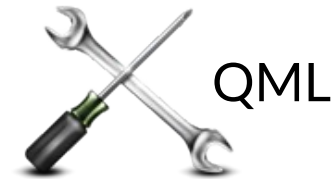# Targeting multiple mobile platforms with Qt Creator

Aurindam Jana

Aurindam Jana

IRC: auri__ : #qt #qt-creator
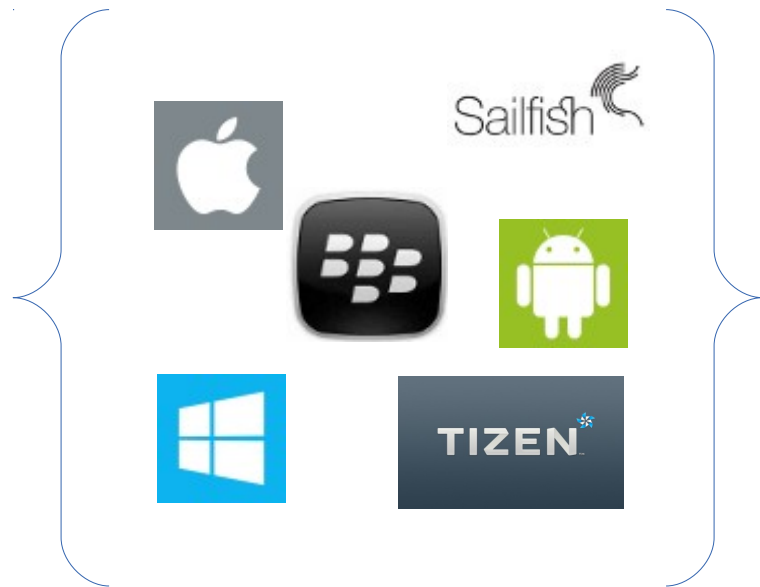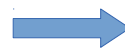
iOS Qt QML

digia

Qt DeveloperDays
2013

- Users migrating from Desktop to Mobile platforms.

- Users targeting multiple Mobile platforms with new or existing apps.

Agenda

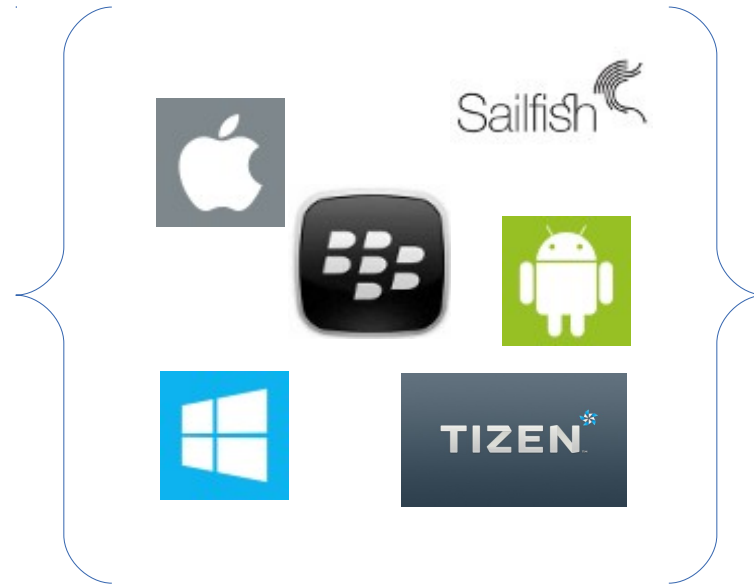Strategies to target multiple mobile platforms → Develop and deploy using Qt Creator

