

Using the Qt Scene Graph from C++ with QSkinny

Who am I?

- » working on Qt since 2008
- » former QtNetwork maintainer
- » @peha23 on Twitter

What is this talk about?

Using the Qt graphic stack from C++

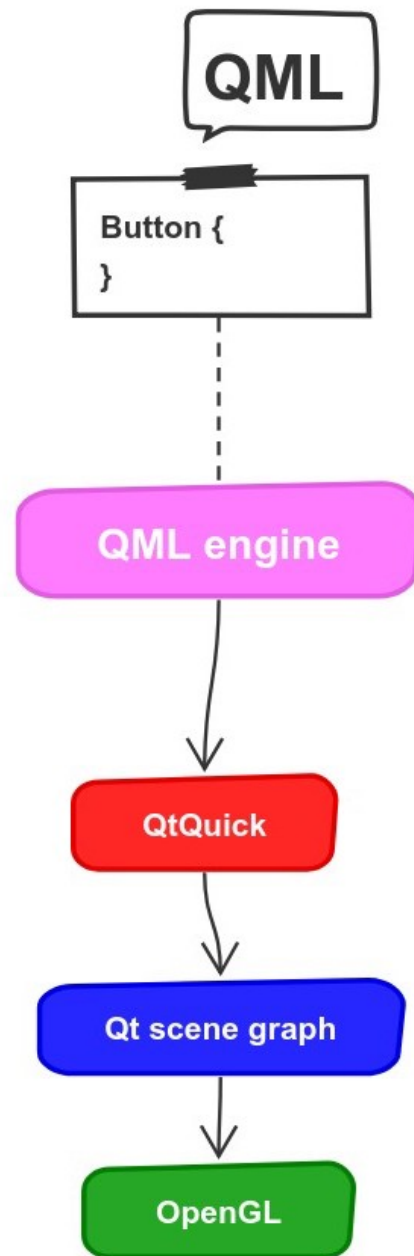
Agenda

1. QML under the hood
2. The QML / C++ boundary
3. QSkinny
4. Outlook

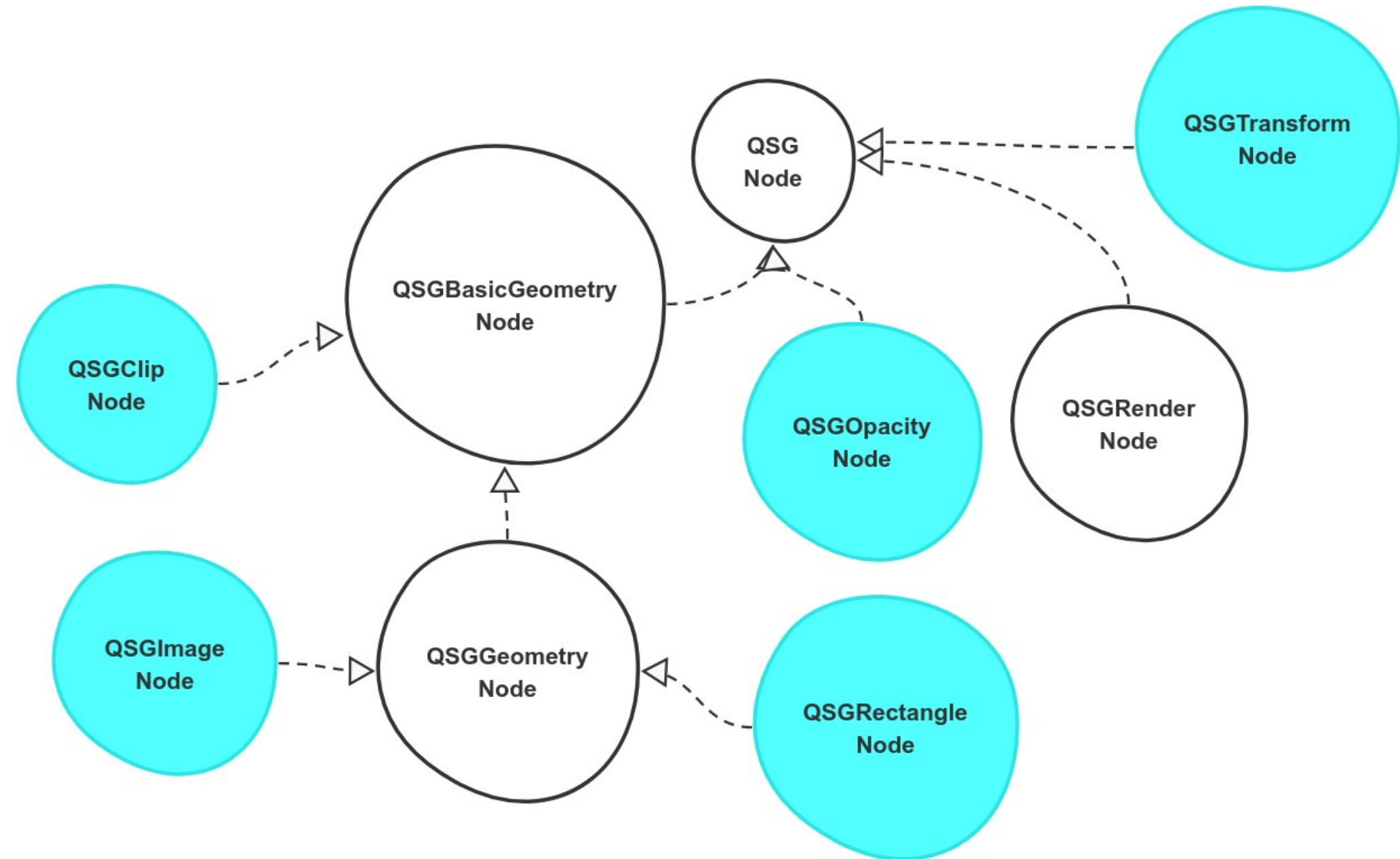
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QML under the hood



