How to Embed Resources in the Application Executable

This code example shows how to embed binary files in the application's executable using the Qt Resource System.

Overview

The resource system allows you to embed any sort of file, incuding icons, background images etc, and read from them using `QFile` in almost the same manner as you would any other file. Note that including binaries in the executable means that they can't be replaced separately, and means that on devices that do not have on demand code paging, more memory is required.

Create .qrc(Resource Collection) file

Create **.qrc** file (in XML-based file format) and define the resources that are part of the application's source tree. For example.

```
/* ResourceEx.qrc */
 <!DOCTYPE RCC><RCC version="1.0">
 <qresource>
     <file>rsc/Background.JPG</file>
     <file>rsc/Background_Landscape.JPG</file>
 </qresource>
 </RCC>
```

The name of file can be changed using the file tag's alias attribute. You can also specify a path prefix for all files in the **.qrc** file using the `qresource` tag's prefix attribute.

Modify .pro file

Assign **.qrc** file to RESOURCES variable so that **qmake** knows about it and will produce make rules to generate a file called **.cpp** (in this example **qrc_ResourceEx.cpp**) that is linked into the application.

```
RESOURCES += ResourceEx.qrc
```

Access resources from the application

The colon **(:)** prefix informs the Qt-handling methods that the file needs to be fetched from an application resource in the executable rather than an external file. Because it is not an external file, we don't need to worry about where the file is located. Resources are accessible in the application with a **:/** prefix. For example, the path **:/rsc/Background.JPG** would give access to the **Background.JPG** file, whose location in the application's source tree is **/rsc/Background.JPG**.

```
/* ResourceEx.cpp */
#include "ResourceEx.h"
#include <QPalette>
#include <QDesktopWidget>

ResourceEx::ResourceEx(QWidget *parent)
    : QMainWindow(parent)
{
 ui.setupUi(this);
 setWindowTitle("Qt Resource System");
 SetBackgroundImage();
}
```


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```
ResourceEx::~ResourceEx()
{

}

void ResourceEx::SetBackgroundImage()
{
 QPalette p = palette();

        /* Access image attached in application executable */
 QPixmap image(":/rsc/Background.JPG");
 QDesktopWidget* desktopWidget = QApplication::desktop();
 QRect rect = desktopWidget->availableGeometry();
 QSize size(rect.width() , rect.height());
 QPixmap pixmap(image.scaled(size));
 p.setBrush(QPalette::Background,  pixmap);
 setPalette(p);
}
```

Post-conditions

The code snippet is expected to embed images to application executable.

Download Code Example

- Download the code example from here: File:QtResourceEx.zip

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