

Developing Web Parts 101

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Premium Partners:



Microsoft

Introduction

- Background
 - Systems analysis / development
 - 25+ years experience (various platforms)
 - Technical lead in Teamcenter Community (TcC) implementation at Callaway Golf
- Callaway Golf
 - Golf club and accessory manufacturer
 - Participated in TcC early adopter program
 - UGS products
 - UG/NX, SolidEdge, TcC & TCEng

Objective

- Demonstrate the process of developing a custom web part
 - Getting started
 - The process
 - Demonstration
 - Tips
 - More info

Target audience: Developers with some experience in developing applications using the Microsoft .Net framework.

Getting Started

- What you need:
 - A development Windows SharePoint Services (WSS) platform
 - Visual Studio 2003
 - Web Part Template for Visual Studio .NET
 - <http://www.microsoft.com/downloads/details.aspx?FamilyID=cac3e0d2-bec1-494c-a74e-75936b88e3b5&DisplayLang=en>
 - Rights
 - Server administration

The Process

- Create a new project using the 'Web Part Library' template
- Rename files and namespaces as required
- Override the following methods
 - CreateChildControls
 - RenderWebParts
- Add a 'Setup and Deployment' project
 - Create a setup for a web application
 - Include 'Primary output' and 'Content Files'
- Use 'stsadm' to install the web part pack on the WSS server

- Template installation prompts for the Microsoft.SharePoint dll
 - Can be found on web server
- Modify web.config file to facilitate testing
 - `<trust level="Full" originUrl="" />`
- Use custom properties to pass in parameters
 - Can be shared or personal
 - Various data types are supported
- Create control manually
 - Visual Studio does not support drag and drop for child controls
- Use stsadm to deploy
 - `stsadm -o AddWPPack -f c:\filename.cab`
 - `stsadm -o DeleteWPPack -n filename.cab`

- Direct compiler output to the virtual server bin file
 - You only have to re-install web part when configuration changes
- Delete old web part from sites
 - Just closing web parts leaves them in the Web Part Page Gallery
- When debugging remotely
 - Debugging components must be installed on the web server
 - Available from Visual Studio installation CD
 - Windows XP SP2 dev. machines must be configured to allow server interaction (<http://support.microsoft.com/kb/833977/>)

- To step through code
 - Set a breakpoint in CreateChildControls method
 - Start debugging by selecting the IIS server W3wp.exe process
 - Refresh the page containing web part
- Provide mechanism to display internals
 - Provide error handling
 - Create a debug window
 - Enable trace mode
 - `<trace enabled="true" pageOutput="true" localOnly="false" />`
- Test with non-admin account

- Dealing with “web part...is not registered on this site as safe”
 - In the project files
 - Verify that namespaces, assembly names and type names are spelled correctly and using proper case
 - In the web.config
 - Verify that the proper version numbers are referenced
 - On the server
 - Verify that the dll exists in the top level bin directory

- Deploy to web server global assembly cache (GAC)
 - Create a strongly-named assembly (using sn.exe)
 - Install the web part package with the '-globalinstall' flag
- Test in production environment
 - Reset trust mode to 'WSS_Minimal'
- If the assembly version number changes, instances of old web parts must be replaced
 - Use 'SharePoint Configuration Analyzer' to report usage
<http://www.microsoft.com/downloads/details.aspx?FamilyID=918F8C18-89DC-4B47-82CA-34B393EA70E1&displaylang=en>

More Info

- A Developer's Introduction to Web Parts
 - http://msdn.microsoft.com/library/en-us/dnspts/html/sharepoint_northwindwebparts.asp
- Packaging and Deploying Web Parts for Microsoft SharePoint Services
 - http://msdn.microsoft.com/library/en-us/dnspts/html/sharepoint_deployingwebparts.asp
- SharePoint University web site
 - <http://www.sharepointu.com/>