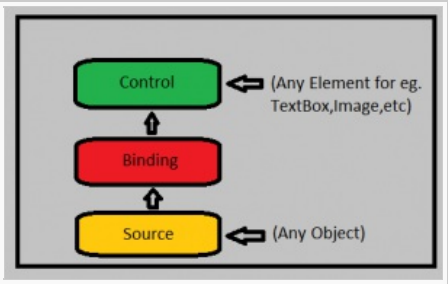
Data Binding in Qt and WP7

This article demonstrates how to work with Data Binding in Qt and WP7. See QML Property Binding and Data Binding (MSDN) for a more detailed overview.

Introduction

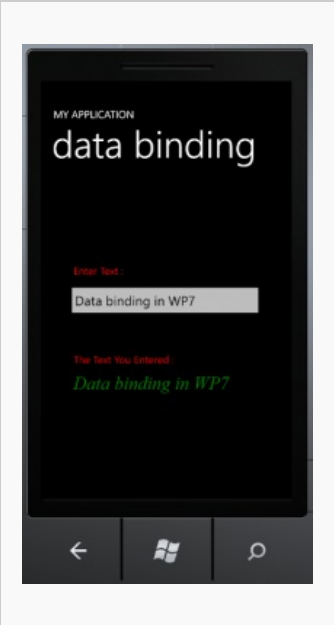
Data binding is a technique that binds two data/information sources together and maintains synchronization of data. In both Qt and Windows Phone data binding is used to synchronise UI components to each other and to the application engine/business logic.



Data Binding Diagram

In this simple example we create two controls, one for text entry and the other for displaying the entered text. Data binding is used to ensure that the content of the controls is synchronised. Screenshots of both apps are shown below.

Data Binding in Qt



Data Binding in WP7

Implementation

Qt Project (main.qml)

Data binding between QML objects in the same file is trivially easy: simply assign the property of source object into the target object property.

So for example, we create a source TextField (`id:sourceTextField`) and a target Text QML Element (`id:targetText`).

```
TextField {
          id: sourceTextField;
          y:160
          width: parent.width -80
          text: "Enter Text Here"
          errorHighlight: true
          anchors.horizontalCenter: parent.horizontalCenter
      }

 //The target text element
 Text {
        id:targetText
        text: sourceTextField.text //Data binding!
        font.pixelSize: 25
        font.bold: true
        y:330
        x:50
```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```
        color: "green"
    }
```

To bind the source and target, we assign `sourceTextField`'s `text` property to `targetText`'s `text` property.

```
...
id:targetText
text: sourceTextField.text //Data binding!
...
```

Sometimes we need to bind to a property of an object that wasn't directly instantiated by QML - generally a property of a class exported to QML by C++. In this case you can use the QML Binding Element to bind any element to any value:

```
Binding { target: targetText; property: "text"; value: sourceTextField.text }
```

WP7 Project (MainPage.xaml)

The Windows Phone example is very similar. We create a TextBox for text entry and a TextBlock for displaying the entered data.

```
<TextBox Height="72" HorizontalAlignment="Left" Margin="35,191,0,0"
  Name="sourceTextBox" Text="TextBox" VerticalAlignment="Top" Width="381" />
<TextBlock Foreground="Green" FontStyle="Italic" FontFamily="Times New Roman" FontSize="35" Height="63" HorizontalAlignment="Left" M
  Name="targetTextBlock" Text="{Binding Text, ElementName=sourceTextBox}" VerticalAlignment="Top" Width="350" />
```

The data binding is declared in the `targetTextBlock` using the `Binding` syntax:

```
Text="{Binding Text, ElementName=sourceTextBox}
```

Source Code

- The full source code of Qt example is available here: File:BindingQt.zip
- The full source code of WP7 example is available here: File:BindingWP7.zip

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