QML TabBar with accessible off-screen tabs

This article demonstrates how to create a kinetic tab bar which can effectively scale to many tabs, using `TabBarLayout`.

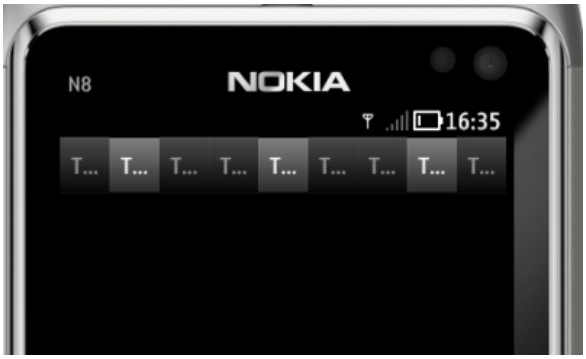
Introduction

Tab bars are a good choice for showing your content categorised into separate sections. In the Qt Quick Components documents, the QML `TabGroup` Element allows developer to create a simple `TabGroup` with three tab page. The example does not scale well to more tabs.

First, take a look at original code sample from the document

```
TabBarLayout {
         id: tabBarLayout
         anchors { left: parent.left; right: parent.right; top: parent.top }
         TabButton { tab: tab1content; text: "Tab 1" }
         TabButton { tab: tab2content; text: "Tab 2" }
         TabButton { tab: tab3content; text: "Tab 3" }
     }
```

What will happen if I have more content tabs, the frame is not enough space to show tab's title clearly.



This article shows how you can create a tab bar with off screen tabs that you can navigate to.

Implementation

In this case, I will implement a `ListView` inside the `TabBarLayout` like the code below:

```
TabBarLayout {
         id: tabBarLayout
         anchors { left: parent.left; right: parent.right; top: parent.top }

ListView {
                 ListModel {
                     id: searchModel
                     ListElement { type: "Web"; }
                     ListElement { type: "Images"; }
                     ListElement { type: "Video"; }
                     ListElement { type: "Blog"; }
                     ListElement { type: "Book"; }
                     //... more category as you want
                 }
                 anchors.fill: parent
                 model: searchModel
                 orientation: ListView.Horizontal
                 delegate:TabButton  {
                     width: 200
                     height: 50
                     tab: {
                         if(index == 0){
                               return tab1content
                         }else if(index == 1){
                               return tab2content
                         }
                         //... set up the page content or you can let a delegate model
                     }
                     text: type
                  }
      }
}
```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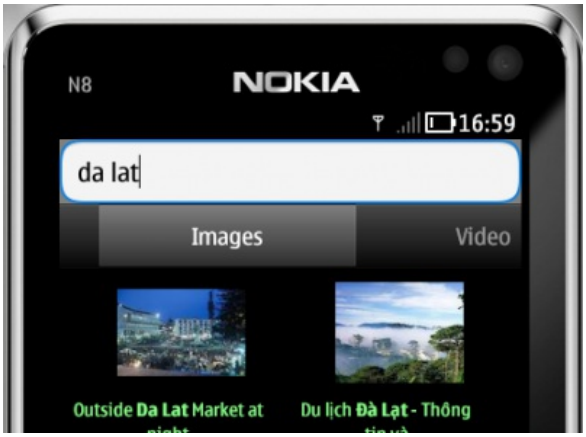

