

Windows Presentation Foundation Tutorial 2

PDF: http://buchananweb.co.uk/wpf_2.pdf

Tutorial: http://buchananweb.co.uk/e_presentations/dotnet_lecture2/dotnet_lecture2.htm

A Introduction

1. Download the XAML code:

http://buchananweb.co.uk/wpf_tut2_part01.zip

and load into Microsoft Blend (see Figure 1).

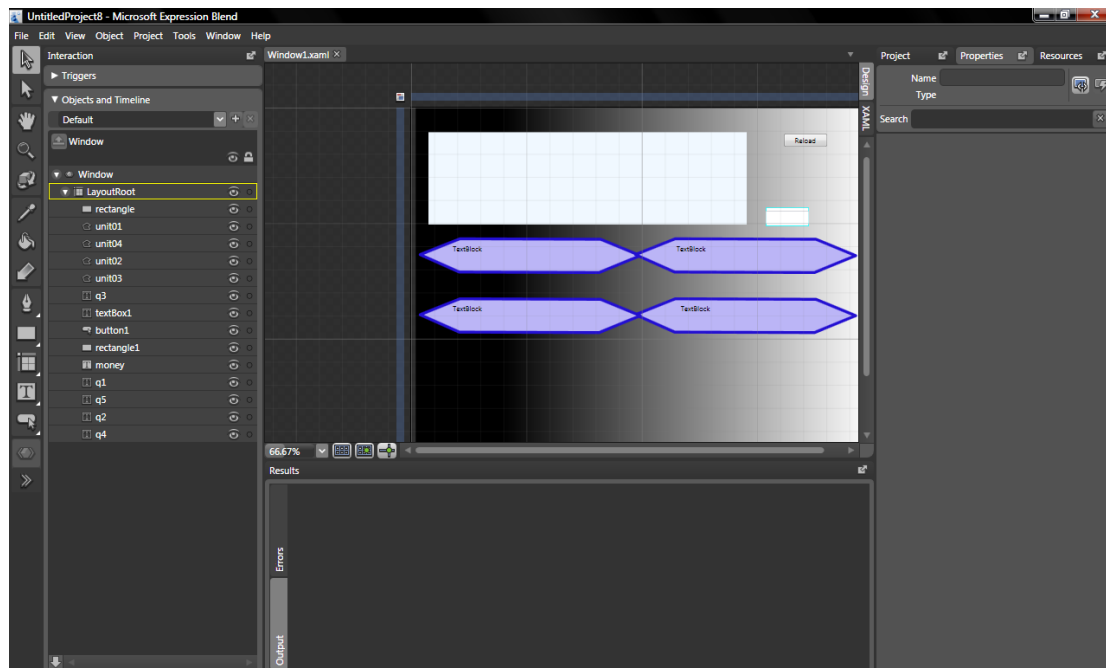


Figure 1: Blend

2. Create a new WPF Web application, and past the code into it. Make sure that the name of the project corresponds to the name of your project in the XAML. Figure 8 shows an example. The events on the buttons are: q1_MouseDown, q2_MouseDown, and so on. Next add the events for these buttons:

```
using System;  
using System.Collections.Generic;  
using System.Text;  
using System.Windows;  
using System.Windows.Controls;  
using System.Windows.Data;  
using System.Windows.Documents;  
using System.Windows.Input;  
using System.Windows.Media;  
using System.Windows.Media.Imaging;  
using System.Windows.Navigation;
```

```

using System.Windows.Shapes;
using System.Windows.Media.Animation;

namespace dotnet3_18
{
    public partial class Page1 : Page
    {
        string[] question = { "What is the capital of Scotland",
            "What is the capital of England",
            "What is the capital of Wales",
            "Which is not a Napier Campus",
            "Which is the binary equivalent of 5"};
        string[] quest1 = { "Glasgow", "London", "Cardiff", "Merchiston", "001" };
        string[] quest2 = { "Edinburgh", "Manchester", "Swansea", "Craiglockhart", "100" };
        string[] quest3 = { "Stirling", "York", "Bridgend", "Sighthill", "101" };
        string[] quest4 = { "Falkirk", "Leeds", "Wrexham", "Edinburgh Castle", "110" };

        string[] ans = { "B", "A", "A", "D", "C" };
        string [] moneyvalues = { "100", "200", "500", "1,000", "5,000", "10,000", "100,000" };
        Random r = new Random();
        int level = 0;
        string correct = "";

        public Page1()
        {
            InitializeComponent();
            genContent();
        }
        public void q1_MouseDown(object sender, MouseButtonEventArgs e)
        {
            if (correct == "A") level++;
            else level = 0;

            genContent();
        }
        public void q2_MouseDown(object sender, MouseButtonEventArgs e)
        {
            if (correct == "B") level++;
            else level = 0;

            genContent();
        }
        public void q3_MouseDown(object sender, MouseButtonEventArgs e)
        {
            if (correct == "C") level++;
            else level = 0;

            genContent();
        }
    }
}

