Platform"

Aral Balkan
BDFL, OSFlash.org

MXDJ: *What is OSFlash?*

Aral Balkan: OSFlash is home of the Open Source Flash community. It is a watering hole for open source developers to meet, talk about and contribute to new and existing open source projects for the Flash Platform.

Is OSFlash a website or is it an initiative?

AB: It's an initiative, a closely-knit community, a resource and a platform. I see my own role as enabler; providing the tools and resources that our amazing community of developers can use to weave their magic. Most of the time, I just sit back and gaze agape at the virtual sparks of creativity that fly across the vast ether of the Internet only to materialize in exciting new project s, usually within a matter of weeks or months. It is truly an honor to be in the midst of such creative talent.

How do you see the OSFlash / Macromedia relationship?

AB: OSFlash and Macromedia have a symbiotic relationship. The existence of a strong, active Open Source Flash community is a primary legitimizing factor for the Flash Platform. We both believe that the Flash Platform holds amazing promise in the age of Web 2.0 and we are both passionate about seeing the Flash Platform succeed, both today and long into the future.

Why do you write open source software?

AB: Because it is fun! Because there is no bureaucracy involved. Because what you write is immediately useful, both to yourself and to others (it scratches an itch). Because you can see it grow beyond what you could have imagined for it yourself. Because it can help others.

Nicolas Cannasse
Author of MTASC

MXDJ: *What is MTASC?*

NC: MTASC is an open source Actionscript 2 compiler.

What made you decide to invest your time in MTASC?

NC: Well, MTASC is not only a personal project; it's sponsored by my company. We've been using open source tools like PHP and MySQL for years now, and we were able to start a company and do business because these tools were free. It might not have been possible to start our company if we had the expense of licensing commercial software. So, after a few years, we decided it was time to give back to the community and allow other people to do these things using Flash.

Do open source tools like MTASC broaden the reach of the Flash Platform?

NC: I think so. A lot of people are coming and try to use Flash, but they can't because the Flash IDE is not available on Linux. There are a lot of people who are interested in Flash but haven't been able to use it. Now, they can use Flash with open source tools. I think MTASC is popular because it addresses something that was missing. When you have a lot of libraries and source code, you need a fast compiler that supports your workflow.

What about Flex Builder 2 and ActionScript 3? Will MTASC support ActionScript 3?

NC: I won't support Actionscript 3 in MTASC. I'm currently working on another project called haXe which opens a lot of new possibilities. haXe allows you to use the same language everywhere: for Flash, for the server side and for Javascript.

Darron Schall
Application Developer, DarronSchall. com

MXDJ: *What is the one open source Flash project that all Flash developers should be aware of?*

DS: I would say that there are two right now. MTASC is obviously the biggest one as it allows developers to compile to SWF without the need to purchase the Flash IDE. MTASC fits the "traditional" developer workflow better than the Flash IDE, allowing programmers to write code in text files and invoke a command line compiler to spit out a binary.

The other is Red5. This is an open source alternative to Flash Communication Server (now Flash Media Server) that has really made some great strides in the past month. The speed of which the project was organized to when it was "usable" was pretty incredible. It goes to show that when like-minded people focus with a task at hand, much can be accomplished.

What does the open source Flash community have to offer to developers who are not currently building Flash applications?

DS: The Flash Platform offers a "write once run anywhere" model that actually works! Java proclaimed this, but we all know how fast it turned into "write once debug everywhere." Seriously, Flash is everywhere and it's only going to continue growing. Flash is not only cross-platform, but cross-device, ranging from video game consoles to mobile phones to interfaces on digital cameras to running the interface in the new Jaguar XK. The open source community gives developers a compiler in MTASC, a resource injector in Swfmill and an editor in ASDT to allow for deployment on the Flash Platform. I think these are the key projects in winning developers from other languages.

Why is open source important to the Flash Platform?

DS: Oddly enough, it seems most of my "open source Flash" projects fall in the tools category and were created in Java. I've always been jealous at the amount of tools available for other languages and have tried to re-create some of these same tools for ActionScript. Having a good toolset makes it easier for developers to switch, and the more developers using Flash, the better it is for all of us.

Word about Flash is getting out, and in a big way. The new version of Enterprise Architect (version 6) supports Forward and Reverse Code Engineering of ActionScript 2.0. This is huge. It finally puts ActionScript 2.0 on the same level as Java and C#, something I've been trying to push for a long time.

Alistair McLeod
RIA Practice Director (EMEA),
Macromedia

Formerly Technical Director at itera-tion::two

MXDJ: What are Cairngorm and FlexUnit?

AM: Our architectural framework, Cairngorm, is based upon the design patterns used by Java enterprise developers and this makes it much easier for Java developers to reach across the divide into the Flash platform. We have already seen substantial evidence from clients that this framework has made it much easier for their enterprise Java developers to start working with Flex.

Likewise, Java developers are used to unit testing with JUnit. With FlexUnit available to them, they can make themselves at home almost immediately in the Flex environment.

With these two projects, we have found that we can get Java developers up to speed in our consultancy in a matter of weeks, rather than the months it might have taken.

Why are open source projects like Cairngorm and FlexUnit import to the Flash Platform?

AM: With the repositioning of Flash as a delivery platform for enterprise grade applications, developers are becoming used to having access to architectural frameworks such as Cairngorm and unit testing frameworks such as Flex Unit. The community has been able to quickly fill the gaps between the tools provided by Macromedia and in doing so Macromedia has been able to entice more software developers to their platform.

iteration::two was recently acquired by Macromedia and is now Macromedia Consulting. Will that change the role of open source in your organization?

AM: All the consultants we have are passionate about software development, and understand the benefits of open source software. However, we're still finding our feet as Macromedia Consulting, so it's too early to tell.

We can announce, however, that FlexUnit is currently being converted for use with Flex 2 and will be hosted on Macromedia Labs in the near future to work alongside the Flex 2 release that is now in public alpha.

"With the repositioning of Flash as a delivery platform for enterprise grade applications, developers are becoming used to having access to architectural frameworks such as Cairngorm and unit testing frameworks such as Flex Unit"

Flash Animation Learning Guide

Part 1
by jen dehaan & chris georgenes

macromedia Flash Basic 8 and Flash Professional 8 offer several ways to include animation and special effects in your document. For example, you can create tweened animations using the Timeline and Flash workspace, automated Timeline effects (by making selections in a dialog box), or ActionScript code.

To create tweened animations, you create starting and ending frames and let Flash create the animation for the frames in between. Flash varies the object's size, rotation, color, or other attributes between the starting and ending keyframes to create the appearance of movement. You can also create animation by changing the contents of successive frames in the Timeline. You can make an object move across the Stage, increase or decrease its size, change its color or shape, rotate it, and even fade in or out. Changes can occur independently of, or in concert with, other changes. For example, you can make an object rotate and fade in as it moves across the Stage. In frame-by-frame animation, you create the image in every frame.

