

Course 2D_SL: 2D-Computer Graphics with Silverlight

Chapter C3: The Complete Code of the Controls in a Grid Project

Copyright © by V. Miszalok, last update: 19-10-2008



Install 1) [Visual Web Developer 2008 Express Edition with Service Pack 1 English](#) and 2) [Silverlight Tools for Visual Studio 2008 SP1](#).

Preliminaries

Guidance for **Visual Web Developer 2008 Express**:

Main Menu after start of VWD Express: File → New Project... →

Project types: Visual C# (double click) → Silverlight →

Templates: Silverlight Application

Name: ControlsInAGrid1 → Location: C:\temp\SLProjects →

Create directory for solution: switch off → OK.

An Add Silverlight Application-Window appears.

Choose "Automatically generate a test page to host Silverlight at build time" → OK.

In the Solution Explorer - ControlsInAGrid1 click the branch Page.xaml.

A split window will appear containing the default xaml code.

Delete this code completely and replace it by the code of **Page.xaml** which follows.

Page.xaml

```
<UserControl x:Class="ControlsInAGrid1.Page"
xmlns="http://schemas.microsoft.com/client/2007"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
Width="400" Height="400">
<Grid ShowGridLines ="True" Background="#FFA0A050">
  <Grid.ColumnDefinitions>
    <ColumnDefinition/>
    <ColumnDefinition/>
    <ColumnDefinition/>
    <ColumnDefinition/>
  </Grid.ColumnDefinitions>
  <Grid.RowDefinitions>
    <RowDefinition/>
    <RowDefinition/>
    <RowDefinition/>
  </Grid.RowDefinitions>
  <TextBlock Grid.Column="0" Grid.Row="0" Margin="10" VerticalAlignment ="Center"
    HorizontalAlignment="Center"
    FontSize="20" Text="Introl"/>
  <TextBlock Grid.Column="1" Grid.Row="0" Margin="10" FontSize="12" TextWrapping="Wrap" >
    <Run Text="This is some " />
    <Run FontWeight="Bold" Text="formatted " /><LineBreak />
    <Run FontStyle="Italic" Text="text." />
    <Run Text="It spans multiple lines." />
  </TextBlock>
  <CheckBox x:Name="checkbox" Grid.Column="2" Grid.Row="0" Margin="10" Content="Image"
    HorizontalAlignment="Center"
    VerticalAlignment="Top"
    Click="OnCheckBoxClick"/>
  <Image x:Name="image" Grid.Column="2" Grid.Row="0" Margin="10" Source="Foto.jpg"/>
  <Button x:Name="button" Grid.Column="3" Grid.Row="0" Margin="10" Content="ClickMe"
    Click="OnButtonClick">
    <Button.Resources>
      <Storyboard x:Name="ButtonAnimationStoryboard">
        <DoubleAnimation
          Storyboard.TargetName="button" Storyboard.TargetProperty ="Opacity"
          From="1.0" To="0.0" Duration="0:0:2" AutoReverse="True"/>
      </Storyboard>
    </Button.Resources>
  </Button>
</Grid>
```

```

<MediaElement x:Name="video"      Grid.Column="0" Grid.Row="1" Margin="10" VerticalAlignment="Top"
Source="smooth.wmv"
Stretch="Fill" />
<Button      x:Name="vbutton"      Grid.Column="0" Grid.Row="1" Margin="10" VerticalAlignment="Bottom"
Height="15" Width="15"
Content=">"
Click="OnvButtonClick" />
<Rectangle  x:Name="rect"          Grid.Column="1" Grid.Row="1" Margin="10" Height="80" Width="80"
Fill="#FFAA7733"
Stroke="#FF553311"
StrokeThickness="10"
RadiusX="10" RadiusY="10"
Loaded="rectangleLoaded">

<Rectangle.Resources>
<Storyboard x:Name="RectangleAnimationStoryboard">
<DoubleAnimation
Storyboard.TargetName="rect" Storyboard.TargetProperty="Width"
To="10" Duration="0:0:2" AutoReverse="True" RepeatBehavior="Forever" />
<DoubleAnimation
Storyboard.TargetName="rect" Storyboard.TargetProperty="Height"
To="10" Duration="0:0:2" AutoReverse="True" RepeatBehavior="Forever" />
</Storyboard>
</Rectangle.Resources>
</Rectangle>
<Ellipse    x:Name="ellipse"      Grid.Column="2" Grid.Row="1" Margin="10" Fill="#FF000000"
Stroke="#FFFFFFF"
StrokeThickness="10" />
<Polygon    x:Name="polygon"      Grid.Column="3" Grid.Row="1" Margin="10" VerticalAlignment="Center"
HorizontalAlignment="Center"
Fill="#FF00FF00"
Stroke="#FF000000"
Points="28.8,14.4 40.0,49.2 10.6,27.6 47.0,27.6 17.6,49.2" />
<TextBox    x:Name="textbox"      Grid.Column="0" Grid.Row="2" Margin="10" VerticalAlignment="Center"
Height="100" FontSize="12"
Text="Type here!" />
<RadioButton x:Name="rb_red"      Grid.Column="1" Grid.Row="2" Margin="10" VerticalAlignment="Top" Content="red"
Click="OnRadioButtonClick" />
<RadioButton x:Name="rb_green"   Grid.Column="1" Grid.Row="2" Margin="10" VerticalAlignment="Center" Content="green"
Click="OnRadioButtonClick" />
<RadioButton x:Name="rb_blue"    Grid.Column="1" Grid.Row="2" Margin="10" VerticalAlignment="Bottom" Content="blue"
Click="OnRadioButtonClick" />
<StackPanel Grid.Column="2" Grid.Row="2" Orientation="Vertical">
<Slider      x:Name="s_size"      Margin="10" ValueChanged="OnSliderValueChanged"
Orientation="Vertical" Height="40" Maximum="100" />
<TextBlock   Margin="10" HorizontalAlignment="Center" Text="Height" FontSize="10" />
<Slider      x:Name="s_border"    Margin="10" ValueChanged="OnSliderValueChanged" Width="40"
Maximum="10" />
<TextBlock   Margin="10" HorizontalAlignment="Center" Text="Border" FontSize="10" />
</StackPanel>
<ScrollBar  x:Name="scroll"      Grid.Column="4" Grid.Row="2" Margin="10" Width="20" Height="100"
Minimum="0.5" Maximum="2.3" ValueChanged="OnScrollBarValueChanged" />
</Grid>
</UserControl>

