

Rich Internet Applications with Flash MX (or, The End of Web "Pages")

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Overview:

Websites that use the page metaphor are becoming passé. Web applications that provide a real utility are replacing these pages. Flash MX is well suited for making RIAs because it has extensive programming and multi-user capabilities as well as database connectivity. Benefits of using Flash include fast development times, a "thin client" (the nearly ubiquitous plugin downloads quickly), support for multiple platforms (including hand-helds), and compelling interactivity. This presentation will define "rich internet applications" and demonstrate several examples. You'll also get an overview of the technology's capabilities.

Definitions and Buzzwords:

Application: Like a desktop application, any site that gives you a way to work—that is, provides utility.

Rich Media: The new word for "multimedia", perhaps. You could also just say "more"... like "more audio", "more video". More than what you can see in HTML.

Thin Client: The Flash player (required on each client machine) and the fact it's less than 400K.

Other words to impress people when discussing RIAs: collaboration, the user experience, usability, scalability, legacy, mission-critical, drill-down, populate.

Ubiquitous: 98% of all web connected computers have a version of the Flash player (obviously, newer features require the latest revision—but that's an easy upgrade).

Parse: To extract certain data or translate one data format to another. Say you had state names Wash., Oregon, Cal., etc. and wanted just the two-letter form (WA, OR, CA)... you'd have to parse the data.

Application Server: A web server that delivers customized pages based on a programming language. Instead of creating static pages by hand, an application server can dynamically create pages on the fly.

Technologies:

Web Services: A common way to format data for sharing (research WSDL and SOAP). For example, Amazon's web service lets you search and retrieve data from their catalog of products and then present that data in your own interface (even in Flash if you want). Some are free, some cost money. Through licensed accounts businesses have some control over how their data is presented—but, generally, that's up to the subscriber. However it does mean data has far greater reach than what's possible by storing it on one site and expecting visitors.

XML: Basically, it's a way to format data so that not only the content but a description of that content is included (but no formatting). Sort of like if all books had a standard way of formatting their table of contents. You could judge or read any book's contents in an identical way.

Flash Player files:

"Movies" created with Flash MX (.swf format) then delivered online can be viewed by anyone with the free Flash Player. Flash's programming capabilities (the ActionScript language) have grown over the last couple years making very interactive and full-featured Flash movies possible.

Tools:

Studio MX: A suite of development tools—older versions upgraded to "MX" (includes Flash MX, Dreamweaver MX, Fireworks MX, Freehand MX, and a development version of ColdFusion MX). There are several other MX products not including in the studio: Director MX, Flash Communication Server MX, and ColdFusion MX (several platform versions).

Flash Remoting: More a "feature" than a "product" as it's built into ColdFusion MX (though you can buy it for .NET and Java servers). It lets Flash movies send and receive data to application servers (which can, in turn, link to databases). In addition to parsing common data types (so you don't have to), data travels over HTTP using a small and fast binary message format (called AMF—action message format) which is asynchronous (meaning Flash can proceed instead of waiting for data to arrive).

Flash Communication Server MX: This server lets you build Flash Player files that let users share data in real-time with others. In addition, live or recorded streams of video and audio can be included in your applications. This is probably the most exciting product in Macromedia history.

Example Sites:

Macromedia: The Story: www.macromedia.com/macromedia/story/

Year in Pictures: <http://www.msnbc.com/modules/yip02/>

Bob Vila Paint Designer: www.bobvila.com/DesignTools/

Sony room builder: www.sonystyle.ca/wegatheatre/

Pet Market (sample): <http://examples.macromedia.com/petmarket/flashstore.html>

DevCon Registration: <http://cfmx.webvertising.com/devcon2002/devcon2002.html>

Answering machine: www.phillipkerman.com/machine/

The Big Picture: www.msnbc.com/modules/bigpicture/elex/
www.msnbc.com/modules/bigpicture/iraq/

Other Resources:

Jeremy Allaire's vision of rich internet applications:

www.macromedia.com/desdev/mx/flash/whitepapers/richclient.pdf

Jonathan Gay and Sarah Allen's vision of the Flash Communication Server:

www.macromedia.com/desdev/mx/flashcom/articles/comserver.pdf

More Macromedia visions of rich internet apps:

www.macromedia.com/desdev/mx/studio/whitepapers/rich_internet_apps.pdf

Simple tutorial and sample "note board" application:

www.macromedia.com/desdev/ria/note_board/

Macromedia Designer/Developer Center:

www.macromedia.com/desdev/

More sample apps:

www.macromedia.com/resources/business/sample_apps/

Book: *The Experience Economy* by James H. Gilmore

My books:

www.phillipkerman.com/books/