Types of scene graph nodes



www.sketchboard.io

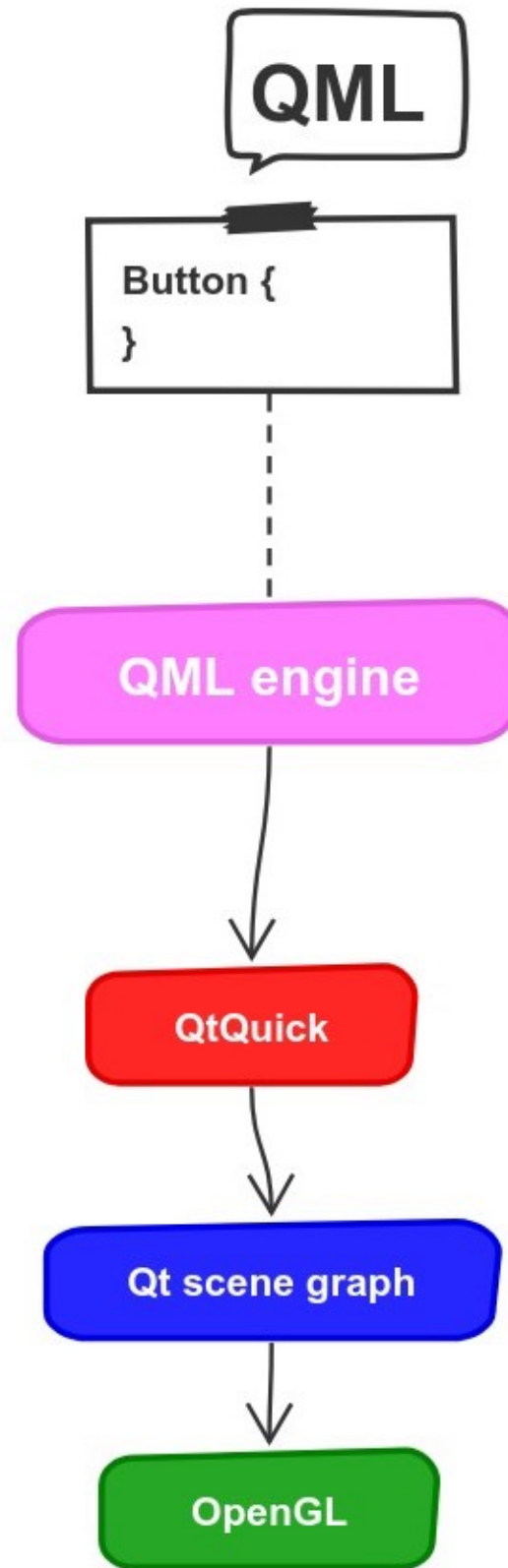
QML example

```
Rectangle {  
    id: outerRectangle  
    width: 200  
    height: 200  
    color: "red"  
    opacity: 0.5  
  
    Rectangle {  
        id: innerRectangle  
        width: 50  
        height: 50  
        clip: true  
        anchors.bottom: parent.bottom  
        anchors.right: parent.right  
        color: "green"  
    }  
}
```



