



**Serious ASP.NET 2.0  
Web Part Customization**  
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November 12-15, 2007



Level: Advanced



### About the speaker




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### Agenda

- Overview of WebParts
- What are the problems?
- Inner-property Declarative Persistence
- Architecture of extending WebParts
- Code samples



### WebPart Overview

- ASP.NET 2.0 Technology
- Easily create custom “portal”
- Hooks into Personalization
- No messing around with LoadControl() and postback logic



### What do you need.

- WebPartManager
  - 1 per page
  - Manages all WebPart operations for the page
- WebPartZone
  - Control that manages display/layout of the WebParts
  - 1+ per page
- CatalogZone
- DeclarativeCatalog
  - Contains the list of available WebParts
  - Adds parts to zones



### UserControls as WebParts

- Declarative Catalog has list of UserControls that can be added as web parts
- To add custom actions → implement IWebActionable
- WebPartVerb
  - Action that can be performed on a WebPart via the drop-down menu
- Controls get wrapped in GenericWebPart
  - WebPartManager.CreateWebPart()



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## WebPart Demo

## Putting verbs where you want

- By default, verb menu rendered on right
  - Not configurable
- Verb rendering done by WebPartChrome
- WebPartZone creates the chrome object
  - CreateWebPartChrome()
- Override WebPartChrome.RenderWebPart()
  - Arg #1: HtmlTextWriter writer
  - Arg #2: WebPart webPart – the web part to render

## Implementing RenderWebPart()

- Everything is through HtmlTextWriter
  - Think old-school ASP, Response.Write()
  - Yuck.
- Verb rendering is the tricky part
  - Verbs aren't events
  - Don't exist anywhere that could be subscribed to
  - Verb "event handler" must be in the user control
  - Makes PostBack challenging
- Verb post back goes to zone's RaisePostBackEvent()
- Verb.ID used to route the event

## Implementing RaisePostBackEvent()

- WebPartZone
- protected override void RaisePostBackEvent(string eventArgument)
- Handles verb click events
- eventArgument is tokenized address of the verb
  - WebPart ID
  - Verb ID
- Find the web part in the zone
- Find the verb on the web part
- Call verb.ServerClickHandler

## How are we going to implement it?

- Goal: Eliminate some of the HtmlTextWriter hassle
- Inner-Property Declarative Persistence (IPDP)
  - Enables complex configuration of ASPX controls
- Use IPDP on our Zone
  - Configure Chrome layout
  - Reduces the HtmlTextWriter code

## Quick IPDP Demo

- ListBox

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## Inner-Property Declarative Persistence

```
<bdc:CustomWebPartZone ID="a_sone" runat="server" TreatCloseAsDelete="true">
  <LayoutTemplate>
    <table border="1">
      <tr>
        <td>%%VERB_CLOSE%%&nbsp;%%TITLE%%</td>
        <td>%%VERB_MINIMIZE%%</td>
      </tr>
      <tr>
        <td colspan="2">%%VERB_MENU%%</td></tr>
      <tr>
        <td colspan="2">%%WEB_PART_CONTENT%%</td></tr>
    </table>
  </LayoutTemplate>
  <LayoutTemplateMinimized>
    <table border="1">
      <tr>
        <td>%%VERB_CLOSE%%&nbsp;%%TITLE%%</td>
        <td>%%VERB_MINIMIZE%%</td>
      </tr>
    </table>
  </LayoutTemplateMinimized>
  <LayoutVerbTemplate>%%LINK_BUTTON%%</LayoutVerbTemplate>
</bdc:CustomWebPartZone>
```

## Inner-Property Declarative Persistence

- [ParseChildren(true)] on class
  - Contents of the control Html/XML → configuration
- For each configurable property
- [NotifyParentProperty(true)]
  - For designer support
  - Change the property value → redraw the control
- [PersistenceMode(PersistenceMode.InnerProperty)]
  - What does the Html/XML look like?
  - How is it parsed?

## Code samples

## Questions?

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