ASP.NET Improvements in Visual Studio 2008

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Pre-requisites for this presentation:

ASP.NET Experience

Level: Intermediate

VB and C# Demos from this session available now at:
http://www.mcwtech.com/2008/vslive

- Senior Consultant with MCW Technologies
- Technical editor/columnist for DataBased Advisor (http://www.advisor.com)
- Author of several developer's books on ASP.NET, VB, Access, and VBA
- Columnist for CoDe and MSDN magazines
- Lead courseware author for AppDev (http://www.appdev.com)

- Special thanks to Application Developers Training Company (AppDev)
  - For allowing use of demos from courseware written by the speaker
  - For more information, stop by http://www.appdev.com

What's New in Visual Studio 2008?

- Multi-targeting Support
- New HTML Designer and CSS Support
- Nested Master Pages
- LINQ and Object Relational Mapping
- New ASP.NET Data Controls
- JavaScript IntelliSense and Debugging Support
- ASP.NET AJAX and AJAX Extenders

Special Thanks

- To Scott Guthrie, group product manager at Microsoft

- For providing the outline, some slides, and demo suggestions

- Used here with his explicit permission

Agenda

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VSLive!
ORLANDO

Multi-Targeting Support

- Visual Studio 2008 supports targeting multiple versions of the .NET Framework

- Choose which Framework version to target when opening or creating an application
  - .NET Framework 2.0, 3.0, 3.5

- Visual Studio IDE only shows features appropriate for your selected target version
  - Toolbox/Add New Item/Add Reference/IntelliSense

- Open 2.0 project in Visual Studio 2008?
  - Dialog offers option to upgrade, or leave it alone

Using Multi-Targeting

- Before now, VS mapped to particular version of the framework

- If you wanted to use VS 2005, had to update sites to use ASP.NET 2.0 and .NET Framework 2.0

- Can you use Visual Studio 2008 with ASP.NET 2.0 apps?
  - Yes: can choose which version of the framework to use
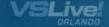
- Can both upgrade and downgrade site

Using Multi-Targeting

- IDE filters features to match version of the framework

- Multi-targeting works with both ASP.NET project models

- Watch out: Solution file format has changed
  - If you upgrade, will need to modify solution file to load in Visual Studio 2005

Multi-Targeting Demo

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HTML Designer and CSS Support

- Massively improved HTML designer
  - Same designer engine as in Expression Web
- New capabilities:
  - Fast designer/source switching
  - Split view designer
  - Nested master pages
  - Rich CSS editing support
- Enables better designer/developer workflow
- Free CSS templates (for the graphically challenged):
  - http://www.oswd.org
  - http://www.opensourcetemplates.org

Designer Demo

CSS Support Demo

CSS Rules Demo

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Nested Master Pages

- Often, sites need a main master page, but have several page types that need the same look and feel

- Perhaps one type of page with one column of data
  - Other page type with two columns of data
  - You need one master page, with multiple master pages inheriting from the original

Nested Master Pages

- Before Visual Studio 2008, the ASP.NET designer didn't support nested master pages

- Visual Studio 2008 provides support for nesting master pages, to any reasonable arbitrary depth

  – At rendering time, ASP.NET merges content of multiple pages together to create a single output page

  Just as it did for one master page in the previous version

Nested Master Page Demo

Create Content

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- Query, Set and Transform Operations for .NET

- Makes querying data a core programming concept

- Works with all types and shapes of data
  - Relational databases
  - XML
  - Plain old objects

- Works with all .NET languages
  - VB and C# have integrated language support

- Works with ASP.NET
  - That's the point of this review

- Also can find third party LINQ providers
  - Amazon.com for example

LINQ Demo

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New ASP.NET Data Controls

- New in Visual Studio 2008:
  - <asp:ListView>
  - <asp:LinqDataSource>
  - <asp:DataPager>

ListView Control

- Displays the values of a data source using user-defined templates

- Enables you to select, sort, delete, edit, and insert records

- Easier to use than Repeater control!
  - And you can edit, too

- Very CSS-friendly

LinqDataSource Control

- Represents a data object to data-bound controls when using LINQ for creating data commands