You have several options when creating tweened animations. You can create traditional frame-by-frame animations (see the section, Creating Frame-by-Frame Animations, http://macromedia.com/devnet/flash/articles/animation_guide_09.html), motion tweens (see Creating Motion Tweens, http://macromedia.com/devnet/flash/articles/animation_guide_05.html), or shape tweens (see Creating Shape Tweens, http://macromedia.com/devnet/flash/articles/animation_guide_07.html).

Timeline effects include animated vector effects such as blur, expand, and explode. This feature makes it easy to animate an object: you can simply select the object and then select an effect and specify its parameters. With Timeline effects, you can accomplish in a few easy steps a previously time-consuming task that required more advanced knowledge of animation.

You can also create an animation by writing ActionScript code, which is sometimes called scripted animation. There are different ways you can script animation: you can write ActionScript to handle all aspects of the animation or you can use prebuilt classes and simpler code to create an animation. Using prebuilt classes makes animating with code quite easy.

Using code to create animations and effects often reduces the file size of your finished application, and can also improve the performance and consistency of the animation itself. At times, ActionScript-based animations might even reduce your workload: code can be faster to write, and it's easy to apply to many instances at once or reuse in other applications. The following sections introduce you to scripted animation fundamentals, animation using the Tween and TransitionManager classes, and integrating animation with both the Drawing API and filter classes.

Note: For more information on filter effects, see the Flash Graphic Effects Learning Guide (http://macromedia.com/devnet/flash/articles/graphic_effects_guide.html).

Requirements

To make this most of this tutorial, you need to install the following software and files: Macromedia Flash Basic 8 or Macromedia Flash Professional 8

Prerequisite Knowledge

A basic knowledge of the Flash user interface.

About Frame Rate and Animation

The frame rate, the speed at which an animation is played, is measured in number of frames per second. A frame rate that's too slow causes the animation to appear jerky; a frame rate that's too fast might negatively affect the animation or use too much of the user's computer

figure 1

MX

processing power. The complexity of the animation and the speed of the computer on which the animation is being played affect the smoothness of the playback. Test your animations on a variety of machines to determine optimum frame rates.

You need to think about frame rate when working with animations because it can affect the performance of your SWF file and the computer that plays it. Setting a frame rate too high can lead to processor problems, especially when you use many assets or use ActionScript to create your animation. However, you also need to consider the frame rate setting because it affects how smoothly your animation plays.

For example, an animation set to 12 frames per second (fps) in the Property inspector plays 12 frames each second. If the document's frame rate is set to 24 fps, the animation appears to animate more smoothly than if it ran at 12 fps. However, your animation at 24 fps also plays much faster than it does at 12 fps, so the total duration (in seconds) is shorter. Therefore, if you need to make a five-second animation using a higher frame rate, it means you need to insert additional frames to fill those five seconds than at a lower frame rate—which raises the total file size of your animation. A five-second animation at 24 fps typically has a higher file size than a five-second animation at 12 fps, depending on your assets and how you are animating the content.

Tip: Because you specify only one frame rate for the entire Flash document, it's a good idea to set this rate before you begin creating the animation.

Note: When you use an onEnter-Frame event handler to create scripted animations, the animation runs at the document's frame rate, as if you created a motion tween on a timeline. An alternative to the onEnterFrame event handler is setInterval. Instead of depending on the frame rate, you call functions at a specified interval. Like onEnterFrame, the more frequently you use setInterval to call a function, the more resource-intensive the animation is on your processor.

Use the lowest possible frame rate that makes your animation appear to play smoothly at runtime because it will help reduce the strain on the end-user's processor. Try not to use a frame rate that's more than 30–40 fps; high frame rates put a lot of stress on processors. Also, do not change the appearance of the animation much, or at all, at runtime.

Finally, especially if you're working with Timeline-based animations, select a frame rate for your animation as early as possible in the development process. When you test the SWF file, check the duration and the SWF file size of your animation. The frame rate greatly affects the speed of the animation.

Creating Keyframes for Animations

A keyframe is a frame in which you define changes in the animation. When you create a frame-by-frame animation, most frames are keyframes. In a tweened animation, you define keyframes at significant points in the animation and let Flash create the contents of the frames in between. Flash displays the interpolated frames of a tweened animation as light blue or light green and with an arrow drawn between keyframes. Because Flash documents save the shapes in each keyframe, you should create keyframes only at those points in the artwork where something changes.

Keyframes are indicated in the Timeline: A keyframe with content on it is represented by a solid circle; an empty keyframe is represented by an empty circle within the frame. Subsequent frames that you add to the same layer have the same content as the keyframe.

To create a keyframe, do one of the following:
- Select a frame in the Timeline and select Insert > Timeline > Keyframe
- Right-click (Windows) or Control-click (Macintosh) a frame in the Timeline and select Insert Keyframe

Tweens are placed on the Timeline. You can also place code that animates instances on the Timeline. The appearance of your animation can differ, depending on the techniques you use to create your animation.

Motion tweens are indicated by a black dot at the beginning keyframe; intermediate tweened frames have a black arrow with a light blue background.

Shape tweens are indicated by a black

dot at the beginning keyframe; intermediate frames have a black arrow with a light green background.

A dashed line indicates that the tween is broken or incomplete, such as when the final keyframe is missing.

A single keyframe is indicated by a black dot. Light gray frames after a single keyframe contain the same content with no changes and show a black line with a hollow rectangle at the last frame of the span .
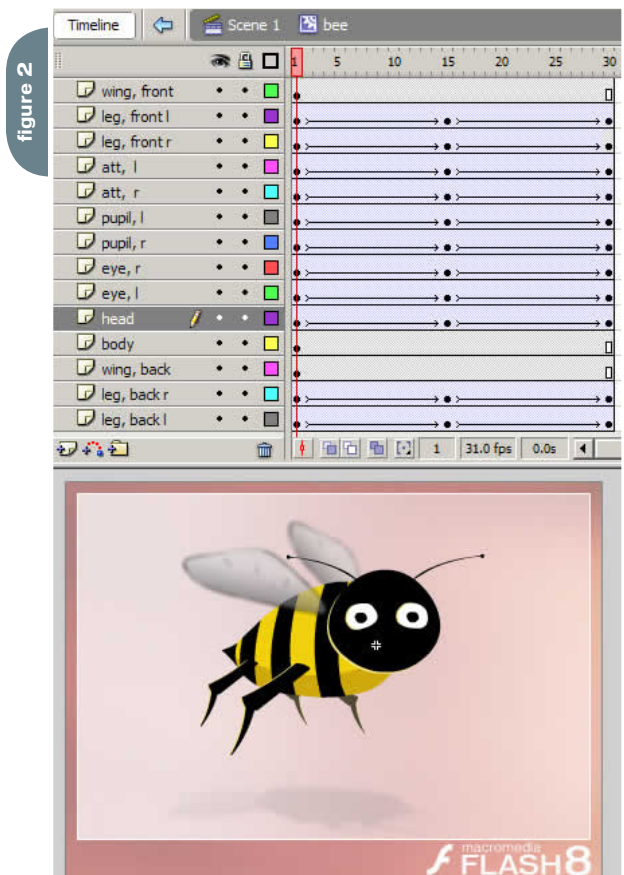
A small a indicates that the frame has frame scripts assigned to it with the Actions panel .