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QtQuickControls 1

Write everything in QML

```
Control {  
    id: slider  
    (...)  
    style: Settings.styleComponent(Settings.style, "SliderStyle.qml", slider)  
    property Component tickmarks: Repeater {  
        Rectangle {  
            color: "#777"  
            width: 1  
            height: 3  
            y: (...)  
            x: (...)  
        }  
    }  
}
```

QtQuickControls 2

some parts QML, some C++

qquickslider_p.h:

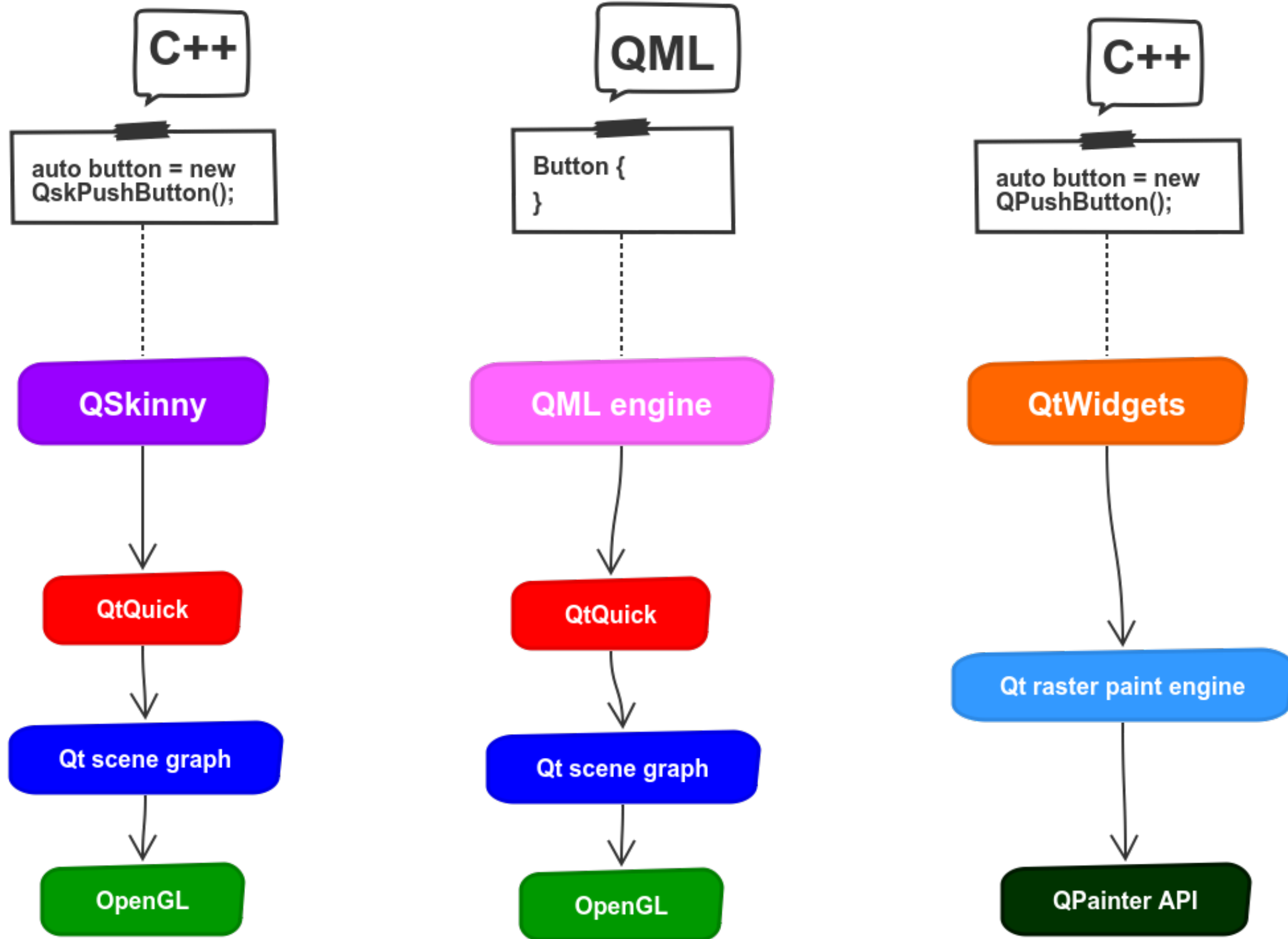
```
class Q_QUICKTEMPLATES2_PRIVATE_EXPORT QQuickSlider : public QQuickControl
{
    Q_OBJECT
    Q_PROPERTY(qreal from READ from WRITE setFrom NOTIFY fromChanged FINAL)
    Q_PROPERTY(qreal to READ to WRITE setTo NOTIFY toChanged FINAL)
    (...)
};
```