```

```

public void q4_MouseDown(object sender, MouseButtonEventArgs e)
{
    if (correct == "D") level++;
    else level = 0;

    genContent();
}
public void genContent()
{

    int select = r.Next(0, question.Length - 1);
    this.textBox1.Text = question[select];
    this.q1.Text = quest1[select];
    this.q2.Text = quest2[select];
    this.q3.Text = quest3[select];
    this.q4.Text = quest4[select];
    correct = ans[select];
    money.Text = moneyvalues[level];
    Anim();
}

private void clearAll()
{
    level = 0;
    Storyboard sb = (Storyboard)TryFindResource("Timeline1");
    sb.Begin(this);

}
private void clearAllOld()
{
    //frame.Navigate(new Uri("Page1.xaml", UriKind.Relative));
    this.unit01.Opacity = 0;
    this.unit02.Opacity = 0;
    this.unit03.Opacity = 0;
    this.unit04.Opacity = 0;
    this.textBox1.Text = "";
}

private void button1_Click(object sender, RoutedEventArgs e)
{
    clearAll();
    genContent();
}

public void Anim()
{
    // To be added ... later
}
}

```

```
}
```

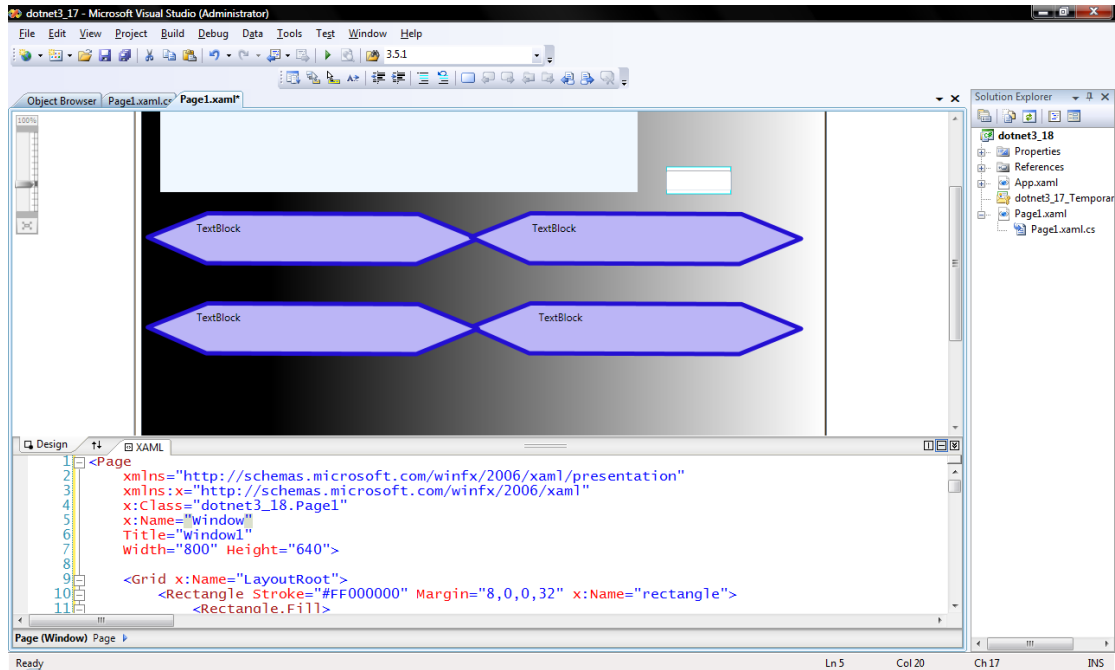


Figure 2: VS

3. Run the program and make sure it works (the correct answer should give an increased amount of prize money), where an incorrect answer sets the money back to £100.
4. Next we will animate the answers. For this, go back to Blend and add a timeline (Timeline1). Go to the two second timeline, and add key frame for all the questions. Next go back to the zero second timeline, and move each of the questions back, making them zero opacity, and add a keyframe for each (as shown in Figure 3).

