**Chapter 3: Control Elements**

**Msdn:** [**http://msdn.microsoft.com/en-us/library/aa479869.aspx**](http://msdn.microsoft.com/en-us/library/aa479869.aspx)

XAML has all the controls you've come to expect from Windows—

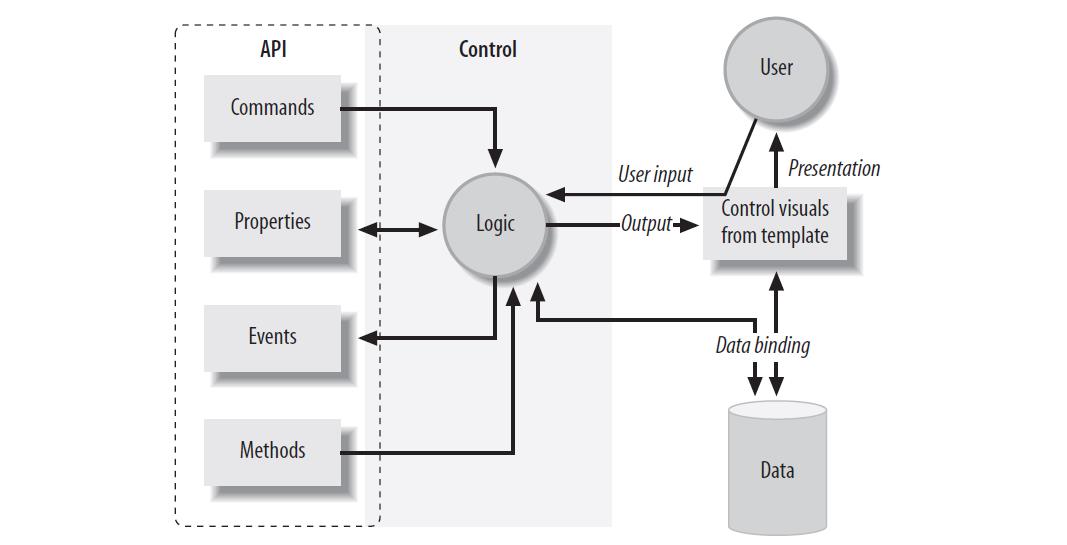
**buttons, check boxes, radio buttons, list boxes, combo boxes, menus, scroll bars, sliders,** and so on.

Item controls

Item controls have children, including controls with collections. Headered item controls

have no Content attributes, but they do have Header and (optionally) Item

attributes.

**

**Button**

Example 5-1. Markup for a Button

<Button Click="ButtonClicked">Button</Button>

Example 5-3. Invoking a command with a Button

<Button Command="Copy">Copy</Button>

**radio buttons**

Example 5-6. Grouping radio buttons by parent

<StackPanel>

<RadioButton>To be</RadioButton>

<RadioButton>Not to be</RadioButton>

</StackPanel>

Example 5-7. Grouping radio buttons by name

<StackPanel>

<RadioButton GroupName="Fuel">Petrol</RadioButton>

<RadioButton GroupName="Fuel">Diesel</RadioButton>

<RadioButton GroupName="Induction">Unforced</RadioButton>

<RadioButton GroupName="Induction">Mechanical supercharger</RadioButton>

<RadioButton GroupName="Induction">Turbocharger</RadioButton>

</StackPanel>

**AccessText**

Example 5-4. AccessText

<Button Width="75">

<AccessText>\_Button</AccessText>

</Button>

Slider and Scroll Controls

<ScrollViewer>

<!-- Window content here -->

</ScrollViewer>

ProgressBar

Text Controls

Example 5-8. TextBox and PasswordBox

<StackPanel Orientation="Horizontal">

<TextBox Margin="5" VerticalAlignment="Center" Text="Single line textbox" />

<TextBox AcceptsReturn="True" Margin="5" Height="50"

VerticalScrollBarVisibility="Visible"

VerticalAlignment="Center" Text="Multiline textbox" />

<PasswordBox Margin="5" VerticalAlignment="Center" Password="Un5ecure" />

</StackPanel>

Example 5-9. Selecting a language for spellchecking

<TextBox xml:lang="fr-FR" SpellCheck.IsEnabled="True"

AcceptsReturn="True" />

Label

<Label>label</Label>

ToolTip

The ToolTip control allows a floating label to be displayed above some part of the

user interface. It is an unusual control in that it cannot be part of the normal user

interface tree—you can use it only in conjunction with another element.