- Works much like SqlDataSource control
  - Except retrieves data from a LINQ DataContext class

DataPager Control

- Provides server-side paging for any data
  - GridView provides its own paging, but doesn't work with ListView

- Look at this a little later

ListView and LinqDataSource Control Demo

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JavaScript/Debugging Support

- Visual Studio 2008 adds support for IntelliSense and debugging in JavaScript code

- Multi-targeting support means that these features work in ASP.NET 2.0 applications

- To demonstrate, start by creating some JavaScript

JavaScript Demo

Debugging in JavaScript

- Set a breakpoint, press F5, and it just works

- Breakpoints persist in JavaScript code
  - So they're there the next time you debug the application

Debugging in JavaScript

- Download JavaScript shows up in Solution Explorer
  - So you can debug this, too
  - Can set breakpoints in downloaded JavaScript
- Setting breakpoints in running script are persisted back to original source

Debugging Demo

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What is AJAX?

- "Asynchronous JavaScript and XML"
- Send small bits of a page to the server
  - Execute server-side method

- Recieve small chunks of data from the server
- Update small part of web page
  - Entire page is not redrawn

- Increases responsiveness of Web applications

ASP.NET Ajax

- Works on top of ASP.NET 2.0 and VS 2005
  - Fully supported V1.0 shipped in January on the web

- Delivers core ASP.NET AJAX foundation:
  - JavaScript type-system
  - JavaScript<->.NET Networking Serialization
  - JavaScript library of common routines
  - ASP.NET Server Control Integration

- All ASP.NET AJAX 1.0 features included in .NET 3.5

ASP.NET AJAX Control Toolkit

- Separate download from core ASP.NET AJAX
  - Great library of free ASP.NET AJAX enabled controls
  - Download from http://ajax.asp.net/
- Developed using a collaborative source model
  - All source freely available with modification license
  - Both Microsoft and non-Microsoft developers can contribute
- Already contains 40 controls

Visual Studio 2008 AJAX Support

- JavaScript IntelliSense
  - Code IntelliSense for client-side JavaScript
  - Integrated editor support for ASP.NET AJAX JavaScript Library
  - IntelliSense against JavaScript-enabled .asmx web services
  - Build-time syntax checking

Visual Studio 2008 AJAX Support

- JavaScript Debugging and Profiling
  - Improved discoverability
  - Breakpoints in .aspx documents
  - New visualization features for variables

- ASP.NET AJAX Extender Control Support
  - Easy at design-time to attach extenders

Using ASP.NET AJAX

- Visual Studio provides server control support
  - So you don't have to write lots of JavaScript code

- Editing Product data causes roundtrip
  - Wouldn't it be better if only the tiny editing region made the round trip?
  - Could use JavaScript, but easier to use AJAX server controls

AJAX DEMO

UpdatePanel Overhead

- What's the overhead?

- Network traffic
  - Less than doing full page postback
  - You're sending back less than full page's HTML

- Server load
  - Same as (or less than) full-page postback

- UpdatePanel or JavaScript callback
  - For in-place editing, UpdatePanel easier
  - For simple lookup and insert, JavaScript callback might be easier
  - The two work well together

Server-Side Paging

- Already saw data support for server-side paging
  - Only returns the exact rows you want
  - Client-side events let you know when data is moving back and forth

- Can use DataPager control to add AJAX support for paging, as well
  - No full round-trip to support paging, as in previous example
  - Simple to configure

DataPager Example

AJAX Extenders

- Many AJAX controls extend existing controls
- Add support for auto-complete, calendars, and more
- Visual Studio 2008 makes it easy to add AJAX extender to existing control
- Smart tag provides list of available extenders
- Choose one, and Visual Studio 2008 manages the plumbing
- In order to work, page must include a ScriptManager control

AJAX Extender Demo

In Summary

- Visual Studio 2008 provides new support for lots of new ASP.NET features:
    - Multi-targeting Support
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    - Nested Master Pages
    - LINQ and Object Relational Mapping
    - New ASP.NET Data Controls
    - JavaScript IntelliSense and Debugging Support
    - ASP.NET AJAX and AJAX Extenders

Thanks for Coming!

- ASP.NET Improvements in Visual Studio 2008
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