Slider.qml:

```
T.Slider {
    id: control
}
```

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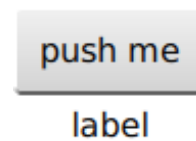
www.sketchboard.io

QSkinny design goals

- » lightweight
- » flexible theming
- » dynamic sizing

QSkinny API

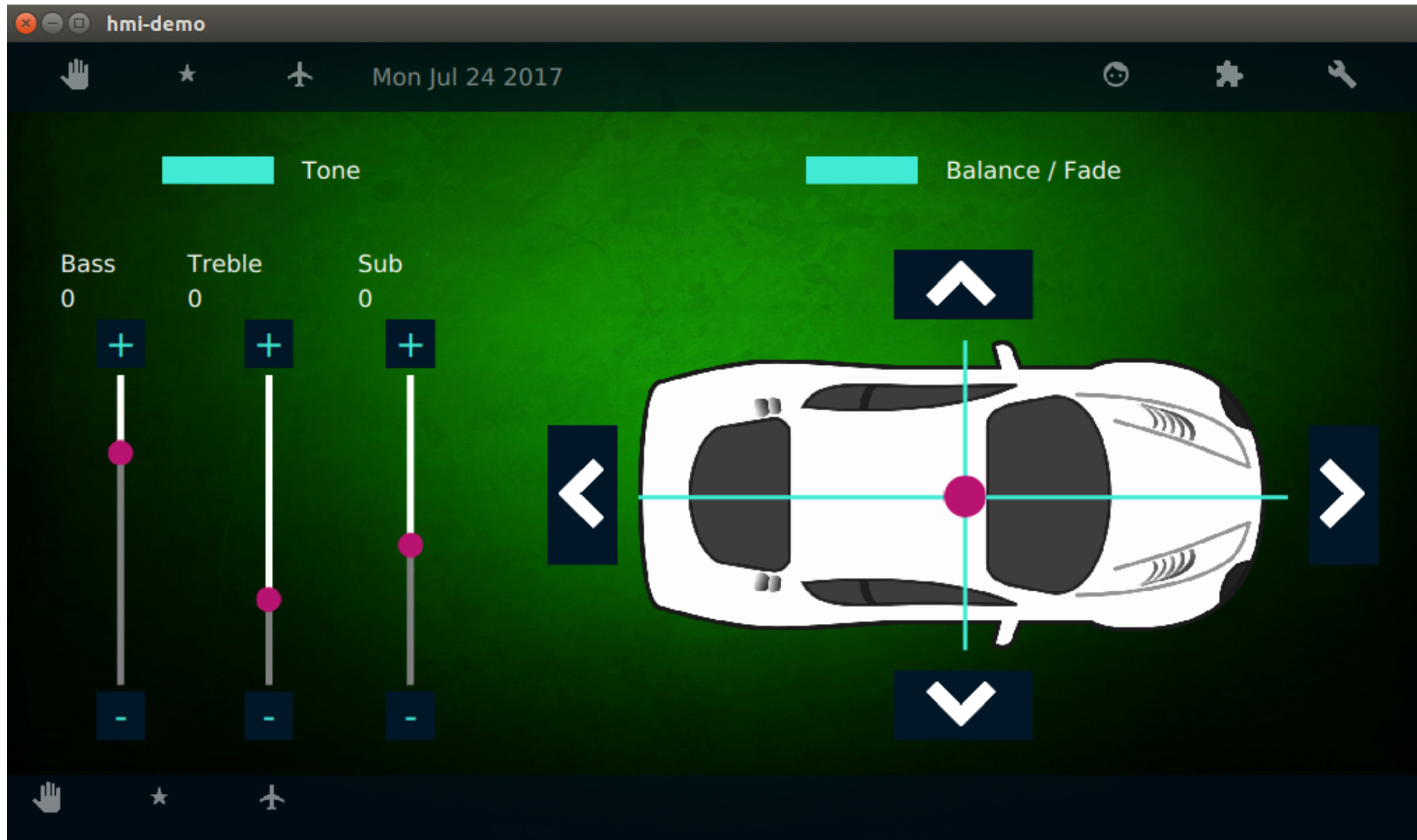
```
QskWindow window;  
auto box = new QskLinearBox(Qt::Vertical);  
auto button = new QskPushButton("push me", box);  
auto label = new QskTextLabel("label", box);  
window.addItem(box);  
window.show();
```