```

Page.xaml.cs

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Animation;
using System.Windows.Shapes;

namespace ControlsInAGrid1
{
    public partial class Page : UserControl
    {
        ScaleTransform polygonscale = new ScaleTransform();
        DoubleAnimation anima = new DoubleAnimation();
        public Page()
        {
            InitializeComponent();
            checkbox.IsChecked = true;
            s_size.Value = 100;
            s_border.Value = 10;
        }
    }
}

```

```

    for (int i = 0; i < polygon.Points.Count; i++)
    { polygonscale.CenterX += polygon.Points[i].X;
      polygonscale.CenterY += polygon.Points[i].Y;
    }
    polygonscale.CenterX /= polygon.Points.Count;
    polygonscale.CenterY /= polygon.Points.Count;
    anima.To = 14;
}
private void OnButtonClick(object sender, RoutedEventArgs e)
{ ButtonAnimationStoryboard.Stop();
  button.Content = "Fade away";
  ButtonAnimationStoryboard.Begin();
}
private void OnvButtonClick(object sender, RoutedEventArgs e)
{ video.Stop();
  video.Play();
}
private void rectangleLoaded(object sender, RoutedEventArgs e)
{ RectangleAnimationStoryboard.Begin();
}
private void OnCheckBoxClick(object sender, RoutedEventArgs e)
{ if (checkbox.IsChecked == true) image.Visibility = Visibility.Visible;
  else image.Visibility = Visibility.Collapsed;
}
private void OnRadioButtonClick(object sender, RoutedEventArgs e)
{ switch (((RadioButton)sender).Name)
  { case "rb_red":   textbox.Foreground = new SolidColorBrush(Color.FromArgb(255, 255,
0, 0)); break;
    case "rb_green": textbox.Foreground = new SolidColorBrush(Color.FromArgb(255, 0,
255, 0)); break;
    case "rb_blue":  textbox.Foreground = new SolidColorBrush(Color.FromArgb(255, 0, 0,
255)); break;
  }
}
private void OnSliderValueChanged(object sender, RoutedEventArgs e)
{ switch (((Slider)sender).Name)
  { case "s_size" : ellipse.Height = s_size.Value; break;
    case "s_border": ellipse.StrokeThickness = s_border.Value; break;
  }
}
private void OnScrollBarValueChanged(object sender, RoutedEventArgs e)
{ try {
  polygonscale.ScaleX = polygonscale.ScaleY = scroll.Value;
  polygon.RenderTransform = polygonscale;
} catch {}
}
} //end of class Page
} //end of namespace

```

1) Main menu of Visual Web Developer 2008 Express → Debug → Start Debugging F5 or → Debug → Start Without Debugging Ctrl+F5.

2) Download the foto [Foto.jpg](#) and store it into the project directory

C:\Temp\SLProjects\ControlsInAGrid1\Bin\Debug and/or into

C:\Temp\SLProjects\ControlsInAGrid1\Bin\Release or wherever Visual Web Developer 2008 Express stored your TestPage.html.

3) Download the video clip [smooth.wmv](#) and store it into the project directory

C:\Temp\SLProjects\ControlsInAGrid1\Bin\Debug and/or into

C:\Temp\SLProjects\ControlsInAGrid1\Bin\Release or wherever Visual Web Developer 2008 Express stored your TestPage.html.

4) Compile and run again via the main menu of Visual Web Developer 2008 Express → Debug → Start Debugging F5 or → Debug → Start Without Debugging Ctrl+F5 and the photo in the first row and the video clip in the second row should run.