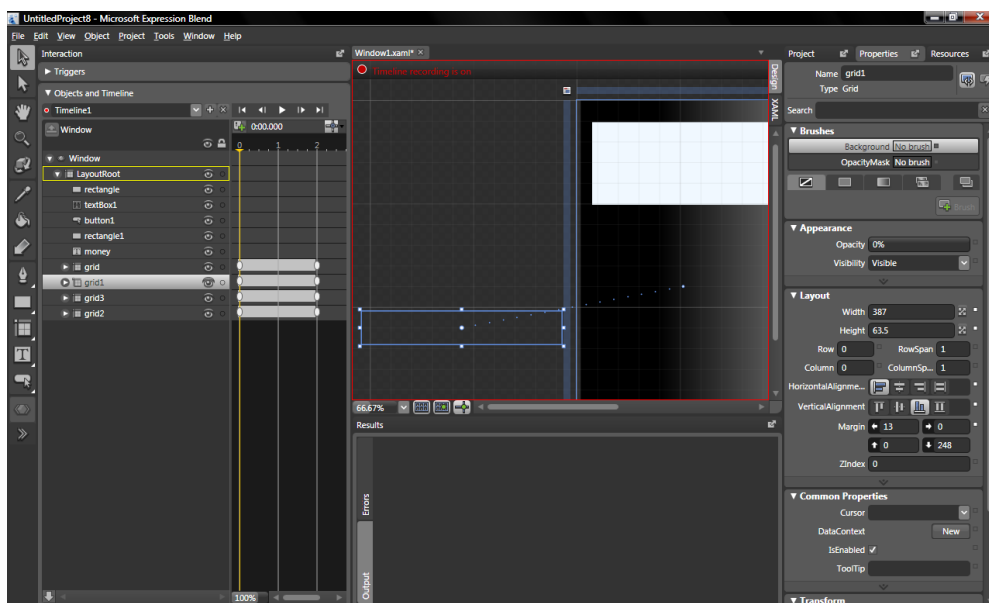


Figure 3: Timelining

4. Next paste the XAML code back into Visual Studio, and update the Anim() method so that it reanimates the questions:

```
public void Anim()
{
    Storyboard sb = (Storyboard)TryFindResource("Timeline1");
    sb.Begin(this);
    if (level == 15)
    {
        MessageBox.Show("Well done!");
        level = 0;
    }
}
```

5. Now test the program, and show that it animates the questions.
6. At the start of the quiz, animate the question box, so that it arrives from the top, and moves down to its end position, while fading-in.
7. From Blend (or from the core XAML), change the question boxes so that they are red rather than blue. The outline of the box should be dark red and the inside light red.
8. Add more questions into the program, and make sure that the same question does not come up again while the user is going up the levels.
9. If the user gets to Level 14, show an animation screen which fades the questions off the screen, and displays a congratulation message.

