Listing Flickr images in a grid using Qt and WP7

This article demonstrates how to layout images from Flickr in a grid in Qt and Windows Phone 7.5.

Introduction

This article shows how to list images in a Grid in both Qt and Windows Phone 7. We will obtain the images from Flickr and demonstrates how to parse XML data and bind it for display in the UI.

For Qt we will use GridView element. For Windows Phone we will use `WrapPanel` from WP7 Toolkit. `WrapPanel` enables users to position child elements sequentially from left to right or top to bottom. When elements extend beyond the panel edge, they are positioned in the next row or column.

Image Listing in Qt

Image Listing in WP7

Implementation

First create an empty project for both Qt and WP7.

Qt Project (main.qml)

Let's create a text box to enter the search option

```
TextField {
      id:textField
      width: 260
      x:20
      y:70
      text: ""
      placeholderText: "Enter your search"
  }
```

Add a button, so that when user clicks on the button it takes the search string from the text box and display images from Flickr.

```
Button {
                id: button
                y:70
                x:parent.width -65
                text: "Go"
                onClicked: {
                     feedModel.search = textField.text;
                    feedModel.refresh();
                }
            }
```

The JavaScript `refresh()` function reload the content.

Qt Project (RssModel.qml)

(C) Copyright Nokia 2013. All rights reserved.

We use XmlListModel to store the parsed data.

```
XmlListModel {
    id: feedModel
     property string search : ""
    source : "http://api.flickr.com/services/feeds/photos_public.gne?tag="+search+"&format=rss2" //flickr
    query: "/rss/channel/item"  // flickr
    namespaceDeclarations:  "declare namespace media=\"http://search.yahoo.com/mrss/\";"
   // Flickr
    XmlRole { name: "title"; query: "title/string()" }
    XmlRole { name: "imagePath"; query: "media:thumbnail/@url/string()" }
    XmlRole { name: "photoAuthor"; query: "author/string()" }
    XmlRole { name: "photoDate"; query: "pubDate/string()" }
    function refresh()
    {
        reload();
    }
}
```

Qt Project (GridDelegate.qml)

To display the content we create a rectangle and an image and text inside it. Each text is the name of the corresponding image.

```
Rectangle {
                id: whiteRect; width: 79; height: 79 ; color: "#dddddd"; smooth: true
                Image {
                    id: thumb
                    source: imagePath
                     x: 2; y: 2; smooth: true
                   }
                Text {
                                id: imgTitle
                                height: 20
                                y:80
                                width: 89
                                text: trimString(title)
                                font.bold: true;
                                font.pixelSize: 15;
                                color: "White";
                                style: Text.Raised;
                                styleColor: "Black"
                         }
            }
```

The JavaScript `trimString()` function trim the name of the image if its exit *11* characters.

```
function trimString(string) {
        var limit = 11;
            if(string.length > limit) {
                    string = string.substr(0, (limit - 3)) + "...";
            }
            return string;
    }
```

This set of code will display the images in Grid View but can only be scrolled vertically.

Windows Phone 7 (MainPage.xaml)

- Add the reference

```
Microsoft.Phone.Controls.Toolkit to the project.
```

- Add namespace in XAML:

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

- Create a button and a text box to enter the Flickr search string

```
<Button Content="Search" Height="72" HorizontalAlignment="Left" Margin="266,14,0,0" Name="SearchButton" VerticalAlignment="Top
            <TextBox Height="72" HorizontalAlignment="Left" Margin="12,11,0,0" Name="SearchBox" Text="" VerticalAlignment="Top
```

Now we will add a ListBox to display the content. To display the images in grid view we use the `WrapPanel` as a content presenter instead of the default panel. This will help us to bring the images in the next line when it exits the panel edge. Thus we see a listing of images, and can scroll the images in vertical manner.

```
<ListBox Height="563" HorizontalAlignment="Left" Margin="-4,88,0,0" Name="listBox1" VerticalAlignment="Top" Width="460">
                <ListBox.ItemsPanel>
                    <ItemsPanelTemplate>
                        <toolkit:WrapPanel ItemHeight="150" ItemWidth="150"/>
                    </ItemsPanelTemplate>
                </ListBox.ItemsPanel>
                <ListBox.ItemTemplate>
                    <DataTemplate>
                        <StackPanel>
                            <Image Source="{Binding ImageSource}" Height="120" Width="120" HorizontalAlignment="Center" VerticalAlig
                            <TextBlock Text="{Binding UserName}" Style="{StaticResource PhoneTextSubtleStyle}"
Width="100" TextAlignment="Center"/>
                        </StackPanel>
                    </DataTemplate>
                </ListBox.ItemTemplate>
            </ListBox>
```


(C) Copyright Nokia 2013. All rights reserved.

We use data binding between ListBox and parsed data. First we parse the Flickr data using XElement class and then bind it to the ListBox.

```
XElement XmlTweet = XElement.Parse(e.Result);

XNamespace ns = "http://search.yahoo.com/mrss/"; // flilckr
listBox1.ItemsSource = from tweet in XmlTweet.Descendants("item")
select new FlickrData
    {
    ImageSource = tweet.Element(ns + "thumbnail").Attribute("url").Value,
    Message = tweet.Element("description").Value,
    UserName = tweet.Element("title").Value,
    PubDate = DateTime.Parse(tweet.Element("pubDate").Value)
    };
```

This code will display the Flickr images as that of the Qt project.

Summary

The Windows Phone 7 `WrapPanel` from the Silverlight Toolkit is a new control which can be found here:

```
C:\Program Files (x86)\Microsoft SDKs\Windows Phone\v7.0\Toolkit\Nov10\Bin\Microsoft.Phone.Controls.Toolkit.dll
```

The `ItemHeight` and `ItemWidth` are the key property of `WrapPanel` which sets the height and width of the layout area for each item that contains in `WrapPanel`.

And in Qt we use `cellWidth` and `cellHeight` to define the area of the panel.

Source Code

- The full source code of Qt example is available here: File:GridViewImageQt.zip
- The full source code of WP7 example is available here: File:GridViewImageWP7.zip

(C) Copyright Nokia 2013. All rights reserved.

(C) Copyright Nokia 2013. All rights reserved.