A series of keyframes with a light gray background might indicate a frame-by-frame animation.

A hollow circle represents a blank keyframe, and white frames represent frames with no content. This frame begins a section with no content on the layer. For example, if you have an instance that blinks on a layer, you might insert blank keyframes where you do not want the instance to appear.

Creating Tweened Animations

Flash can create two types of tweened animation: motion tweening and shape tweening.

figure 2

In motion tweening, you define properties such as position, size, and rotation for an instance, group, or text block at one point in time, and then change those properties at another point in time. After you do so, you can apply the motion tween between those two frames. Flash automatically creates the movement between the first and second point in time. You can also apply a motion tween and assign a path for it to follow. For more information on motion tweens, see the next section, Creating Motion Tweens.

In shape tweening, you draw a shape at one point in time, and then change that shape or draw another shape at another point in time. Flash interpolates the values or shapes for the frames in between, thus creating the animation. The shape morphs from the first shape into the second shape. For more information on shape tweens, see the later section, Creating Shape Tweens.

Note: To apply shape tweening to groups, instances, or bitmap images, you must first break these elements apart (Modify > Break Apart). To apply shape tweening to text, you must break the text apart twice to convert the text to objects.

Tweened animation is an effective way to create movement and changes over time while minimizing file size and development time. In tweened anima-

tion, Flash stores only the values for the changes between frames. To quickly prepare elements in a document for tweened animation, distribute objects to layers (Modify > Timeline > Distribute to Layers).

Creating Motion Tweens

To tween the changes in properties of instances, groups, and type, you use motion tweening. Flash can tween position, size, rotation, and skew of instances, groups, and type. Additionally, Flash can tween the color of instances and type, creating gradual color shifts or making an instance fade in or out. To tween the color of groups or type, you must make them into symbols.

If you apply a motion tween and then change the number of frames between the two keyframes, or move the group or symbol in either keyframe, Flash automatically tweens the frames again.

You can create a motion tween using one of two methods:
- Create the starting and ending keyframes for the animation and use the Motion Tweening option in the Property inspector.
- Create the first keyframe for the animation, insert the number of frames you want in the Timeline, select Insert > Timeline > Create Motion Tween, and

move the object to the new location on the Stage. Flash automatically creates the ending keyframe.

The animation has several layers. All of the assets of the bee are within a movie clip. Therefore, you can animate the instance on the main Timeline. Inside the instance, some elements (such as the wings) are movie clip instances with nested animations. The wings contain frame-by-frame animations.

When tweening a position, you can make the object move along a nonlinear path. To create a motion tween using the Motion Tweening option:

1 Create a new file and call it motiont-ween.fla.
2 Select Frame 1 of Layer 1. This is where the animation will start.
3 Create a graphic with the Pen, Oval, Rectangle, Pencil, or Brush tool. Select it and then choose Modify > Convert to Symbol.
4 In the Convert to Symbol dialog box, make sure the Movie Clip option is selected and then click OK. Now the graphic you created is an instance on the Stage (with a symbol in the Library).
5 Select Frame 10 on Layer 1 and then press F6 to create a second keyframe. This is where the animation will end.
6 Select your instance on the Stage at Frame 10. Do any of the following to modify the instance:
   - Move it to a new position on the Stage.
   - Modify the item's size, rotation, or skew using the Free Transform tool.
7 Click any frame in the tween's frame span (for example, select Frame 5 of Layer 1) and select Motion from the Tween pop-up menu in the Property inspector (Window > Properties > Properties).
8 With the frame still selected, drag

figure 3

Replay

macromedia
FLASH 8

the arrow next to the Easing value in the Property inspector (Window > Properties > Properties) or type in a value to adjust the rate of change between tweened frames.

Note: By default, the rate of change between tweened frames is constant. Easing creates a more natural appearance of acceleration or deceleration by gradually adjusting the rate of change.

9 To rotate the selected item while tweening, select an option from the Rotate menu:

   • Select None (the default setting) to prevent rotation
   • Select Auto to rotate the object once in the direction requiring the least motion
   • Select Clockwise (CW) or Counterclockwise (CCW) to rotate the object as indicated, and then enter a number to specify the number of rotations

Note: The rotation in Step 9 is in addition to any rotation you applied to the ending frame in Step 6.

10. `Select Control > Test Movie to test the animation.

Applying Easing and Custom Ease-in and Ease-out to Motion Tweens

The term easing refers to gradual acceleration or deceleration during an animation, which helps your animations appear more realistic. Easing creates a more natural appearance of acceleration or deceleration by gradually adjusting the rate of change.

To produce a more realistic sense of motion, you can apply easing to the motion tween you create. Flash provides two methods by which you can apply easing to a motion tween: You can specify an easing value for each motion tween you create using the Ease slider, or you can use the Custom Ease In/Ease Out dialog box (Flash Professional only) to control the speed of the motion tween more precisely.

To apply regular easing to a motion tween:

1 Create a new file and call it motio-nease.fla.
2 Select Frame 1 of Layer 1. This is where the animation will start.
3 Create a graphic with the Pen, Oval, Rectangle, Pencil, or Brush tool. Select it and then choose Modify > Convert to Symbol.
4 In the Convert to Symbol dialog box, make sure the Movie Clip option is selected and then click OK. The graphic you created is an instance on the Stage (with a symbol in the Library).
5 Select Frame 10 on Layer 1 and then press F6 to create a second keyframe. This is where the animation will end.
6 Select your instance on the Stage at Frame 10. Do any of the following to modify the instance:

   • Move it to a new position on the Stage.
   • Modify the item's size, rotation, or skew using the Free Transform tool.

7 Click any frame in the tween's frame span (for example, select Frame 5 of Layer 1) and select Motion from the Tween pop-up menu in the Property inspector (Window > Properties > Properties).
8 With the frame still selected, drag the arrow next to the Easing value in the Property inspector (Window > Properties > Properties) or type in a value to adjust the rate of change between tweened frames:

   • To begin the motion tween slowly and accelerate the tween toward the end of the animation, drag the slider up or enter a negative value between –1 and –100.
   • To begin the motion tween rapidly and decelerate the tween toward the end of the animation, drag the slider down or enter a positive value between 1 and 100.

Note: By default, the rate of change between tweened frames is constant. Easing creates a more natural appearance of acceleration or deceleration by gradually adjusting the rate of change.

