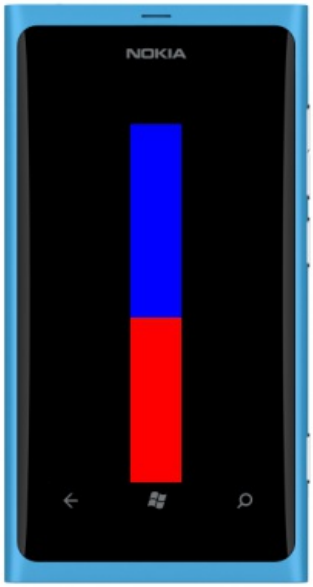
How to control an animation in XAML and in the code in your Windows Phone app

This article explains how to create simple animations in Windows Phone.

Introduction

Creating animations in your Windows Phone application is easier than you think. I created a simple application that shows how to control an animation in XAML and in the code. Both animations fill the following red rectangle from the bottom to the top.



Defining an animation in XAML

An animation is created using a Storyboard object. This is often (and most easily) defined in the XAML file as shown below:

```
<phone:PhoneApplicationPage x:Class="SimpleAnimationApp.StaticAnimationPage"

xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
                            xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
                            xmlns:phone="clr-
namespace:Microsoft.Phone.Controls;assembly=Microsoft.Phone">

    <phone:PhoneApplicationPage.Resources>

        <Storyboard x:Name="staticAnimation">

            <DoubleAnimation Duration="0:0:5"
                             To="700"
                             Storyboard.TargetProperty="Height"
                             Storyboard.TargetName="rectangleRed" />

        </Storyboard>

    </phone:PhoneApplicationPage.Resources>

    <Grid>

    <Rectangle Fill="Blue"
               Height="700"
               Width="100"
```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```
                VerticalAlignment="Bottom"/>

    <Rectangle Fill="Red"
               Height="0"
               Width="100"
               VerticalAlignment="Bottom"
               x:Name="rectangleRed"/>

    </Grid>

</phone:PhoneApplicationPage>
```

The `StoryBoard` contains one or more animation definitions. In this case we use just one animation, of type DoubleAnimation. This is the simplest animation type, and simply animates a property that uses a double value over a certain duration.

The properties defined in the above `DoubleAnimation` are the target object (`Storyboard.TargetName`) and the property within that object to be animated (`Storyboard.TargetProperty`), along with the final value of the target object property (`To`) and how long the animation will take (`Duration`). In this case we'll be animating the `rectangleRed.height` property to a value of 700 over 5 seconds.

To start the animation, you need to call the Begin() method on the `StoryBoard` object in C#:

```
using System.Windows.Navigation;

namespace SimpleAnimationApp
{
    public partial class StaticAnimationPage
    {
        public StaticAnimationPage()
        {
            InitializeComponent();
        }

        protected override void OnNavigatedTo(NavigationEventArgs e)
        {
            base.OnNavigatedTo(e);

            staticAnimation.Begin();
        }
    }
}
```

Tip: It is not used in this app, but you can also call the `Stop()` method to stop the animation.

Control an animation in code

For this example we have similar XAML code but the properties `Duration` and `To` are specified in the code behind:

```
<phone:PhoneApplicationPage x:Class="SimpleAnimationApp.DynamicAnimationPage"

xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
                            xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
                            xmlns:phone="clr-
namespace:Microsoft.Phone.Controls;assembly=Microsoft.Phone">

    <phone:PhoneApplicationPage.Resources>
```


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```
        <Storyboard x:Name="dynamicAnimation">

            <DoubleAnimation Storyboard.TargetProperty="Height"
                             Storyboard.TargetName="rectangleRed"
                             x:Name="doubleAnimation" />

        </Storyboard>

    </phone:PhoneApplicationPage.Resources>

    <Grid>

    <Rectangle Fill="Blue"
               Height="700"
               Width="100"
               VerticalAlignment="Bottom"/>

    <Rectangle Fill="Red"
               Height="0"
               Width="100"
               VerticalAlignment="Bottom"
               x:Name="rectangleRed"/>

    </Grid>

</phone:PhoneApplicationPage>
```

Again we define the name of the target object and its property to be animated. Note though that in this case we also define a name for the `DoubleAnimation` using: `x:Name="doubleAnimation"`. This makes the `doubleAnimation` object available within the code behind of the page so that we can set its properties.

In the code below I set the `Duration` to 5 seconds and the `To` to 350 (half the size of the blue rectangle) before starting the animation:

```
using System;
using System.Windows.Navigation;

namespace SimpleAnimationApp
{
    public partial class DynamicAnimationPage
    {
        public DynamicAnimationPage()
        {
            InitializeComponent();
        }

        protected override void OnNavigatedTo(NavigationEventArgs e)
        {
            base.OnNavigatedTo(e);

            doubleAnimation.Duration = new TimeSpan(0, 0, 0, 10);
            doubleAnimation.To = 350;

            dynamicAnimation.Begin();
        }
    }
```


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```
}
```

Conclusion

It is not complicated to control an animation in XML or in code. Those were simple animations, but if you want to create more complex animations and even combine animations, you can find more information on the web.

Put some life in your control!

Download

File:SimpleAnimationApp.zip - The sample project including the static animation and the dynamic animation.

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