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StyleKit - A Unified Styling API for Controls And Widgets

# Background

- Qt offers two different UI frameworks: Controls and Widgets
- That should coexist on the same desktop?
- That should coexist in the same application window?
- Two different technologies: Qt Quick Templates vs. QStyle

**Therefore:**

**StyleKit - A QML API that lets you style both from a single source**

# AGENDA

- Demonstrate how to use StyleKit
  - Implement a StyleKit style
  - Use it to style both Controls and Widgets
- Some of the features we'll cover
  - Working with control states and transitions
  - Type hierarchy and propagation
  - Theming
  - Style variations
  - Time permitting:
    - Styling custom delegates and custom controls



# Implementing a Style

(in Qt Creator)



# Qt Widgets



# Hybrid App



# Style Variations

# WRAP UP

- **Recap: one style, two stacks**
- **Labs status**
- **Where to find/how to try**



**StyleKit blog**



# QUESTIONS

# Thank You

Docs:

<https://doc.qt.io/qt-6/qtlabsstylekit-index.html>



```
import QtQuick
import Qt.labs.StyleKit

Style {
    button {
        padding: 6
        background {
            color: "lightsteelblue"
            border.color: "lightslategrey"
            gradient: Gradient {
                GradientStop {
                    position: 0.0
                    color: Qt.alpha("black", 0.0)
                }
                GradientStop {
                    position: 1.0
                    color: Qt.alpha("black", 0.2)
                }
            }
        }
    }
}
```

```
// main.qml

import QtQuick
import QtQuick.Layouts
import Qt.labs.StyleKit

ApplicationWindow {
    id: app
    width: 600
    height: 440
    visible: true

    // Assign the style to be used
    StyleKit.style: MyStyle1 {}

    // Controls are used as normal
    ColumnLayout {
        id: content
        x: 20
        y: 10

        GroupBox {
            title: "Buttons"
            RowLayout {
                spacing: 10
                Button {
                    text: "Normal"
                }

                Button {
                    text: "Flat"
                    flat: true
                    checkable: true
                }
            }
        }
    }
}
```

Buttons

Normal

Flat

Round

CheckBoxes and RadioButtons

☒ Mango

☐ Avocado

☒ Banana

☐ Pasta

☒ Lasagna

☐ Burrito

Misc

☐ Switch

Text inputs

Potato

Tomato

```
Style {
  applicationWindow {
    background.color: "gainsboro"
  }

  control {
    indicator.foreground.color: "lightsteelblue"
    indicator.foreground.image.color: "lightsteelblue"
  }
}

abstractButton {
  padding: 6
  background {
    color: "lightsteelblue"
    border.color: "lightslategrey"
    gradient: Gradient {
      GradientStop {
        position: 0.0
        color: Qt.alpha("black", 0.0)
      }
      GradientStop {
        position: 1.0
        color: Qt.alpha("black", 0.2)
      }
    }
  }
}
```

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```
import QtQuick
import Qt.labs.StyleKit

Style {
    button {
        background.color: "darkseagreen"
        background.border.color: "green"
        hovered.background.border.color: "olivedrab"
        hovered.background.color: "lightgreen"
        pressed.background.color: "darkseagreen"

        transition: Transition {
            ColorAnimation {
                properties: "background.color, background.border.color"
                easing.type: Easing.OutQuad
                duration: 500
            }
        }

        pressed.transition: null
    }
}
```

```
import QtQuick
import Qt.labs.StyleKit

Style {
    light: Theme {
    }

    dark: Theme {
        applicationWindow.background.color: "#404040"
        control.background.color: "#505050"
        control.text.color: "#e0e0e0"
        button.background.border.color: "darkgray"
        button.background.color: "dimgray"
        button.hovered.background.color: "lightslategray"
    }

    CustomTheme {
        name: "HighContrast"
        theme: Theme {
            applicationWindow.background.color: "whitesmoke"
            control {
                background.color: "whitesmoke"
                background.border.color: "black"
                background.border.width: 2
                text.color: "black"
                hovered.text.bold: true
            }
        }
    }
}
```

Buttons

Normal

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Round

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```
#include <QtWidgets/QtWidgets>
#include <QStyleKitStyle>

int main(int argc, char *argv[])
{
    QApplication app(argc, argv);

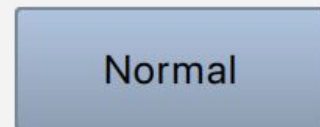
    auto *styleKitStyle = new QStyleKitStyle(QStringLiteral(":/MyStyle1.qml"));
    QApplication::setStyle(styleKitStyle);

    QWidget window;
    window.setWindowTitle("main.qml");

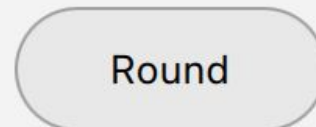
    auto *buttonsBox = new QGroupBox("Buttons");
    auto *buttonsLayout = new QHBoxLayout;
    buttonsLayout->setContentsMargins(0, 0, 0, 0);
    buttonsLayout->setSpacing(10);
    buttonsLayout->addWidget(new QPushButton("Normal"));
    auto *flatButton = new QPushButton("Flat");
    flatButton->setFlat(true);
    flatButton->setCheckable(true);
    buttonsLayout->addWidget(flatButton);
    buttonsBox->setLayout(buttonsLayout);
```



### Buttons



Flat



### CheckBoxes and RadioButtons



Mango



Avocado



Banana



Pasta



Lasagna



Burrito

### Misc



Switch



### Text inputs



```
import QtQuick
import Qt.labs.StyleKit

Style {
    button {
        background.color: "darkseagreen"
        background.border.color: "green"
    }

    StyleVariation {
        name: "mini"
        control.padding: 2
        control.text.pointSize: 10
        button.background.height: 20
    }

    StyleVariation {
        name: "alert"
        control.background.color: "red"
        control.text.color: "white"
        button.background.border.width: 2
        button.hovered.background.color: "darkred"
        button.background.border.color: "black"
    }
}
```

```
import QtQuick
import Qt.labs.StyleKit

Column {
    spacing: 10
    Button {
        text: "Normal"
    }
    Button {
        StyleVariation.variations: ["mini"]
        text: "Mini"
    }
    Button {
        StyleVariation.variations: ["alert"]
        text: "Alert"
    }
    Button {
        StyleVariation.variations: ["mini", "alert"]
        text: "Mini Alert"
    }
}
```