9 Select Control > Test Movie to test the animation. The SWF file shows regular easing (the top bee) and customized easing (the bottom bee). The vertical line that animates from left to right has no easing applied.

Custom easing enables you to control these elements through an intuitive graph that provides independent control over the position, rotation, scale, color, and filters used in a motion tween. When you create a motion tween and then select it in the Timeline, you can click a button labeled Edit to customize the motion tween.

The Custom Ease In/Ease Out dialog box displays a graph representing the degree of motion over time. Frames are represented by the horizontal axis and the tween's percentage of change is represented by the vertical axis. The first keyframe is in the animation is at 0% and the last keyframe is at 100%. The rate of change of the tweened instance is shown by the slope of the graph's curve. If you create a horizontal line (no slope) on the graph, the velocity is zero; if you create a vertical line on the graph, there is an instantaneous rate of change.
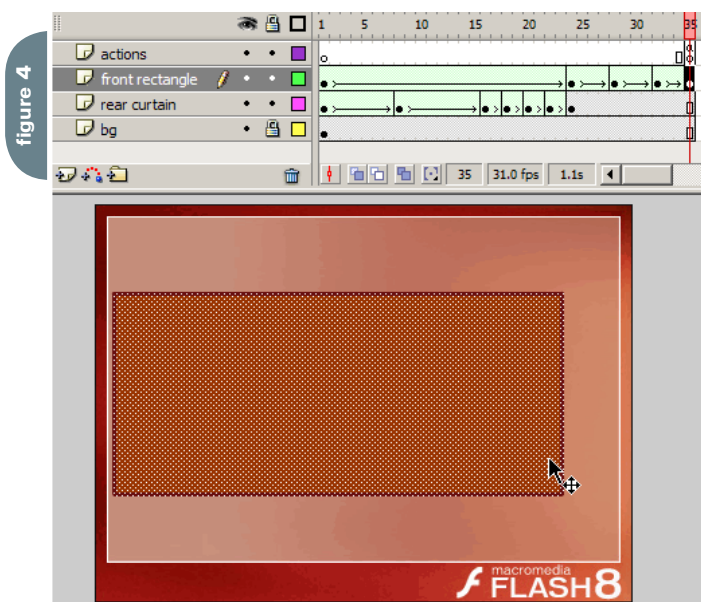
figure 4

To open the custom easing dialog box:

1 Create a motion tween, as described in the first example in this section.
2 Click any frame in the tween's frame span and select Motion from the Tween pop-up menu in the Property inspector (Window > Properties).
3 Click the Edit button (next to Ease) in the Property inspector to open the Custom Ease In/Ease Out dialog box.

The dialog box provides the following additional controls:

• Use One Setting for All Properties check box: The default value for this is selected, which means that the displayed curve is used for all properties and the Properties pop-up menu is disabled. When the check box is not selected, the Properties pop-up menu is enabled and each property has a separate curve defining the velocity of that property.
• Property pop-up menu: This menu is enabled only when the Use One Setting for All Properties check box is not selected. When enabled, a separate curve is maintained for each of the five properties appearing in the menu. Selecting a property in the menu displays the curve for that property. The properties are as follows:
• Position: Specifies custom ease settings for the position of an animated object on the Stage.
• Rotation: Specifies custom ease settings for the rotation of an animated object. For example, you can fine-tune how quickly or slowly an animated character turns around to face the user on the Stage.
• Scale: Specifies custom ease settings for the scale of an animated object. For example, you can customize the scale of an object more easily so it appears

to be moving away from the viewer, then coming closer, and then moving away again.
• Color: Specifies custom ease settings for color transitions applied to an animated object.
• Filters: Specifies custom ease settings for filters applied to an animated object. For example, you can control the ease setting of a drop shadow that simulates a change in the direction of a light source.
• Play and Stop buttons: These buttons enable you to preview an animation on the Stage using all the current velocity curves defined in the Custom Ease In/Ease Out dialog box.
• Reset button: This button enables you to reset the velocity curve to the default, linear state.
• Position of the selected control point: In the lower-right corner of the dialog box, a numeric value displays the keyframe and position of the selected control point. If no control point is selected, no value appears.

To add a control point to the line, click the diagonal line once. This adds a new control point to the line. By dragging the positions of the control points, you can achieve a precise degree of control over the motion of an object.

Using frame indicators (represented by square handles), you click where you want an object to slow down or speed up. Clicking the handle of a control point (the square handles) selects that control point and displays the tangent points on either side of it. Tangent points are represented by hollow circles. You can drag the control point or its tangent points with the mouse or you can position them using the keyboard's arrow keys.

Tip: By default, the control points snap to a grid. You can turn off snapping by

pressing the X key while dragging the control point.

Clicking an area of the curve away from any control points adds a new control point to the curve at that point without changing the shape of the curve. Clicking away from the curve and control points deselects the control point that is currently selected.

– Part 2 is in the next issue (MXDJ 3-12)

Streamlining Application Development Using Struts in ColdFusion MX

Saving time with Struts
by steve belt

although earlier versions of ColdFusion supported Java objects and servlets to some degree, ColdFusion MX does so in a big way. This support opens up commercially available libraries to ColdFusion developers that were previously only available to J2EE shops. Moreover, you can now draw from an immense library of free code from within the Java open-source community. This availability greatly enhances the features of your own applications and speeds your ColdFusion-based solutions to market. Use these objects to provide back-end processing or user-interface functionality, or simplify coding CFM pages by supplementing ColdFusion functions and tags with Java TagLibraries.

Of particular note is how ColdFusion MX hosts and runs the Apache Jakarta Project's Struts Action servlet. By implementing Struts, ColdFusion MX offers a Model-2 Model-View-Controller (or MVC) environment for ColdFusion applications. This article is based on an implementation that uses ColdFusion MX Enterprise Edition on a Windows server. ColdFusion MX Enterprise Edition includes an embedded J2EE server based on Macromedia JRun. In addition to hosting ColdFusion pages, Enterprise Edition can host JSPs and servlets. This article is also applicable to users running ColdFusion on third-party application servers, although directory and filenames will vary somewhat.

First I give a brief description of my recent project, which shows how Struts and other Java objects provided a time-saving solution to a ColdFusion project. Next I explain MVC architectures so that you can define the role that Struts plays in your application's architecture. Then you learn how to transition your own

development into a Struts framework. Finally I give you a sample application to help you get started using Struts in your own environment. (Code for this article can be downloaded from http://macromedia.com/devnet/coldfusion/articles/struts.html.)

Background: Saving Time with Struts

My Company: I work for a firm that creates websites and web applications for a wide range of businesses. We support many technologies, including Java and ColdFusion. On Java projects, we capitalize on open-source projects to speed solutions to market. Over the years, we have accumulated a large library of Java applications, objects, and services.