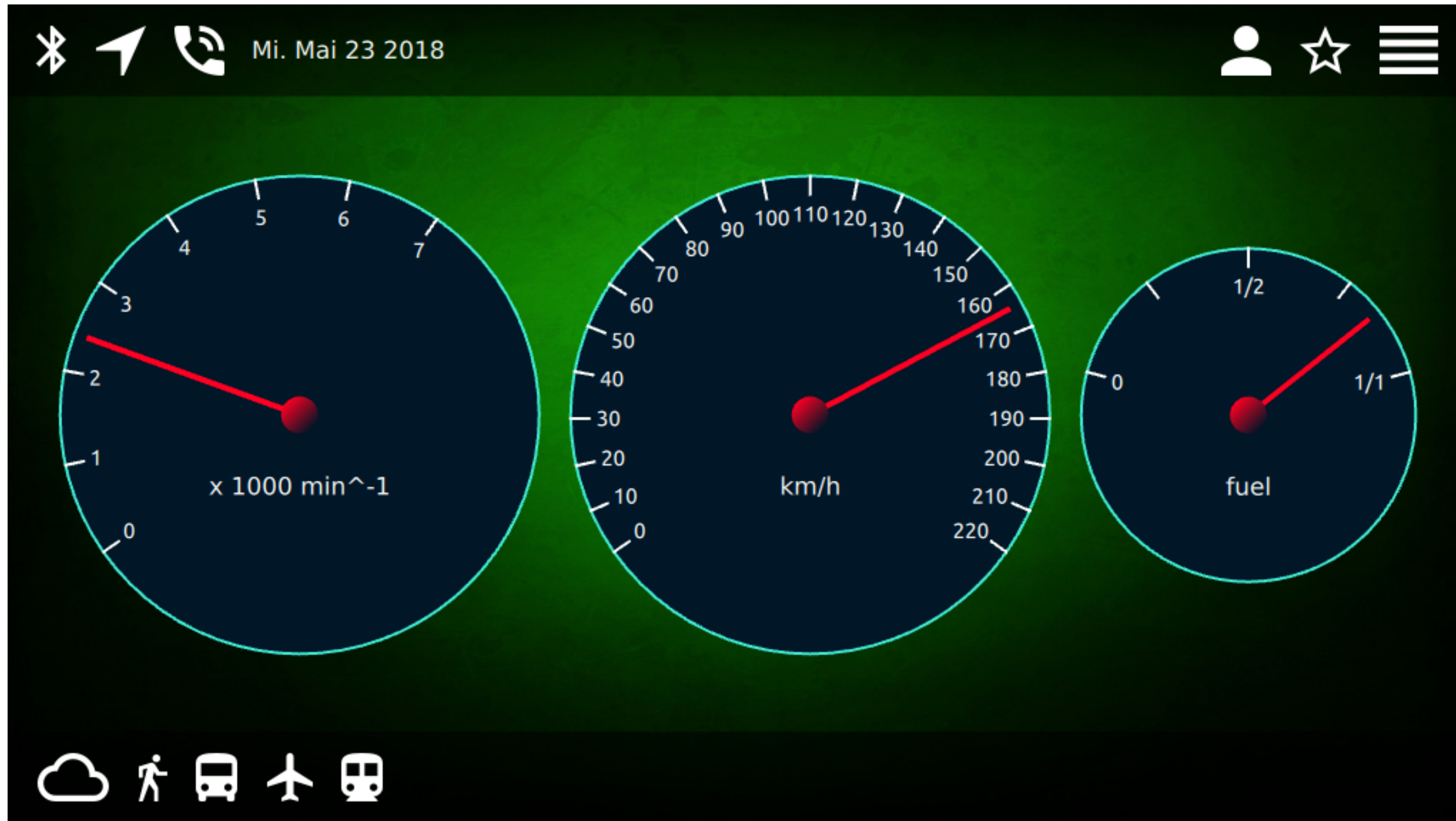
separation of content and style

(here diagram of skinlet etc.)

example



example



Outlook QSkinny

polishing / documentation

Qt 6

(maybe) new styling / opening up QtQuickControls 2?

Discussion

@peha23 on Twitter

<https://github.com/uwerat/qskinny>