Appendix A

Tutorial 2 (Part 1) Solution

```
<Page
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
  x:Class="dotnet3_18.Page1"
  x:Name="Window"
  Title="Window1"
  Width="800" Height="640">

  <Grid x:Name="LayoutRoot">
    <Rectangle Stroke="#FF000000" Margin="8,0,0,32" x:Name="rectangle">
      <Rectangle.Fill>
        <LinearGradientBrush EndPoint="1,0.5" StartPoint="0,0.5">
          <GradientStop Color="#FF000000" Offset="0.188"/>
          <GradientStop Color="#FFFFFFFF" Offset="1"/>
        </LinearGradientBrush>
      </Rectangle.Fill>
    </Rectangle>
    <Path x:Name="unit01" Stretch="Fill" StrokeThickness="5" StrokeLineJoin="Round"
      Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L 183.333,337.333L
      456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z " Margin="13,224.5,0,0"
      RenderTransformOrigin="0.5,0.5" VerticalAlignment="Top" Height="63.5"
      HorizontalAlignment="Left" Width="387">
      <Path.RenderTransform>
        <TransformGroup>
          <ScaleTransform ScaleX="1" ScaleY="1"/>
          <SkewTransform AngleX="0" AngleY="0"/>
          <RotateTransform Angle="0"/>
          <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
      </Path.RenderTransform>
    </Path>
    <Path x:Name="unit04" Stretch="Fill" StrokeThickness="5" StrokeLineJoin="Round"
      Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L 183.333,337.333L
      456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z " Margin="0,0,26.5,248"
      VerticalAlignment="Bottom" Height="63.5" RenderTransformOrigin="0.5,0.5"
      HorizontalAlignment="Right" Width="387">
      <Path.RenderTransform>
        <TransformGroup>
          <ScaleTransform ScaleX="1" ScaleY="1"/>
          <SkewTransform AngleX="0" AngleY="0"/>
          <RotateTransform Angle="0"/>
          <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
      </Path.RenderTransform>
    </Path>
  </Grid>
```

```

    <Path x:Name="unit02" Stretch="Fill" StrokeThickness="5" StrokeLineJoin="Round"
Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L 183.333,337.333L
456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z "
Margin="0,224.5,26.5,0" RenderTransformOrigin="0.5,0.5" VerticalAlignment="Top"
Height="63.5" HorizontalAlignment="Right" Width="387">
    <Path.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </Path.RenderTransform>
</Path>
    <Path x:Name="unit03" Stretch="Fill" StrokeThickness="5" StrokeLineJoin="Round"
Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L 183.333,337.333L
456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z " Margin="13,0,0,248"
VerticalAlignment="Bottom" Height="63.5" RenderTransformOrigin="0.5,0.5"
HorizontalAlignment="Left" Width="387">
    <Path.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </Path.RenderTransform>
</Path>
    <TextBlock Margin="30,42.5,218,0" x:Name="textBox1" VerticalAlignment="Top"
Height="160" Text="" TextWrapping="Wrap" Background="AliceBlue" FontSize="16"
/><Button Height="23" HorizontalAlignment="Right" Margin="0,45,79,0" Name="button1"
VerticalAlignment="Top" Width="75" Click="button1_Click">Reload</Button><Rectangle
HorizontalAlignment="Right" Margin="0,173,110,0" Name="rectangle1" Stroke="Cyan"
Width="75" Height="32" VerticalAlignment="Top" Fill="White" /><TextBox Height="23"
HorizontalAlignment="Right" Margin="0,178,110,0" Name="money" VerticalAlignment="Top"
Width="75" />

    <TextBlock MouseDown="q3_MouseDown" x:Name="q3" Width="168" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" Height="32" RenderTransformOrigin="0.5,0.5"
HorizontalAlignment="Left" Margin="72,0,0,269" VerticalAlignment="Bottom">
        <TextBlock.RenderTransform>
            <TransformGroup>
                <ScaleTransform ScaleX="1" ScaleY="1"/>
                <SkewTransform AngleX="0" AngleY="0"/>
                <RotateTransform Angle="0"/>
                <TranslateTransform X="0" Y="0"/>
            </TransformGroup>
        </TextBlock.RenderTransform>
    </TextBlock>

```

```

    <TextBlock MouseDown="q1_MouseDown" x:Name="q1" Width="168" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
HorizontalAlignment="Left" Margin="72,235.5,0,0" VerticalAlignment="Top" Height="32">
    <TextBlock.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </TextBlock.RenderTransform>
</TextBlock>
    <TextBlock MouseDown="q2_MouseDown" x:Name="q2" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5" Height="32"
HorizontalAlignment="Right" Margin="0,235.5,172,0" VerticalAlignment="Top" Width="168">
    <TextBlock.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </TextBlock.RenderTransform>
</TextBlock>
    <TextBlock MouseDown="q4_MouseDown" x:Name="q4" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
HorizontalAlignment="Right" Margin="0,0,164.5,269" VerticalAlignment="Bottom"
Width="168" Height="32">
    <TextBlock.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </TextBlock.RenderTransform>
</TextBlock>

</Grid>
</Page>

```

Tutorial 2 (Part 2)

```

<Page
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
xmlns:d="http://schemas.microsoft.com/expression/blend/2006"
xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
mc:Ignorable="d"
x:Class="dotnet3_19.Page1"

```



```

x:Name="Window"
Title="Window1"
Width="800" Height="640">

<Page.Resources>
  <Storyboard x:Key="Timeline1">
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.X)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="-432"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.Y)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="-32"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid1"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.X)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="-429"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid1"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.Y)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="80"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid3"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.X)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="413.5"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid3"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(Tran
slateTransform.Y)">
      <SplineDoubleKeyFrame KeyTime="00:00:00" Value="-48"/>
      <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
    </DoubleAnimationUsingKeyFrames>
    <DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid2"

