Creating Charts with the Microsoft Chart Control

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Paul Litwin

- **Developer**
  - Focus: ASP.NET, ASP, C#, SQL Server, Reporting Services
  - MCSD
  - Microsoft MVP
  - Programmer Manger with
    Fred Hutchinson Cancer Research Center (Seattle)
- **Co-Founder and Senior Trainer**
  - Deep Training
    - www.deeptraining.com
- **Conference Chair/Speaker**
  - Chair, Microsoft ASP.NET Connections
  - Member INETA Speakers Bureau
- **Author of over a dozen books & courses, including…**
    - *AppDev SQL Server 2005 & 2008 Reporting Services Courses*
    - *ASP.NET for Developers*
    - *Access Cookbook*
    - *Access 2002 Desktop/Enterprise Dev Handbook*

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Updated Slides & Samples Download

- You can download them from:
  - www.deeptraining.com/litwin

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Microsoft Chart Control for ASP.NET 3.5

- Install Visual Studio 2008 SP1 / ASP.NET 3.5
- Download Microsoft Chart Controls for .NET 3.5 from msdn.microsoft.com
  - Use this shortcut
    - **http://tinyurl.com/mschartcontrol35**
- Download Microsoft Chart Control Add-On for Visual Studio 2008
  - Use this shortcut
    - **http://tinyurl.com/mschartcontrol35vs2008**
- You can also download help docs
  - Use this shortcut
    - **http://tinyurl.com/mschartcontrol35docs**

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Microsoft Chart Control for ASP.NET 4

- Install Visual Studio 2010
- Automatically included

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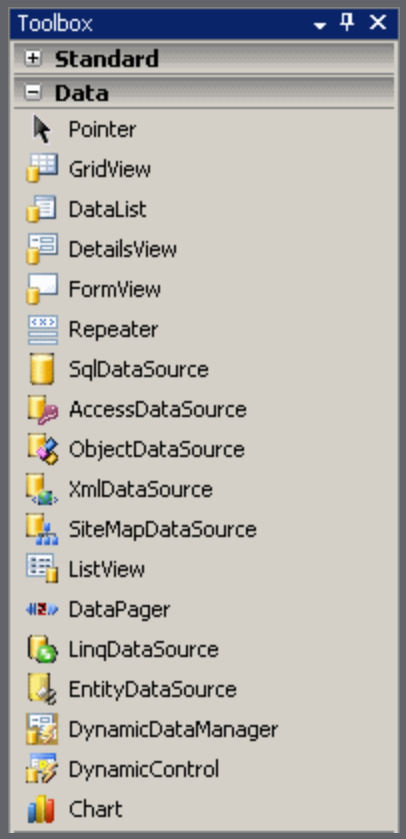
Using ASP.NET 3.5/4 Chart Controls



- Drag Chart control from Data tab and drop it onto ASP.NET page
- Or add <asp:Chart runat="server"> element to page

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Chart Control Demo #1

StaticChart1.aspx

- Demo of control created with just markup
- Markup for a chart

```
<asp:Chart>
      <Series>
            <asp:Series>
                  <Points>
                  </Points>
            </asp:Series>
      </Series>
      <ChartArea>
            <asp:ChartArea>
                  <AxisX>
                  <AxisY>
            </asp:ChartArea>
      </ChartArea>
</asp:Chart>
```

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Chart Object Model Basics

- Key pieces of chart object model
  - Series is a child collection of Chart
    - You bind data to series
    - You select the ChartType here as well
  - ChartAreas is a child collection of Chart
    - AxisX and AxisY are children of ChartAreas
  - Titles is a child collection of Chart
  - Legend is a child collection of Chart
- Programming a chart can be a combination of declarative code and procedural code

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Chart Control Demo #2

StaticChart2.aspx

- Customizing a chart
  - Modify size
  - Change palette
  - Add a title

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Chart Data Binding

- Chart control provides a number of ways to bind data, including…
  - Declaratively bind to DataSource control
  - Manual series population
  - Chart.DataBindTable method
  - Chart.DataSource property
  - Points.DataBind method

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Chart Control Demo #3

DataSourceWizard.aspx

- Use data source wizard

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Chart Control Demo #4

ManualBind.aspx

- Using manual series population
- You have a lot of control

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Chart Control Demo #5

DataBindTable.aspx

- Using Chart.DataBindTable method
- Very simple
- Supports only one Y value

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Chart Control Demo #6

DataSourceProperty.aspx

- Using Chart.DataSource property
- Allows binding at design time
- Illustrates using 3 series with different chart types for each series
- Example also illustrates use of ScaleBreak

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Chart Control Demo #7

PointsDataBind.aspx

- Using Points.DataBind method
- Supports binding of extended properties
  - E.g., tooltip

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Chart Control Demo #8

PointsDataBind2.aspx

- Using Points.DataBind method to create StackedColumn chart
- Notice use of 3 queries

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Chart Control Demo #9

AnnotatedChart.aspx

- Adding an Annotation to a chart
- Uses CallOut Annotation that is anchored to point

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Chart Types

- Column Charts
- Line Charts
- Shape Charts
- Bar Charts
- Area Charts
- Range Charts
- Scatter Charts
- Polar Charts

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Chart Control Demo #10

DynamicChart.aspx

- Creating a dynamically-changing chart using manual series population
- Shows off different chart types
- Shows using 3D style

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Chart Coding Tip

- If you can’t figure out how to do something from code, try doing it declaratively using Property sheet and that should give you an idea of how accomplish it from code

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Charting Tips

- More you understand data you are charting, the more successful you will be in creating informative charts
- Charts work best with numeric data
  - You'll want to make sure your Y-Axis and data fields are numeric
- It's usually best to summarize data before you chart it
  - Most charts will not look good with large amounts of data
- Null, zero, and blank values can cause problems
  - You may want to filter these values out in data source

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Resources

- .NET 4 Help
- .NET 3.5 Chart Documentation
  - **http://tinyurl.com/mschartcontrol35docs**
- Samples Environment for Chart Controls (3.5)
  - http://code.msdn.microsoft.com/mschart
- Blog Posts (search each blog for Chart)
  - Scott Mitchell: http://www.4guysfromrolla.com
  - Scott Guthrie: http://weblogs.asp.net/scottgu
  - Alex Gorev: http://blogs.msdn.com/alexgor
  - Dan Wahlin: http://weblogs.asp.net/dwahlin

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Thank You!

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