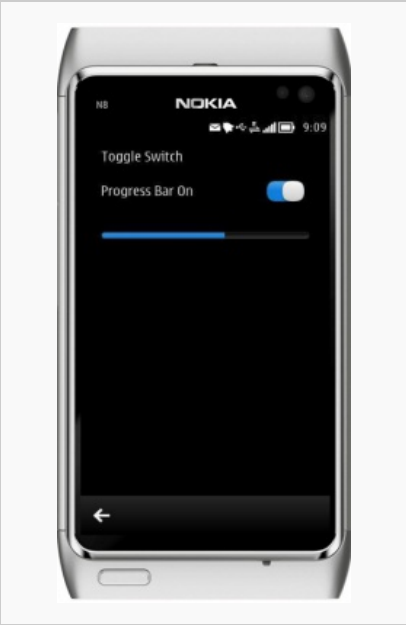
Toggle Switch and Progress Bar in Qt and WP7

This article demonstrates how to use a Toggle Switch and a Progress Bar in Qt and WP7.

Introduction

The code examples both have a Toggle Switch and a Progress Bar. When the toggle switch is "On" a timer is used to update the progress bar value. The progress bar stops if the switch is set to *Off*.



Toggle Switch and Progress Bar in QML

Toggle Switch and Progress Bar in WP7

Implementation

Qt Project (MainPage.qml)

To create a toggle switch and progress bar in QML we use the QML Switch Element and QML ProgressBar Element.

```
Switch {
    id: toggleSwitch
    }

ProgressBar {
    id: progressBar1
    minimumValue: 0
    maximumValue: 100
    value: 0 //initial value is 0!
    indeterminate: false
    width:300
    }
```

To update the `ProgressBar` value a Timer is added. The timer stops when the `ProgressBar` value is maximum

```
Timer {
        id: progressTimer
        interval: 100
        repeat: true
        running: false
        onTriggered:
        {
            if(progressBar1.value < progressBar1.maximumValue)
                 progressBar1.value += 0.3
            else
            {
                progressBar1.value = progressBar1.maximumValue
                progressTimer.stop(); //or could set running=false
            }
        }
    }
```

To get the *On/Off* status of the `ProgressBar` we add a Text Element and check the *text* change value in `onTextChanged`.

```
Text {
                height: toggleSwitch.height
                verticalAlignment: Text.AlignVCenter
```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```
                text: toggleSwitch.checked ? "Progress Bar On" : "Progress Bar Off"
                font.pixelSize: platformStyle.fontSizeMedium
                color: platformStyle.colorNormalLight
                onTextChanged: {
                    if(text === "Progress Bar On" )
                    {
                        progressBar1.value = 0;
                        progressTimer.start();
                    }
                    else if(text === "Progress Bar Off" )
                     {
                        progressBar1.value=0;
                        progressTimer.stop();
                    }
                }
            }
```

When the toggle switch is *checked* we set the *text* value to *Progress Bar On*, otherwise set to *Progress Bar Off*. In `onTextChanged` we check the value of the *text* field, and `start()` or `stop()` the `ProgressBar` Timer.

WP7 Project (MainPage.xaml)

To use Toggle Switch in WP7 first we add the reference *Microsoft.Phone.Controls.Toolkit* into our project, which is available in Silverlight Toolkit. Next, add a reference to the assembly in the XAML page.

```
xmlns:toolkit="clr-namespace:Microsoft.Phone.Controls;assembly=Microsoft.Phone.Controls.Toolkit"
```

Now we create the toggle switch in the XAML page.

```
  <toolkit:ToggleSwitch x:Name="ToggleSwitch" Header="Toggle Switch" IsChecked="false" Content="Progress Bar Off" Checked="switch_Ch
```

In this case the current value of the *IsChecked* is *false*, so the switch is in *Off* state. The *Checked* and *Unchecked* event handlers are called when the status of toggle switch is *On* or *Off* accordingly. We add a ProgressBar and set its IsIndeterminate value to false and initial Value to zero.

We create a Timer which updates the ProgerssBar value at a particular interval of time.

```
DispatcherTimer timer = new DispatcherTimer();
        // Constructor
        public MainPage()
        {
            InitializeComponent();
            timer = new DispatcherTimer { Interval = new TimeSpan(5000) };
            timer.Tick += timer_Tick;
          }
        void timer_Tick(object sender, EventArgs e)
        {
            progressBar1.Value += progressBar1.SmallChange;
        }
```

Now when user *Checked* or *Unchecked* the toggle switch the event handlers are called which update the toggle switch *content*, reset the ProgressBar value to *zero* and `Start()` or `Stop()` the Timer.

```
private void switch_Checked(object sender, RoutedEventArgs e)
        {
            ToggleSwitch.Content = "Progress Bar On";
            progressBar1.Value = 0;
            timer.Start();
        }
private void switch_Unchecked(object sender, RoutedEventArgs e)
        {
            ToggleSwitch.Content = "Progress Bar Off";
            progressBar1.Value = 0;
            timer.Stop();
        }
```

Source Code

- The full source code of Qt example is available here: File:ProgressSwitchQML.zip
- The full source code of WP7 example is available here: File:ProgressSwitchWp7.zip

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