Handling Gestures in Qt

Overview

This article demonstrates how to handle Gestures in Qt. Qt provides a gesture framework that handles user panning, pinching, and swiping. It allows the user to extend the gesture recognizer and to interact and handle application gestures of there own. The framework uses the QGesture class.To indicate the widget about the incoming gestures, it must invoke `grabGesture`, passing the gesture ID of the gesture it can handle.

Basic Idea

We will create an example that shows how to use the Pinch Gesture (and other gestures)

Note: The screen shot is not that much explanatory, please see the source code for better understanding

Class Implementation

```
GesturesWidget::GesturesWidget(QWidget *parent)
    : QWidget(parent)
{
    grabGesture(Qt::PanGesture);
    grabGesture(Qt::PinchGesture);
    grabGesture(Qt::SwipeGesture);
}
```

`QWidget` doesn't define an explicit event handler for gestures, so we need to catch these gestures in QWidget's event method:

```
bool GesturesWidget::event(QEvent *event)
{
    if (event->type() == QEvent::Gesture)
        return gestureEvent(static_cast<QGestureEvent*>(event));
    return QWidget::event(event);
}
```

The `gestureEvent` method is not an in-build method of `QWidget` class, we implemented this method to handle gestures recognition and actions.

```
bool GesturesWidget::gestureEvent(QGestureEvent *event)
{
    if (QGesture *pan = event->gesture(Qt::PanGesture))
        panTriggered(static_cast<QPanGesture *>(pan));
    if (QGesture *pinch = event->gesture(Qt::PinchGesture))
        pinchTriggered(static_cast<QPinchGesture *>(pinch));
    return true;
}
```

Each of the individual gesture handlers called form `gestureEvent` do the actual gesture handling and then we perform the widget-specific processing, such as panning, rotating etc. For example in pinching the user may adjust the distance between the two touched points repeatedly to see the same content at different zoom levels. For more information on writing a gesture recognizer see Gestures Programming

Source Code

The full source code presented in this article is available here File:GesturesQt.zip

Related Articles

- index.php/Enabling pinch zooming in QGraphicsWebView with QPinchGesture

(C) Copyright Nokia 2013. All rights reserved.

--somnathbanik 16:24, 16 May 2011 (EEST)

(C) Copyright Nokia 2013. All rights reserved.

(C) Copyright Nokia 2013. All rights reserved.