In the Java arena, we have adopted the Struts framework for our web services. By using Struts to implement a true Model-2 MVC architecture, we can split work among our various groups. Our layout group is fluent in designing dazzling layouts using Macromedia Flash. Our business managers design conceptual business objects and workflow. Our developers use Struts to create in code the objects and flow described by the business managers. While the members of each group have great talents in their assigned areas, they require a cursory understanding of the others' ingredients to a web-based application.

Our Client: One recent client was an internal ColdFusion development shop for a large association of plastic surgeons. Their task was to create web-based services for their membership. The members use these services to promote their private practices to the public. The success of these developers is measured by the

number of referrals that are driven by the website to the doctors' private practices. To do this, the association strives to be a clearinghouse from which potential patients can find the best doctor for their needs.

They run their website on Windows servers running ColdFusion MX Enterprise Edition. (They also happen to run CommonSpot, a content management package from PaperThin. They often import ColdFusion pages into CommonSpot for consistency with the rest of the site. However, CommonSpot integration is beyond the scope of this article.)

The Project: We had to create private photo galleries that users could access from a doctor's personal page. Doctors publish their most successful procedures using before-and-after photographs along with a description of the procedure. The reason for this is so that the public will view these images and be encouraged to contact the doctor's office for a consultation.

In addition, the association wanted to offer a general-purpose gallery to the public. By drawing customers to the site, the association would lead patients to a doctor's private page and hopefully generate a referral. This general gallery would be a subset of the best examples found among the members' private galleries.

This project offered us many challenges. First of all, the images were categorized by procedure, each of which had a unique HTML form to describe the patient, treatment, and results of the surgery. This form needed to be converted into a descriptive paragraph suitable for public viewing. Some form of template-technology would be required for that conversion.

Second, the images submitted by the members were typically simple downloads from a digital camera. These images came in various dimensions and resolutions and needed to be resized to standard dimensions before being stored on the servers. Additionally, photos needed to be watermarked with some sort of copyright text so discourage web surfers from appropriating them for their own uses.

Third, we needed to build in all the sorts of features you expect to find in a good online photo-gallery service: grouping, indexing, filtering, and so on.

The ColdFusion and Struts Solution: As with any business, competitive concerns and published timelines required our client to roll out these new services quickly and reliably. The services also needed to match the look and feel of the rest of the website. In addition, the workflow was still being "worked out" as development began.

By using Struts, we enjoyed all the benefits of MVC architecture: Our layout team started designing the pages that reflected the look and feel of the existing ColdFusion MX site while our developers created the Beans that maintained the photo gallery pages. They also started building the generic structures for the procedure forms. We created and modified the process flow through simple modifications to the Struts configuration file, and each team created independent timelines and contributed pieces to the project as they became available.

Java object support proved to be a great timesaver. In our private libraries, we already had a Java object that used the Graphics2D class to quickly complete the image-modification features. We implemented Apache Velocity (http://jakarta.apache.org/velocity/)to create the paragraph templates in record time. From an earlier contract, we already had a skeleton Struts service for creating a website

photo gallery. In all, ColdFusion's support for Java and Struts allowed us to reuse code and work in parallel, effectively halving the time to complete the job.

(In all fairness, Macromedia technologies alone could have solved most of our requirements. ColdFusion pages, ColdFusion components, and Macromedia Flash components offer all the functionality we required. However, the ability to reuse open-source code, not to mention mine our private libraries, motivated many of our choices.)

Examining the Struts Framework's Usefulness

To understand what Struts is, it helps first to review the terms defining the Model-View-Controller (MVC) approach to application development (see Figure 1). When creating an application, the Model represents the information—the logic—that connects the information. To a Java developer, these roles are implemented by the storage media (such as database tables or data files) and the Beans that maintain them. To a ColdFusion developer, the model is supported by ColdFusion components and data sources.

The View is the interface used to present the model to users, or obtain input to maintain that model. To a web developer, this View is passed between web browsers and web servers as HTML pages and HTTP requests. Java developers create this interface using JavaServer Pages (JSPs), HTML, and JavaScript. ColdFusion shops use ColdFusion Pages (CFMs), HTML, and perhaps some JavaScript.

The Controller is responsible for directing traffic between and among the Model and View objects. As the View submits information, that information is passed to the Controller, which implements the proper Model object for manipulating or storing the data. The Controller might invoke a new View to provide user feedback on the Model's

success or failure to process that information. Likewise, when the View requests information, the request is submitted to the Controller. The Controller calls the necessary Model(s) to get the information and then passes that information to an appropriate View object for display. How—or perhaps I should say where—this Controller function is implemented is what differentiates Model-1 and Model-2 implementations of the MVC design.

A full description of Model-1 and Model-2 MVC implementations can be found in Designing Enterprise Applications with the J2EE Platform, Second Edition by Inderjeet Singh, Beth Stearns, Mark Johnson, and the Sun Microsystems Enterprise Team. This book explains that in a Model-1 architecture, application flow is determined by the links embedded in the JSP or CFM pages; whereas in a Model-2 architecture, a servlet (Controller) is placed between the web pages (the View) and the business objects (the Model) to determine program flow.

So now with all that behind us, we can define Struts as follows: Struts is an implementation of the Controller functionality in a Model-2 MVC architecture.

The next logical question to ask is how do you apply these various roles of MVC architecture to the ColdFusion MX environment? And which – if any – of these architectures is appropriate for your project?

Applications created using JSP or CFM pages have a tendency to embed some of the business logic within the current page. Although it's possible to separate logic from Views, which are later combined using includes, it's not uncommon for developers—especially during the final hours of development—to embed small pieces of logic in the View layer. What's more to the point is that the command richness of both JavaServer Pages and ColdFusion MX allows developers to break rules. Because these types of applications are considered non-MVC

I work for a firm that creates websites and web applications for a wide range of businesses. We support many technologies, including Java and ColdFusion.

conforming designs, they do not perform well over heavy loads. Non-MVC applications are perhaps most appropriate for prototypes and small-scale applications.

By using CFMs, which call the business logic defined in ColdFusion Components (CFCs), ColdFusion MX offers a Model-1 MVC architecture. This approach separates the business logic so that business objects can be reused by several areas of an application, or among different applications. Additionally, components can be spread among servers to distribute the processing burden among several CPUs. However, in a Model-1 architecture, application flow is still embedded in the CFM pages, which makes for difficult refactoring and logic reuse.

When you add Struts to a ColdFusion MX environment, you can say that ColdFusion MX supports the creation of a true Model-2 implementation of the MVC design pattern. We could create the Model-2 architecture by creating CFCs that serve the Controller function, but with Struts implementing the architecture is plugged-in rather than hard-coded. This means that business logic and the screens in front of them can be reused by different applications. This design also scales well to support heavy traffic, creates reusable components, and allows parallel tasks in projecting timelines.

