Showing QML elements based on platform

Overview

15 May 2011

This article shows how to determine the platform on which an application is running and decide at run time what elements are to be shown in the QML file.

Example addresses three platforms : **Symbian** , **Maemo5** and **Maemo6**

OSDetails is a `QObject` class having invokable function which determines the platform. For calling a C++ function from QML, the function must be either a Qt Slot or it should be marked with `Q_INVOKABLE` macro. With this macro, we register the function with **meta-object** system enabling it to be invoked using `QMetaObject::invokeMethod()`

OSDetails Class Definition

```
#ifndef OSDETAILS_H
#define OSDETAILS_H

#include <QObject>

class OSDetails : public QObject
{
   Q_OBJECT

public:

    enum OSTYPE {
        MAEMO5 = 1,
        MAEMO6 = 2,
        SYMBIAN = 3,
        UNKNOWN = 4
    };

    OSDetails();

  /*For calling a C++ function from QML,
    i. the function must be a qt slot
    ii. or a function marked with the Q_INVOKABLE macro */
 /* Q_INVOKABLE,registering the function with meta-object system
   and enabling it to be invoked using QMetaObject::invokeMethod() */

  Q_INVOKABLE unsigned int getOSName();

};

#endif // OSDETAILS_H
```

OSDetails Class Implementation

```
#include "osdetails.h"
#include <QDebug>

OSDetails::OSDetails()
{
    qDebug() << "\n In Default Constructor";
}

/* Function to get the OS detail based on which
  qml components can be shown*/

unsigned int OSDetails::getOSName()
{
    int osName = UNKNOWN;

#ifdef Q_WS_MAEMO_6
     osName =  MAEMO6;
#endif

#ifdef Q_OS_SYMBIAN
     osName =  SYMBIAN;
#endif

#ifdef Q_WS_MAEMO_5
     osName =  MAEMO5;
#endif

     return osName;
}
```

Set the context property that can hold `QObject*` and `QVariant` values. This C++ object can be modified and read directly in qml. Here, we are setting the **OSDetails** object as the context property which can be read in our qml file. `setContextProperty()` sets the name and value of the property. The object can be accessed through the name ("OSdetails") of the property given in this function. Make sure that the context property is set before the qml file is loaded.

```
#include <QtGui/QApplication>
#include "qmlapplicationviewer.h"
#include "osdetails.h"
#include <QDeclarativeContext>

int main(int argc, char *argv[])
```


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```
{
    QApplication app(argc, argv);

    QmlApplicationViewer viewer;
    OSDetails osdetails;
    viewer.setOrientation(QmlApplicationViewer::ScreenOrientationAuto);

    /*Context property can hold QObject* and QVariant values. This C++ object
      can be modified and read directly in qml */
    /*Sets the name and value of the property. This name can be used to
      call different members and functions of the passed value/object*/

    viewer.rootContext()->setContextProperty("OSdetails",&osdetails);
    viewer.setMainQmlFile(QLatin1String("qml/ostype/main.qml"));
    viewer.showExpanded();

    return app.exec();
}
```

Based on the platform which can be determined using `getOSName()` function of **OSDetails** class, the elements can be appropriately shown. Text and images are appropriately shown.

main.qml

```
import QtQuick 1.0

Rectangle {
    width:  500
    height : 500
    Image {
        id: background
        anchors.fill: parent
    }

    Component.onCompleted: {
      /* Getting the OS name details from C++ function
        and setting appropriate visibility and text values.*/
      /* Calling the function using the context property name
         set in main.cpp */

       if(OSdetails.getOSName() == 2){
            name.text = "maemo6"
            background.source = "maemo_org_logo.png"

        }
        else if(OSdetails.getOSName() == 1) {
            background.source = "maemo_org_logo.png"
            name.text = "maemo5"
        }
        else if(OSdetails.getOSName() == 3) {
            name.text = "Symbian"
            background.source = "symbian_os_logo.jpg"
        }
        else
           name.text = "UnKnown"
    }
    Rectangle {
        id: osname
        width :70
        height : 30
        anchors.right: parent.right
        anchors.rightMargin: 30
        anchors.top: parent.top
        anchors.topMargin: 30

        Text {
            id:name
            anchors.centerIn: parent
            style: Text.Outline
            styleColor: "red"
            text:" "
        }
    }
}
```


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