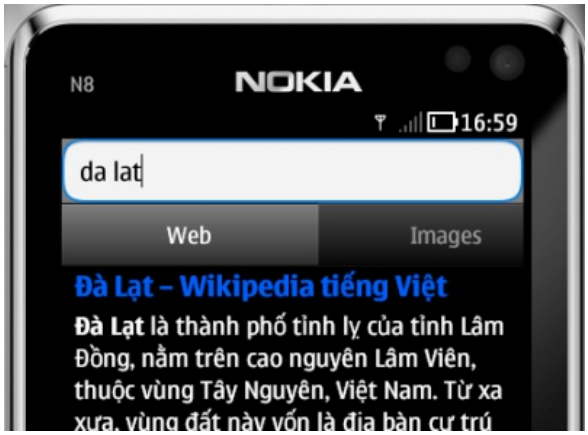

Ok, now I'm going to next step: set up content in each page. Like the sample from the document, TabGroup contains the pages's content. Depending on the purpose of your application, you should choose for your own strategy. For example, if my application display content in various kind of view (ListView and GridView), I will choose to separate TabGroup to many different pages. This method allow you to cache data in each page but it is less flexible

```
TabGroup {
        id: tabGroup
        anchors {
            left: parent.left;
            right: parent.right;
            top: upperRec.bottom;
            bottom: parent.bottom
        }

        Page {
            id: tab1content
            Component {
                id: tab1Delegate
                Item {
                    anchors {
                        left: parent.left;   leftMargin: 10
                        right: parent.right;   rightMargin: 10
                    }
                    height: contentCol.height + 20

                    Column {
                        spacing: 5
                        id: contentCol
                        width: parent.width;
                        Text {
                            text: title //...dataModel's key
                            width: parent.width
                            color: "#005fff"
                            wrapMode: Text.WordWrap
                            font.pixelSize: 22
                            font.bold: true
                        }

                        Text {
                            text: maintext //...dataModel's key
                            width: parent.width
                            color: "white"
                            wrapMode: Text.WordWrap
                            font.pixelSize: 19
                        }

                        Text {
                            text: linkurl //...dataModel's key
                            width: parent.width
                            color: "#87ff87"
                            wrapMode: Text.WordWrap
                            font.pixelSize: 16
                        }
                    }

                }
            }

            ListView {
                id: tab1List

                anchors.fill: parent
                delegate:  tab1Delegate
                cacheBuffer: 8000

                model: tab1Data //... modelData here

            }

            ScrollDecorator {
                flickableItem: tab1List
            }
        }

        Page {
            id: tab2content
            Component {
                id: tab2Delegate
                Item {
                    id: wrapper
                    width: tab2List.cellHeight
                    height: tab2List.cellHeight
                    Item {
                        anchors.fill: parent
                        anchors.centerIn: parent
                        scale: 0.0
                        Behavior on scale { NumberAnimation { easing.type: Easing.InOutQuad} }
                        id: scaleMe

                        Item {
```


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```
                            width: parent.width
                            height: parent.height
                            anchors.centerIn: parent
                            Item {
                                id: whiteRect
                                width: parent.width
                                height: parent.height - 70
                                smooth: true

                                Image {
                                    id: thumb
                                    width: parent.width - 70
                                    height: parent.height
                                    source: imgurl //...dataModel's key
                                    smooth: true
                                    fillMode: Image.PreserveAspectFit
                                    anchors.horizontalCenter: parent.horizontalCenter
                                }
                                Text {
                                    text: maintext + "<br/>" + linkurl + "<br/>" + imgsize //...dataModel's key
                                    width: parent.width - 20
                                    color: "#87ff87"
                                    wrapMode: Text.WordWrap
                                    font.pixelSize: 14
                                    anchors.top: thumb.bottom
                                    verticalAlignment: Text.AlignVCenter
                                    horizontalAlignment: Text.AlignHCenter
                                }
                            }
                        }
                        states: [
                            State {
                                name: "Show"
                                when: thumb.status == Image.Ready
                                PropertyChanges { target: scaleMe; scale: 1 }
                            }
                        ]
                    }
                }
            }

            GridView {

                id: tab2List
                anchors.fill: parent
                anchors {
                    left: parent.left;  leftMargin: 10
                    right: parent.right;  rightMargin: 10
                }
                delegate:  tab2Delegate
                cacheBuffer: 8000
                model: tab2Data //... modelData here

                cellWidth: (parent.width-20)/2
                cellHeight: cellWidth
            }

            ScrollDecorator {
                flickableItem: tab2List
            }
        }
}
```

Let's make everything be simple and flexible.