From the programmer's perspective, Struts is the traffic cop between and among Views (JSPs and CFMs) and Models (Beans and CFCs). It therefore provides methods for accepting data and passing it to Model objects. It also provides the Model object with destinations to which control should be passed after processing. Each object uses values placed in the various scopes (request, session, or application) to share information and results.

Perhaps if we follow a form submission through the processes you will better understand what Struts does to the process by acting as the "Controller" of our Model-View-Controller architecture. You will see that this approach is quite different compared to other design architectures.

Start with a HTML form sitting in a user's web browser. If we look at the page source, we see that the form's action attribute is something similar to "action=/do/processIt". The user submits this form to the ColdFusion MX server.

The ColdFusion MX server has been set up so that all URLs of the form "/do/*" are redirected to Struts by the Struts Action servlet. This effectively passes the HTML form to Struts, which compares the remainder of the URL (the "/processIt" part) to its mapping definitions to select which Model will be passed the information. To help things along, Struts first loads the form data into a Bean so that the Model can use simple getter and setter methods to process the information.

When processing is complete (typically new information has been stored in the request or session scope), the model tells the Controller which of its possible forwards should be passed the request object (e.g., "I was successful, so forward to a success View" or "I failed, so forward to a please-try-again View"). The Controller then passes the session – with all its values placed in the request and session scopes – to the next Model for further processing, or the next View for presentation.

This map among Models and Views is stored in a configuration file (called struts-config.xml), which Struts reads when it's initialized. Because this information can be changed and reloaded, the application flow can be changed without having to rewrite Model or View components. It is this aspect of Struts that allows developers, page designers, and business-process designers to work and update a project independently and in tandem.

Applying the Struts Framework to Your Application

Thanks to ColdFusion MX and Struts, you can plug in Java or ColdFusion technologies into either (or both) the Model or View layers of your MVC architecture. The Model can be provided by ColdFusion Components or JavaBeans and Java objects. The View can be provided by ColdFusion pages or JavaServer Pages. By allowing you to choose technologies, ColdFusion MX and Struts offer you a wide range of resources to assemble an overall solution.

ColdFusion MX is happy to share its environment with Java servlets, and Struts is no exception. The Struts classes, along with its supporting libraries, can be placed in the server's /lib folder, and mappings created using web.xml. You can then add classes and Struts-configuration files to the /lib folder for your specific application.

figure 1

MX

Using <cfobject> tags you can access Java classes and Beans in ColdFusion pages and CFCs. GetContext() allows the CFM pages to pass information from and to servlets and JSPs. Terry Ford's excellent article, "Using Java and J2EE Elements in ColdFusion MX Applications," describes the interaction between Java objects and ColdFusion MX pages.

If you are already familiar with using Struts TagLibraries (a.k.a. "taglibs") in JSPs, you will find that your CFMs can look just like your JSPs; the only apparent difference lies in the import lines at the top of the page. Additionally, taglibs are compatible with CFMs. Struts taglibs offer a quick and easy way to embed Struts-maintained objects and values into your pages and forms. Check out the left navigational links on the Java Struts site to view the different taglibs documents for more information.

Struts includes one less-talked-about functionality called Tiles, which allows you to combine Struts views using a runtime configuration file (tiles-def.xml in the /WEB-INF folder). With Tiles you can reuse Views (CFMs or JSPs) among projects and customers, each with its own branding. Tiles also allows the developer of View objects to concentrate on the functionality of the View and not worry so much about visual customizations. Like the Views themselves, the templates employed by Struts Tiles can be CFM- or JSP-based.

An important conclusion that you (and the Java development company) should reach from all this is that by deploying a Struts application in a ColdFusion MX environment you make use of your most important asset: your existing development team. By removing the boundaries between Java and ColdFusion, ColdFusion MX has provided a rich set of functionality and an abbreviated development cycle.

Deploying the Sample Application

If you are like me, you learn more from working in code than from reading manuals. Let's create a sample application using Struts on your ColdFusion MX server. This example is meant to demonstrate a Struts application in ColdFusion. It is not intended to demonstrate an example of a model Struts application. (Of course, it is not meant to be deployed in a production environment either.)

I could have used Struts Tiles to lay out the screens – Tiles is truly worth getting to know – however, to keep this example as simple as possible, I have left Tiles out of the scenario.

You are welcome to follow along and cut and paste the code below to create, compile, and deploy this sample application yourself. Otherwise, download the resource file cf_struts-files.jar (2 MB), which includes all the code and libraries you need to test the application on your own ColdFusion MX server.

Here is the scenario. We need to create a login framework for our website. The user opens the home page. While the user isn't logged in, the left column displays a "please log in" form. Meanwhile, the main window shows a welcome-to-our-site-please-log-in screen. Once the user logs in, the left column displays a menu and a logout link. At this time the main window displays the welcome screen.

As you transition from ColdFusion to Java, there are a few differences to be aware of. First, remember that Java is case-sensitive. Capitalization must be maintained among object names, configuration files, variable references, and even URLs. Also, when you are using the Struts taglib, it is useful to reference a local variable whose value was set using the GetContext() call. (You can see an example of this in view.cfm below.) Finally, get comfortable with the DevNet

discussion groups – especially the "Using Java with ColdFusion" forum and archive, as it is very useful in solving issues.

When you debug your application, it is always useful to inspect the application server logs in addition to the ColdFusion logs. In the case of ColdFusion MX Enterprise, these logs reside in [CfusionMX]/runtime/logs/. Often you will find complete stack traces for errors, which may appear as a single phrase in the application's output.

Libraries: You will need to add the following JAR files in your [CfusionMX/wwwroot]/WEB-INF/lib folder (if this folder does not already exist, then create it): [Get this table from the following URL, please: http://macromedia.com/devnet/coldfusion/articles/struts05.html#running]

Struts TagLibraries: TagLibrary Definitions (also called TLDs) are within the struts.jar that you added to the /lib folder. Extract the files with the .tld extension into the [CfusionMX-wwwroot]/WEB-INF/lib folder. The specific filenames are struts-bean.tld, struts-html.tld, struts-logic.tld, struts-nested.tld, struts-template.tld, and struts-tile.tld.

Session Vars: In the ColdFusion MX configuration console, enable session variables using J2EE.

Web.xml Mapping: Struts is based on a servlet called Action that's part of the struts.jar you added to the /lib folder above. The web.xml file (see Listing 1) tells ColdFusion MX about your servlet and how to process the URLs that call it.

Creating the Bean: A small Bean (see Listing 2) tracks the user's full name, username, and password. In a real-world deployment, there would likely be many more attributes, as well as password encryption, but the goal here is to keep things simple.

Struts Action Form: The Action Form (see Listing 3) defines the data elements

being passed between the Action and the View. It is defined by extending the org. apache.struts.action.ActionForm class.

Struts Action(s): The Struts Action implements or invokes the model business logic. For this example, the logic has been coded directly into the Action; in a typical deployment, the business logic would be separated into separate business classes. This class is created by extending the org.apache.struts.action.Action class. When Struts loads the Action, it looks for and runs the execute(...) method.