Example 5-11. Using ToolTip the long way

<TextBox Width="100">

<TextBox.ToolTip>

<ToolTip Content="Type something here" />

</TextBox.ToolTip>

</TextBox>

Example 5-13. Exploiting the content model in a tool tip

<TextBox Width="100">

<TextBox.ToolTip>

<TextBlock FontSize="25">

<Ellipse Fill="Orange" Width="20" Height="20" />

Plain text is <Italic>so</Italic>

<Span FontFamily="Old English Text MT">last century</Span>

<Ellipse Fill="Orange" Width="20" Height="20" />

</TextBlock>

</TextBox.ToolTip>

</TextBox>

GroupBox and Expander

Example 5-14. Using Header and Expander

<StackPanel Orientation="Horizontal">

<GroupBox Header="Glass">

<Border Margin="2" Background="White" Padding="3">

<StackPanel>

<RadioButton Content="Half-full" IsChecked="True" />

<RadioButton Content="Half-empty" />

</StackPanel>

</Border>

</GroupBox>

<Expander Header="Glass" IsExpanded="True"

Background="#def" VerticalAlignment="Center" MinWidth="90"

Margin="10,0">

<Border Margin="2" Background="White" Padding="3">

<StackPanel>

<RadioButton Content="Half-full" IsChecked="True" />

<RadioButton Content="Half-empty" />

</StackPanel>

</Border>

</Expander>

</StackPanel>

Example 5-15. Header with mixed content

<GroupBox>

<GroupBox.Header>

<StackPanel Orientation="Horizontal">

<TextBlock Text="Slightly " FontStyle="Italic" VerticalAlignment="Center" />

<MediaElement Source="C:\Users\Public\Videos\Sample Videos\Butterfly.wmv"

Width="80" />

<TextBlock Text=" more " VerticalAlignment="Center" />

<Ellipse Fill="Red" Width="20" Height="60" />

<TextBlock Text=" interesting " VerticalAlignment="Center"

FontWeight="Bold" />

<Button Content="\_header" VerticalAlignment="Center" />

</StackPanel>

</GroupBox.Header>

<TextBlock Text="Boring content" />

</GroupBox>

List Controls

Example 5-16. Content in Items

<ComboBox>

<Button>Click!</Button>

<TextBlock>Hello, world</TextBlock>

<StackPanel Orientation="Horizontal">

<TextBlock>Ellipse:</TextBlock>

<Ellipse Fill="Blue" Width="100" />

</StackPanel>

</ComboBox>

Example 5-17. Setting tab page headers

<TabControl>

<TabItem Header="\_Button">

<Button>Click!</Button>

</TabItem>

<TabItem>

<TabItem.Header>

<TextBlock FontSize="18" FontFamily="Palatino Linotype">

<AccessText>\_Text</AccessText>

</TextBlock>

</TabItem.Header>

<TextBlock>Hello, world</TextBlock>

</TabItem>

<TabItem>

<TabItem.Header>

<Ellipse Fill="Blue" Width="30" Height="20" />

</TabItem.Header>

<StackPanel Orientation="Horizontal">

<TextBlock>Ellipse:</TextBlock>

<Ellipse Fill="Blue" Width="100" />

</StackPanel>

</TabItem>

</TabControl>

List View

Example 5-18. Defining ListView columns

<ListView>

<ListView.View>

<GridView AllowsColumnReorder="true">

<GridViewColumn Header="Name" />

<GridViewColumn Header="Line Spacing" />

<GridViewColumn Header="Sample" />

</GridView>

</ListView.View>

</ListView>

Example 5-19. Populating ListView rows

<ListView ItemsSource="{x:Static Fonts.SystemFontFamilies}">

<ListView.View>

<GridView>

<GridViewColumn Header="Name"

DisplayMemberBinding="{Binding Source}" />

<GridViewColumn Header="Line Spacing"

DisplayMemberBinding="{Binding LineSpacing}" />

<GridViewColumn Header="Sample">

<GridViewColumn.CellTemplate>

<DataTemplate>

<TextBlock FontFamily="{Binding}" FontSize="20"