```

```

Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(TranslateTransform.X)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="418.5"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
</DoubleAnimationUsingKeyFrames>
<DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid2"
Storyboard.TargetProperty="(UIElement.RenderTransform).(TransformGroup.Children)[3].(TranslateTransform.Y)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="87.5"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="0"/>
</DoubleAnimationUsingKeyFrames>
<DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid3" Storyboard.TargetProperty="(UIElement.Opacity)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="0"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="1"/>
</DoubleAnimationUsingKeyFrames>
<DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid2" Storyboard.TargetProperty="(UIElement.Opacity)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="0"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="1"/>
</DoubleAnimationUsingKeyFrames>
<DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid" Storyboard.TargetProperty="(UIElement.Opacity)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="0"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="1"/>
</DoubleAnimationUsingKeyFrames>
<DoubleAnimationUsingKeyFrames BeginTime="00:00:00"
Storyboard.TargetName="grid1" Storyboard.TargetProperty="(UIElement.Opacity)">
    <SplineDoubleKeyFrame KeyTime="00:00:00" Value="0"/>
    <SplineDoubleKeyFrame KeyTime="00:00:02" Value="1"/>
</DoubleAnimationUsingKeyFrames>
</Storyboard>
</Page.Resources>
<Page.Triggers>
    <EventTrigger RoutedEvent="FrameworkElement.Loaded">
        <BeginStoryboard Storyboard="{StaticResource Timeline1}"/>
    </EventTrigger>
</Page.Triggers>

<Grid x:Name="LayoutRoot">
    <Rectangle Stroke="#FF000000" Margin="8,0,0,32" x:Name="rectangle">
        <Rectangle.Fill>
            <LinearGradientBrush EndPoint="1,0.5" StartPoint="0,0.5">
                <GradientStop Color="#FF000000" Offset="0.188"/>
                <GradientStop Color="#FFFFFFFF" Offset="1"/>
            </LinearGradientBrush>
        </Rectangle.Fill>
    </Rectangle>
</Grid>

```

```

    <TextBlock Margin="30,42.5,218,0" x:Name="textBox1" VerticalAlignment="Top"
    Height="160" Text="" TextWrapping="Wrap" Background="AliceBlue" FontSize="16"
    /><Button Height="23" HorizontalAlignment="Right" Margin="0,45,79,0" Name="button1"
    VerticalAlignment="Top" Width="75" Click="button1_Click">Reload</Button><Rectangle
    HorizontalAlignment="Right" Margin="0,173,110,0" Name="rectangle1" Stroke="Cyan"
    Width="75" Height="32" VerticalAlignment="Top" Fill="White" /><TextBox Height="23"
    HorizontalAlignment="Right" Margin="0,178,110,0" Name="money" VerticalAlignment="Top"
    Width="75" />

    <Grid HorizontalAlignment="Left" Margin="13,224.5,0,0" VerticalAlignment="Top"
    Width="387" Height="63.5" RenderTransformOrigin="0.5,0.5" x:Name="grid">
        <Grid.RenderTransform>
            <TransformGroup>
                <ScaleTransform ScaleX="1" ScaleY="1"/>
                <SkewTransform AngleX="0" AngleY="0"/>
                <RotateTransform Angle="0"/>
                <TranslateTransform X="0" Y="0"/>
            </TransformGroup>
        </Grid.RenderTransform>
        <Path x:Name="unit01" Stretch="Fill" StrokeThickness="5"
    StrokeLineJoin="Round" Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L
    183.333,337.333L 456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z "
    RenderTransformOrigin="0.5,0.5">

            <Path.RenderTransform>
                <TransformGroup>
                    <ScaleTransform ScaleX="1" ScaleY="1"/>
                    <SkewTransform AngleX="0" AngleY="0"/>
                    <RotateTransform Angle="0"/>
                    <TranslateTransform X="0" Y="0"/>
                </TransformGroup>
            </Path.RenderTransform>
        </Path>
        <TextBlock MouseDown="q1_MouseDown" x:Name="q1" FontSize="12"
    Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
    Margin="59,11,160,20.5">
            <TextBlock.RenderTransform>
                <TransformGroup>
                    <ScaleTransform ScaleX="1" ScaleY="1"/>
                    <SkewTransform AngleX="0" AngleY="0"/>
                    <RotateTransform Angle="0"/>
                    <TranslateTransform X="0" Y="0"/>
                </TransformGroup>
            </TextBlock.RenderTransform>
        </TextBlock>
    </Grid>
    <Grid HorizontalAlignment="Left" Margin="13,0,0,248" VerticalAlignment="Bottom"
    Width="387" Height="63.5" RenderTransformOrigin="0.5,0.5" x:Name="grid1">
        <Grid.RenderTransform>
            <TransformGroup>