LoginUserAction (see Listing 4) checks the username and password. If they exist, the user's full name is placed in the request scope. Based on the success of the username/password lookup, the Controller calls the next appropriate View. LogoutUserAction (see Listing 5) removes the full name from the request scope and tells the Controller to return to the next View.

The CFMs: These ColdFusion pages provide the displays and forms. As such, they play the role of the View in the Model-View-Controller architecture. Note the uses of the Struts TagLibraries in the pages: Although you could have used straight ColdFusion tags, Struts taglibs will greatly simplify the next (and hopefully more complex) Struts application you build.

Login.cfm (see Listing 6) is the page users see when first coming to the site. In our example, it is only meant to indicate that they haven't logged in yet. If users provide an invalid username/password combination, they will be returned to this page to try again. Welcome.cfm (see Listing 7) indicates that users have successfully logged in.

Struts-config.xml: As it loads, the Struts servlet reads the struts-config. xml file (see Listing 8) that determines which action should be called based on the HTTP-posts made to the Controller. Note how login.cfm creates a form where action="loginUser". Struts looks for the mapping named "/loginUser" to select an action (in this case, LoginUserAction). In turn, that action uses the defined for-

wards to select where control is passed for further processing or viewing.

Application Data File: The data file ([CfusionMX/wwwroot]/WEB-INF/classes/ accounts.dat) comes in the .ini format. The attributes are valid user names and their values are the password and full name separated by a colon, as shown below. The application looks for this in the root of the class path (e.g., the /WEB-INF/classes/ folder):

```
steveb = opensesame:Steve Belt
joes = please:Joe Schmoe
```

Running the Sample Application

Once you have everything compiled and installed, you are ready to access the application. Using your web browser, reach your ColdFusion MX server using a URL similar to this:

```
http://localhost:8500/do/welcome
```

This should present you with the login.cfm page we just created. You may have noticed that we defined a default username and password when we created login.cfm. Certainly you would never do this in a real application but for this demo it makes testing and retesting the application quicker. When you click the Submit button you should see the welcome.cfm page and when you click the Logout link you should return to login.cfm.

I hope this article gives you enough groundwork to begin using Struts in your own projects. From a business perspective, using Struts gives you an architecture that creates reusable products. Because Struts in ColdFusion MX is extremely similar to a pure-Java environment, you can use your existing teams to develop applications. And because of the separation of business, data, and layout disciplines, you can overlap project timelines to get your application to market more quickly.

From a technical perspective, you should be ready to create your own applications. Whether you prefer CFMs or JSPs,

you can bring your current skills to the task of creating a Struts-on-ColdFusion MX solution. While the demo application I described in this article is little more than a "Hello World" example, it should give you what you need to get started.

Resources

- Java in ColdFusion MX by Terry Ford (DevNet)
- Jakarta Struts, Apache Software Foundation
- Designing Enterprise Applications with the J2EE Platform, Second Edition
- Husted, Ted, Cedric Dumoulin, George Franciscus, David WinterFeldt, Struts in Action (Greenwich, CT: Manning Publications, 2003; ISBN: 1-930110-50-2)

Steve Belt is a senior software developer for BrowserMedia, LLC, where he develops innovative software solutions for associations and finds new ways to use the Internet to make their lives easier. Before joining BrowserMedia, Steve led the development of several web-enabled tools and services used in the bioinformatics industry. Steve also participates heavily in several Java open-source projects.

"Because Struts in ColdFusion MX is extremely similar to a pure-Java environment, you can use your existing teams to develop applications."

```
found, the fullname
        is returned; if there was an error loading the properties,
"error" is returned;
        otherwise, null is returned */
    private static String getUser(String username, String password){
        InputStream propertiesStream = LoginUserAction.class.getRe-
sourceAsStream("/accounts.dat");
        if ( propertiesStream == null )
            return "error";
        Properties props = new Properties();
        try {
            props.load(propertiesStream);
        } catch (IOException e) {
            System.out.println("[PropertiesFile.getProperty()] ERROR:
");
            e.printStackTrace();
            return "error";
        }
        String userRec = props.getProperty(username);
        if ( userRec == null || userRec == "" )
            return null;
        else {
            StringTokenizer st = new StringTokenizer(userRec);
            if ( password.equals( st.nextToken(":").trim() ) )
                return st.nextToken(":").trim();
            else
                return null;
        }
    }
}
```

**Listing 5: The Logout user action (com\macromedia\article\actions\
LogoutUserAction) removes the full name from the request scope and tells the
Controller to return to the next View.**

```
package com.macromedia.article.actions;

import java.io.IOException;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import org.apache.struts.action.Action;
import org.apache.struts.action.ActionForm;
import org.apache.struts.action.ActionMapping;
import org.apache.struts.action.ActionForward;

public class LogoutUserAction extends Action
{
    public ActionForward execute(ActionMapping mapping,
                                 ActionForm form,
                                 HttpServletRequest request,
                                 HttpServletResponse response)
        throws IOException, ServletException
    {
        request.setAttribute("fullName", null);
        return mapping.findForward("success");
    }
}
```

**Listing 6: This is the page ([CfusionMX/wwwroot]/cfm/login.cfm) that users
see when first coming to the site. It indicates that they have not yet logged in.
If the username/password combination is invalid, users are returned to this
page to try again.**

```
<cfapplication name="action" sessionmanagement="yes">
<cfimport taglib="/WEB-INF/lib/struts-html.tld" prefix="html">

<cfset LoginForm= getPageContext().getRequest().getAttribute("LoginFo
rm")>

<html:html/>
<html:form action="loginUser.do">
 username: <html:text value="steveb" name="LoginForm"
property="userBean.username"/><br>
 password: <html:password value="opensesame" name="LoginForm"
property="userBean.password"/><br>
 <html:submit value="submit"/>
</html:form>
```

**Listing 7: This page ([CfusionMX/wwwroot]/cfm/welcome.cfm) indicates that
the user has successfully logged in.**

```
<cfapplication name="action" sessionmanagement="yes">
<cfimport taglib="/WEB-INF/lib/struts-html.tld" prefix="html">

<cfset fullName= getPageContext().getRequest().getAttribute("fullName
")>

<cfoutput>
<H1>Welcome #fullName#!</H1>
</cfoutput>
<br>
<br>
<html:link page="/do/logoutUser">logout</html:link><br>
```

**Listing 8: The struts-config.xml file ([CfusionMX/wwwroot]/WEB-INF/struts-
config.xml) defines which action should be called based on the HTTP-posts
made to the Controller.**

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE struts-config PUBLIC
          "-//Apache Software Foundation//DTD Struts Configuration
1.1//EN"
          "http://jakarta.apache.org/struts/dtds/struts-config_1_
1.dtd">

