Grid View in Qt and WP7

This article demonstrates how to display content in grid layout using Qt and WP7.

Introduction

A grid layout is one where elements are arranged in columns and rows. Qt Quick provides the GridView Element and for WP7 we have the Grid class. This code example shows how we lay out items (in this case images) on both platforms.

Grid View in Qt

Grid View in WP7

Implementation

Qt (GridModel.qml)

Qt uses an architecture where views display data that is defined in a separate model - the same model can be displayed differently depending on the view used.

For this example we use a simple QML ListModel Element from which the GridView can fetch data and display in grid view. The model is declared (in this case) in its own file **GridModel.qml**:

```
ListModel {
    ListElement {
        portrait: "Thumbnails/1.jpeg"
    }
    ListElement {
        portrait: "Thumbnails/2.jpeg"
    }
    ListElement {
        portrait: "Thumbnails/3.jpeg"
    }
    ListElement {
        portrait: "Thumbnails/4.jpeg"
    }
    ListElement {
        portrait: "Thumbnails/1.jpeg"
    }
}
```

This ListModel contains a number of QML ListElements, each which stores the path of an image in its `portrait` role.

Qt Project (main.qml)

The positioning and size of the GridView are defined by its `width` and `height` parameters. The `model` parameter specifies the model to use - in this case it's `GridModel`, which tells Qt Quick to pull in the model definition from the file **GridModel.qml** in the current directory.

The actual column/row layout is calculated by the view from the `cellWidth` and `cellHeight` to use as much of the available space as possible.

```
GridView
    {
```


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```
    id: grid
    anchors.fill: parent
    cellWidth: (parent.width)/2;
    cellHeight: cellWidth;
    width: parent.width; height: parent.height
    model: GridModel {}
    delegate: Column {
        Image {
             source: portrait;
             anchors.horizontalCenter: parent.horizontalCenter; anchors.verticalCenter: parent.verticalCenter
        }
    }
}
```

The appearance of each cell is defined in the `delegate` property. The delegate is an image centred in the cell - it accesses the model's `portrait` data role for each item to get the file path of the image to display.

WP7 Project (MainPage.xaml)

Windows Phone 7 (XAML) uses a very different approach for element layout. In this case the rows and columns in the grid are first defined, and then the elements are assigned to column and row positions.

To be more precise, inside the Grid, we define the set of RowDefinition objects inside a RowDefinitions group, and the set of ColumnDefinition objects inside a ColumnDefinitions group. We place objects in specific cells of the Grid using the Grid.Column and Grid.Row properties. To make the grid view flickable we have placed the Grid inside `ListBox`.

```
<!--ContentPanel - place additional content here-->
        <ListBox Grid.Row="1" >
            <Grid x:Name="ContentPanel" Grid.Row="1" Margin="12,0,12,0">

                    <Grid.ColumnDefinitions>
                        <ColumnDefinition Width="*" />
                        <ColumnDefinition Width="*" />
                    </Grid.ColumnDefinitions>
                    <Grid.RowDefinitions>
                        <RowDefinition Height="*" />
                        <RowDefinition Height="*" />
                        <RowDefinition Height="*" />
                    </Grid.RowDefinitions>

            <Image Source="Thumbnails\1.jpeg" Grid.Row="0" Grid.Column="0"   Margin="10" HorizontalAlignment="Left" VerticalAlignmen
            <Image Source="Thumbnails\2.jpeg" Grid.Row="0" Grid.Column="1"  Margin="10" HorizontalAlignment="Left" VerticalAlignment
            <Image Source="Thumbnails\3.jpeg" Grid.Row="1" Grid.Column="0"   Margin="10" HorizontalAlignment="Left" VerticalAlignmen
            <Image Source="Thumbnails\4.jpeg" Grid.Row="1" Grid.Column="1"   Margin="10" HorizontalAlignment="Left" VerticalAlignmen
            <Image Source="Thumbnails\5.jpeg" Grid.Row="2" Grid.Column="0"  Margin="10" HorizontalAlignment="Left" VerticalAlignment

          </Grid>
        </ListBox>
```

In this case the images are placed in a specific row and column.

Source Code

- The full source code of Qt example is available here: File:GridViewQt.zip
- The full source code of WP7 example is available here: File:GridViewWP7.zip

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