```
Component {
        id: tabNewsDelegate

        Item {
            anchors {
                left: parent.left; leftMargin: 10
                right: parent.right;  rightMargin: 10
            }
            height: contentCol.height + 20

            Column {
                spacing: 5
                id: contentCol
                width: parent.width;
                Text {
                    id: newsTitle
                    text: title //...dataModel's key
                    width: parent.width
                    color: "#005fff"
                    wrapMode: Text.WordWrap
                    font.pixelSize: 22
                    font.bold: true
                }

                Text {
                    id: newsMainText
                    text: maintext //...dataModel's key
                    width: parent.width
                    color: "white"
                    wrapMode: Text.WordWrap
                    textFormat: Text.RichText
                    font.pixelSize: 18
                }

                Text {
                    text: source + " - " + time //...dataModel's key
                    width: parent.width
                    color: "#87ff87"
                    wrapMode: Text.WordWrap
                    font.pixelSize: 16
                }

                Button {
                    anchors.right: parent.right
                    width: parent.width / 3
                    text: "Read it"
                    onClicked: {
                        //...
                    }
                }
            }
```


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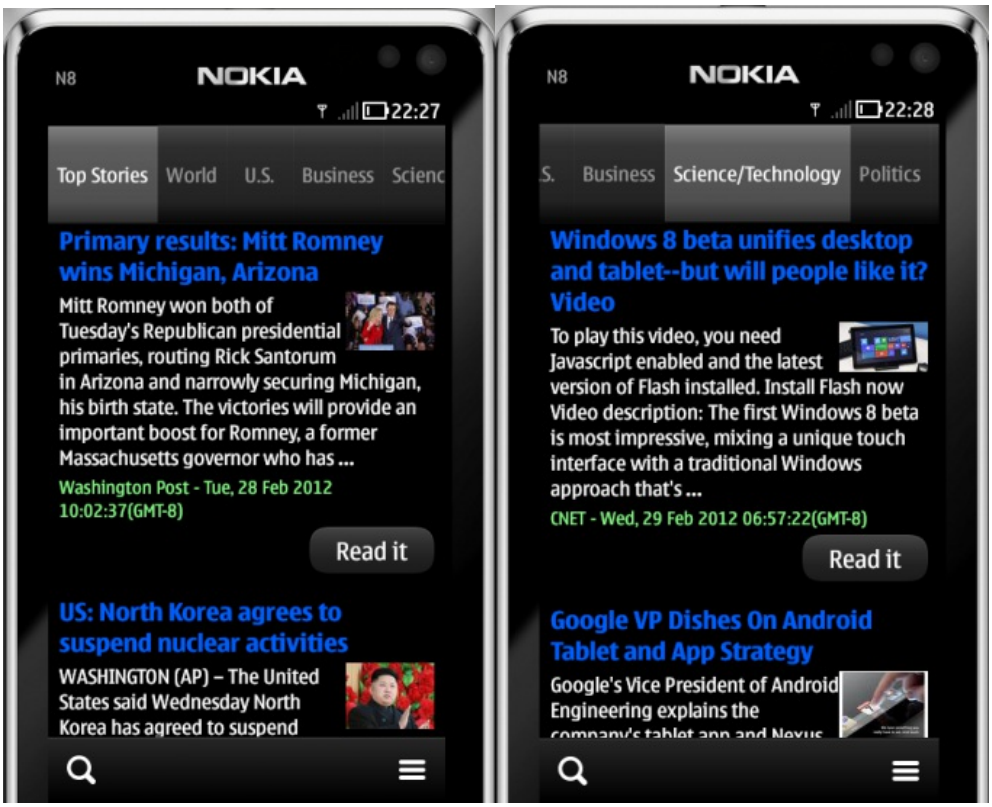
```
        }
    }
```

In this code, I set up a delegate component and only one page in TabGroup.

```
TabGroup {
        id: tabGroup
        anchors {
            left: parent.left;
            right: parent.right;
            top: upperRec.bottom;
            bottom: parent.bottom
        }
        Page {
            id: tabcontent
            ListView {
                id: tabList
                anchors.fill: parent
                delegate:  tabNewsDelegate
                cacheBuffer: 18000

               //...Here is the key point of our flexibility model
              //Just set up modelData based on the TabButton's index
              //topicsList in this example is same with searchModel in the previous example
                model: {
                    if(topicsList.currentIndex == 0){
                        return topstoriesData
                    }else if(topicsList.currentIndex == 1){
                        return worldData
                    }//...more data here
                }
            }
            ScrollDecorator {
                flickableItem: tabList
            }
        }
}
```

Here is what I'll have after put all together



App's download

http://store.ovi.com/content/257579

Note: This is an entry in the Symbian Qt Quick Components Competition 2012Q1

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