```

```

        <ScaleTransform ScaleX="1" ScaleY="1"/>
        <SkewTransform AngleX="0" AngleY="0"/>
        <RotateTransform Angle="0"/>
        <TranslateTransform X="0" Y="0"/>
    </TransformGroup>
</Grid.RenderTransform>
    <Path x:Name="unit03" Stretch="Fill" StrokeThickness="5"
StrokeLineJoin="Round" Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L
183.333,337.333L 456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z "
RenderTransformOrigin="0.5,0.5">

    <Path.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </Path.RenderTransform>
</Path>

    <TextBlock MouseDown="q3_MouseDown" x:Name="q3" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
Margin="59,10.5,160,21">
    <TextBlock.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </TextBlock.RenderTransform>
</TextBlock>
</Grid>
    <Grid Margin="386.5,224.5,26.5,0" VerticalAlignment="Top" Height="63.5"
RenderTransformOrigin="0.5,0.5" x:Name="grid3">
    <Grid.RenderTransform>
        <TransformGroup>
            <ScaleTransform ScaleX="1" ScaleY="1"/>
            <SkewTransform AngleX="0" AngleY="0"/>
            <RotateTransform Angle="0"/>
            <TranslateTransform X="0" Y="0"/>
        </TransformGroup>
    </Grid.RenderTransform>
    <Path x:Name="unit02" Stretch="Fill" StrokeThickness="5"
StrokeLineJoin="Round" Stroke="#FF230FD2" Fill="#FFBBB5F6" Data="F1 M 106,380L
183.333,337.333L 456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z "
RenderTransformOrigin="0.5,0.5" d:LayoutOverrides="HorizontalAlignment">
    <Path.RenderTransform>
        <TransformGroup>

```

```

        <ScaleTransform ScaleX="1" ScaleY="1"/>
        <SkewTransform AngleX="0" AngleY="0"/>
        <RotateTransform Angle="0"/>
        <TranslateTransform X="0" Y="0"/>
    </TransformGroup>
</Path.RenderTransform>
</Path>
    <TextBlock MouseDown="q2_MouseDown" x:Name="q2" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
Margin="73.5,11,145.5,20.5">
        <TextBlock.RenderTransform>
            <TransformGroup>
                <ScaleTransform ScaleX="1" ScaleY="1"/>
                <SkewTransform AngleX="0" AngleY="0"/>
                <RotateTransform Angle="0"/>
                <TranslateTransform X="0" Y="0"/>
            </TransformGroup>
        </TextBlock.RenderTransform>
    </TextBlock>
</Grid>
    <Grid Margin="386.5,0,26.5,248" VerticalAlignment="Bottom" Height="63.5"
RenderTransformOrigin="0.5,0.5" x:Name="grid2">
        <Grid.RenderTransform>
            <TransformGroup>
                <ScaleTransform ScaleX="1" ScaleY="1"/>
                <SkewTransform AngleX="0" AngleY="0"/>
                <RotateTransform Angle="0"/>
                <TranslateTransform X="0" Y="0"/>
            </TransformGroup>
        </Grid.RenderTransform>
        <Path x:Name="unit04" Stretch="Fill" StrokeThickness="5"
StrokeLineJoin="Round" Stroke="#FF230FD2" Fill="#FFB55F6" Data="F1 M 106,380L
183.333,337.333L 456.667,338.667L 534,382.667L 454,428L 182,426.667L 106,380 Z "
RenderTransformOrigin="0.5,0.5" d:LayoutOverrides="HorizontalAlignment">
            <Path.RenderTransform>
                <TransformGroup>
                    <ScaleTransform ScaleX="1" ScaleY="1"/>
                    <SkewTransform AngleX="0" AngleY="0"/>
                    <RotateTransform Angle="0"/>
                    <TranslateTransform X="0" Y="0"/>
                </TransformGroup>
            </Path.RenderTransform>
        </Path>
        <TextBlock MouseDown="q4_MouseDown" x:Name="q4" FontSize="12"
Text="TextBlock" TextWrapping="Wrap" RenderTransformOrigin="0.5,0.5"
Margin="81,10.5,138,21">
            <TextBlock.RenderTransform>
                <TransformGroup>
                    <ScaleTransform ScaleX="1" ScaleY="1"/>
                    <SkewTransform AngleX="0" AngleY="0"/>

```

```
        <RotateTransform Angle="0"/>
        <TranslateTransform X="0" Y="0"/>
    </TransformGroup>
</TextBlock.RenderTransform>
</TextBlock>
</Grid>
</Grid>
</Page>
```