Text="ABCDEFGabcdefg" />

</DataTemplate>

</GridViewColumn.CellTemplate>

</GridViewColumn>

</GridView>

</ListView.View>

</ListView>

Tree View

Example 5-21. TreeView control

<TreeView>

<TreeViewItem Header="First top-level item" IsExpanded="True">

<TreeViewItem Header="Child" />

<TreeViewItem Header="Another child" IsExpanded="True">

<TreeViewItem Header="Grandchild" />

<TreeViewItem Header="Grandchild 2" />

</TreeViewItem>

<TreeViewItem Header="A third child" />

</TreeViewItem>

<TreeViewItem Header="Second top-level item">

<TreeViewItem Header="Child a" />

<TreeViewItem Header="Child b" />

<TreeViewItem Header="Child c" />

</TreeViewItem>

<TreeViewItem IsExpanded="True">

<TreeViewItem.Header>

<StackPanel Orientation="Horizontal">

<Ellipse Fill="Blue" Width="15" Height="15" />

<TextBlock Text="Third top-level item" />

<Ellipse Fill="Blue" Width="15" Height="15" />

</StackPanel>

</TreeViewItem.Header>

<TreeViewItem Header="Child a" />

<TreeViewItem Header="Child b" />

<TreeViewItem Header="Child c" />

</TreeViewItem>

</TreeView>

Menus

Example 5-22. A main menu

<Menu>

<MenuItem Header="\_File">

<MenuItem Header="\_New" />

<MenuItem Header="\_Open..." />

<MenuItem Header="\_Save" />

<MenuItem Header="Sa\_ve As..." />

<Separator />

<MenuItem Header="Page Se\_tup..." />

<MenuItem Header="\_Print..." />

<Separator />

<MenuItem Header="E\_xit" />

</MenuItem>

<MenuItem Header="\_Edit">

<MenuItem Header="\_Undo" />

<MenuItem Header="\_Redo" />

<Separator />

<MenuItem Header="Cu\_t" />

<MenuItem Header="\_Copy" />

<MenuItem Header="\_Paste" />

<MenuItem Header="\_Delete" />

<Separator />

<MenuItem Header="Select \_All" />

</MenuItem>

<MenuItem Header="\_Help">

<MenuItem Header="Help \_Topics" />

<MenuItem Header="\_About..." />

</MenuItem>

</Menu>

Example 5-24. Nesting content inside MenuItem.Header

<MenuItem>

<MenuItem.Header>

<StackPanel Orientation="Horizontal">

<AccessText>\_New...</AccessText>

<Ellipse Fill="Blue" Width="40" Height="15" Margin="10,0" />

</StackPanel>

</MenuItem.Header>

</MenuItem>

Example 5-25. MenuItems with commands

<MenuItem Header="\_Edit">

<MenuItem Header="\_Undo" Command="Undo" />

<MenuItem Header="\_Redo" Command="Redo"/>

<Separator />

<MenuItem Header="Cu\_t" Command="Cut" />

<MenuItem Header="\_Copy" Command="Copy" />

<MenuItem Header="\_Paste" Command="Paste" />

<MenuItem Header="\_Delete" Command="Delete" />

<Separator />

<MenuItem Header="Select \_All" Command="SelectAll" />

</MenuItem>

Toolbars

Example 5-27. ToolBarTray and ToolBar

<ToolBarTray>

<ToolBar>

<Button>

<Canvas Width="16" Height="16" SnapsToDevicePixels="True">

<Polygon Stroke="Black" StrokeThickness="0.5"

Points="2.5,1.5 9.5,1.5 12.5,4.5 12.5,15 2.5,15">

<Polygon.Fill>

<LinearGradientBrush StartPoint="1,1" EndPoint="0.2,0.7">

<GradientStop Offset="0" Color="#AAA" />

<GradientStop Offset="1" Color="White" />

</LinearGradientBrush>

</Polygon.Fill>

</Polygon>

<Polygon Stroke="Black" Fill="DarkGray" StrokeThickness="0.5"

StrokeLineJoin="Bevel"

Points="9.5,1.5 9.5,4.5 12.5,4.5" />

</Canvas>

</Button>

<Button>

<Canvas Width="16" Height="16" >

<Polygon Stroke="Black" StrokeThickness="0.5" Fill="Khaki"

SnapsToDevicePixels="True"

Points="0.5,14.5 0.5,4.5 1.5,3.5 6.5,3.5 8.5,5.5

12.5,5.5 12.5,14.5" />

<Polygon Stroke="Black" SnapsToDevicePixels="True"

StrokeThickness="0.5"

Points="1.5,14.5 4.5,7.5 15.5,7.5 12.5,14.5" >

<Polygon.Fill>

<LinearGradientBrush StartPoint="0.25,0" EndPoint="0.5,1">

<GradientStop Offset="0" Color="#FF4" />

<GradientStop Offset="1" Color="#CA7" />

</LinearGradientBrush>

</Polygon.Fill>

</Polygon>

<Path Stroke="Blue" StrokeThickness="1"

Data="M 8,2 C 9,1 12,1 14,3" />

<Polygon Fill="Blue" Points="15,1 15.5,4.5 12,4" />

</Canvas>

</Button>

</ToolBar>

<ToolBar>

<Button>Second toolbar</Button>

<CheckBox IsChecked="True">Choice</CheckBox>

</ToolBar>

</ToolBarTray>

GridSplitter

Example 5-28. GridSplitter

<Grid Height="100" Width="400">

<Grid.ColumnDefinitions>

<ColumnDefinition Width="1\*" />

<ColumnDefinition Width="6" />

<ColumnDefinition Width="2\*" />

</Grid.ColumnDefinitions>

<Ellipse Grid.Column="0" Fill="Red" />

<GridSplitter Grid.Column="1" HorizontalAlignment="Stretch" />

<Ellipse Grid.Column="2" Fill="Blue" />

</Grid>