<struts-config>
    <form-beans>
        <form-bean name="loginForm"
                   type="com.macromedia.article.forms.UserActionForm"/>
    </form-beans>

    <action-mappings>
        <action path="/loginUser"
            type="com.macromedia.article.actions.LoginUserAction">
            <forward name="success" path="logged.in"/>
            <forward name="failure" path="loggoed.out"/>
        </action>
        <action path="/logoutUser"
            type="com.macromedia.article.actions.LogoutUserAction">
            <forward name="success" path="logged.out"/>
        </action>
        <action path="/welcome" type="org.apache.struts.tiles.actions.
NoOpAction">
            <forward name="success" path="logged.out"/>
        </action>
    </action-mappings>


    <!-- ====================================
              = Controller Configuration -->
    <controller
        processorClass="org.apache.struts.tiles.
TilesRequestProcessor"/>
    <!-- ================================ Message Resources
Definitions -->
    <message-resources parameter="ApplicationResources" key="org.
apache.struts.action.MESSAGE"/>
    <!-- ========== Tiles plugin =================== -->
    <!-- comment following if struts1.0.x -->
    <plug-in className="org.apache.struts.tiles.TilesPlugin">
        <set-property property="definitions-config"
            value="/WEB-INF/tiles-defs.xml"/>
        <set-property property="definitions-debug" value="0"/>
        <set-property property="definitions-parser-details"
value="0"/>
        <set-property property="definitions-parser-validate"
value="true"/>
    </plug-in>
    <!-- end comment if struts1.0.x -->

    <plug-in className="org.apache.struts.validator.ValidatorPlugIn">
        <set-property
            property="pathnames"
            value="/WEB-INF/validator-rules.xml,/WEB-INF/validation.
xml"/>
    </plug-in>
</struts-config>
```
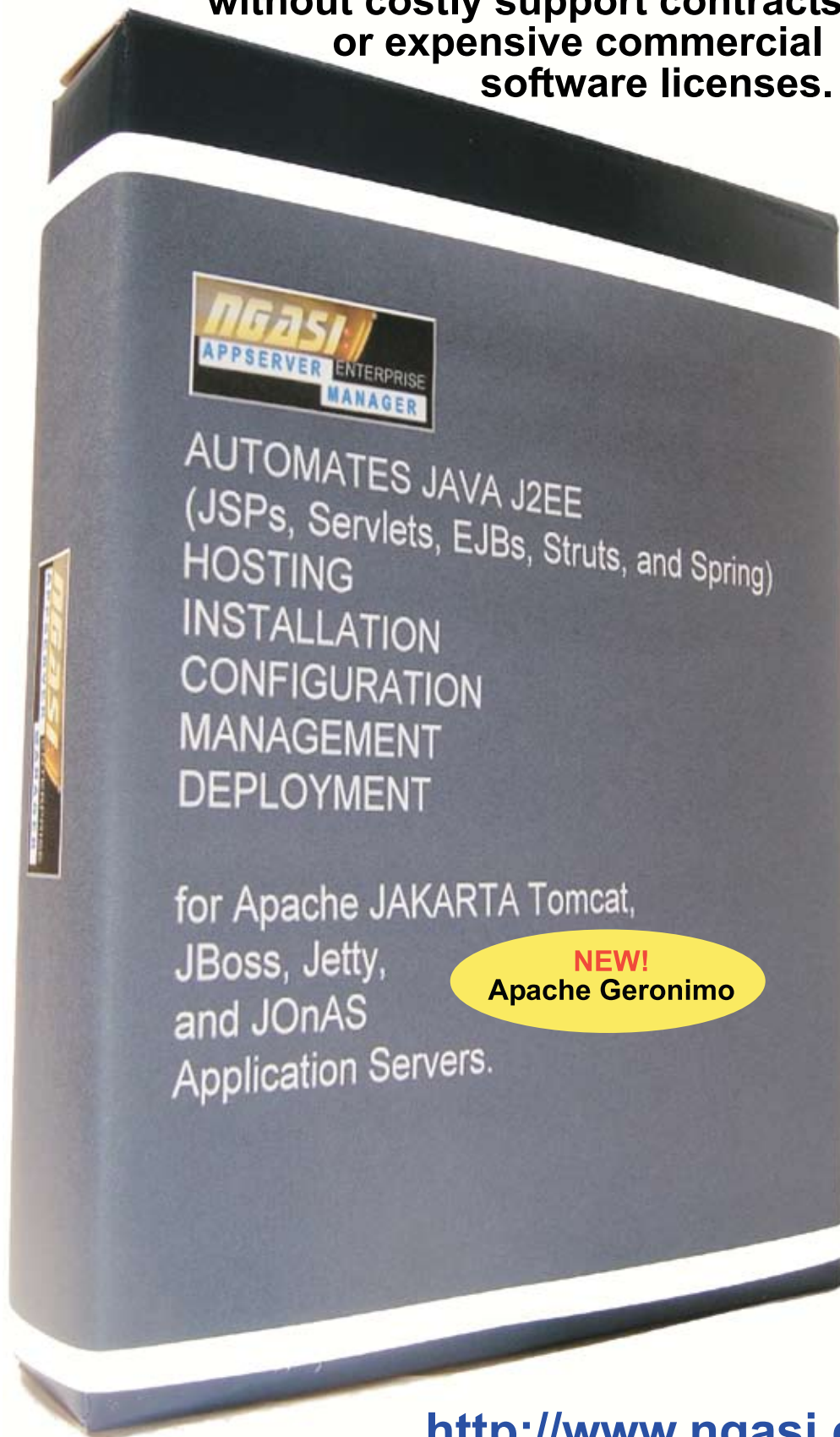
JAVA J2EE Hosting Automation Software
without costly support contracts
or expensive commercial
software licenses.

NGASI
APPSERVER ENTERPRISE
MANAGER

AUTOMATES JAVA J2EE
(JSPs, Servlets, EJBs, Struts, and Spring)
HOSTING
INSTALLATION
CONFIGURATION
MANAGEMENT
DEPLOYMENT

for Apache JAKARTA Tomcat,
JBoss, Jetty,
and JOnAS
Application Servers.

NEW!
Apache Geronimo

FREE
DOWNLOAD

NGASI
APPSERVER ENTERPRISE
MANAGER

http://www.ngasi.com/jdj.jsp

1.866.256.7973

WEB DEV GURU seeks an Integrated Software Suite that speaks my language (XHTML) and won't cramp my style. Must play well with XML, CSS and others. I'm not superficial, but I like a nice code view. Clutter isn't cute.

Different people. Different needs. One suite solution.

With the latest versions of Macromedia Dreamweaver®, Flash® Professional, Fireworks®, Contribute™, and FlashPaper™, the new Studio 8 is quite a catch. To meet Studio 8 and find all the web design and development tools you need, visit www.macromedia.com/go/8_studio8.

macromedia®
STUDIO 8