digia

Qt DeveloperDays 2013

Strategies to target multiple mobile platforms with Qt

http://www.iconarchive.com/artist/svengraph.html http://www.iconarchive.com/artist/dakirby309.html
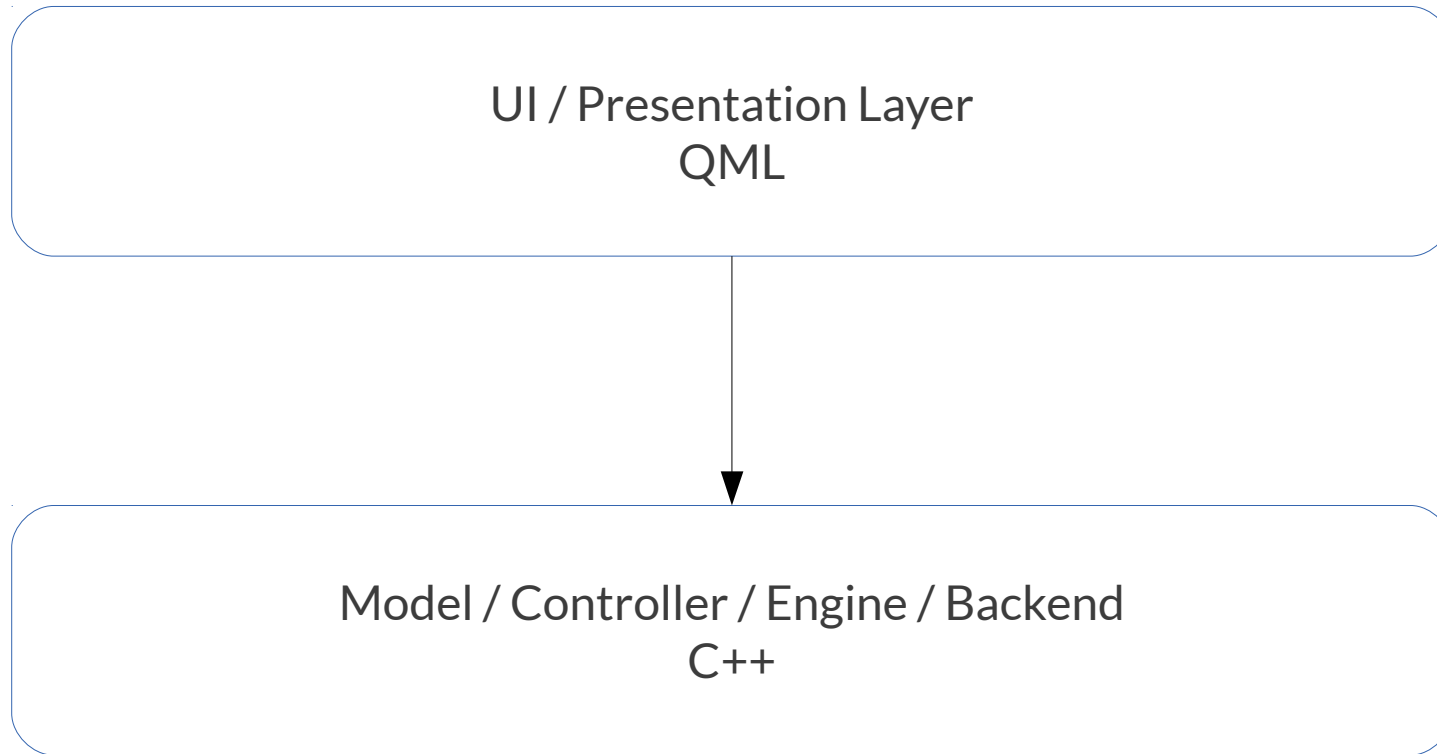
Qt is glorious!

- Faster Development Time
  - Shorter learning curve
  - Common code base
  - Comprehensive cross-platform tools

- High performance

- Smaller and cohesive team

- Higher ROI, Faster Time to market

... but Qt is not a magician!

- Functional tools.
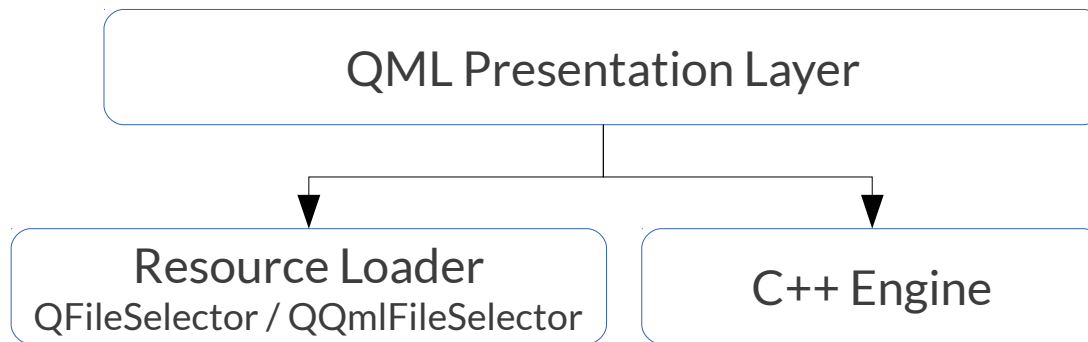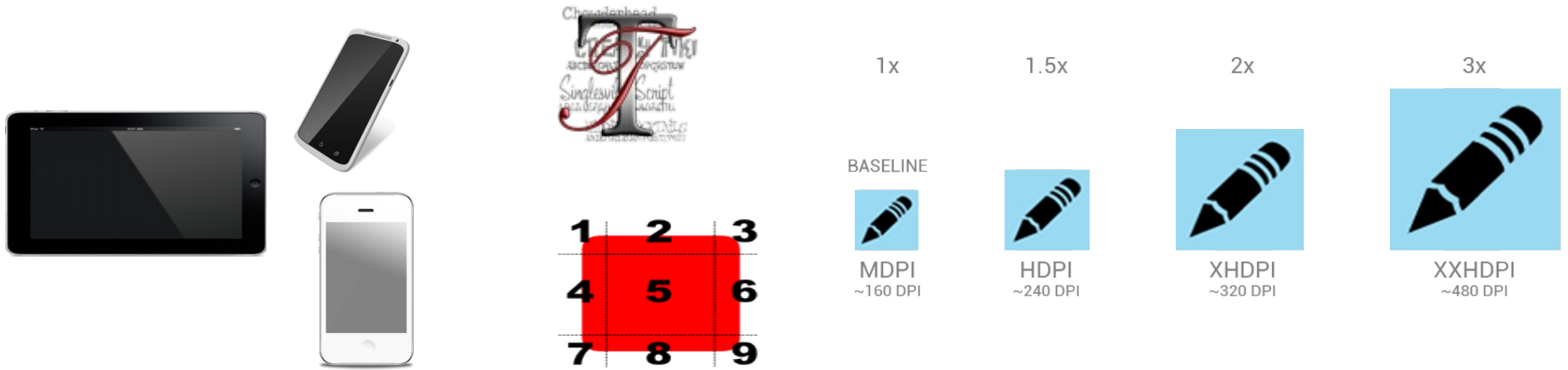
- Need to use them appropriately.
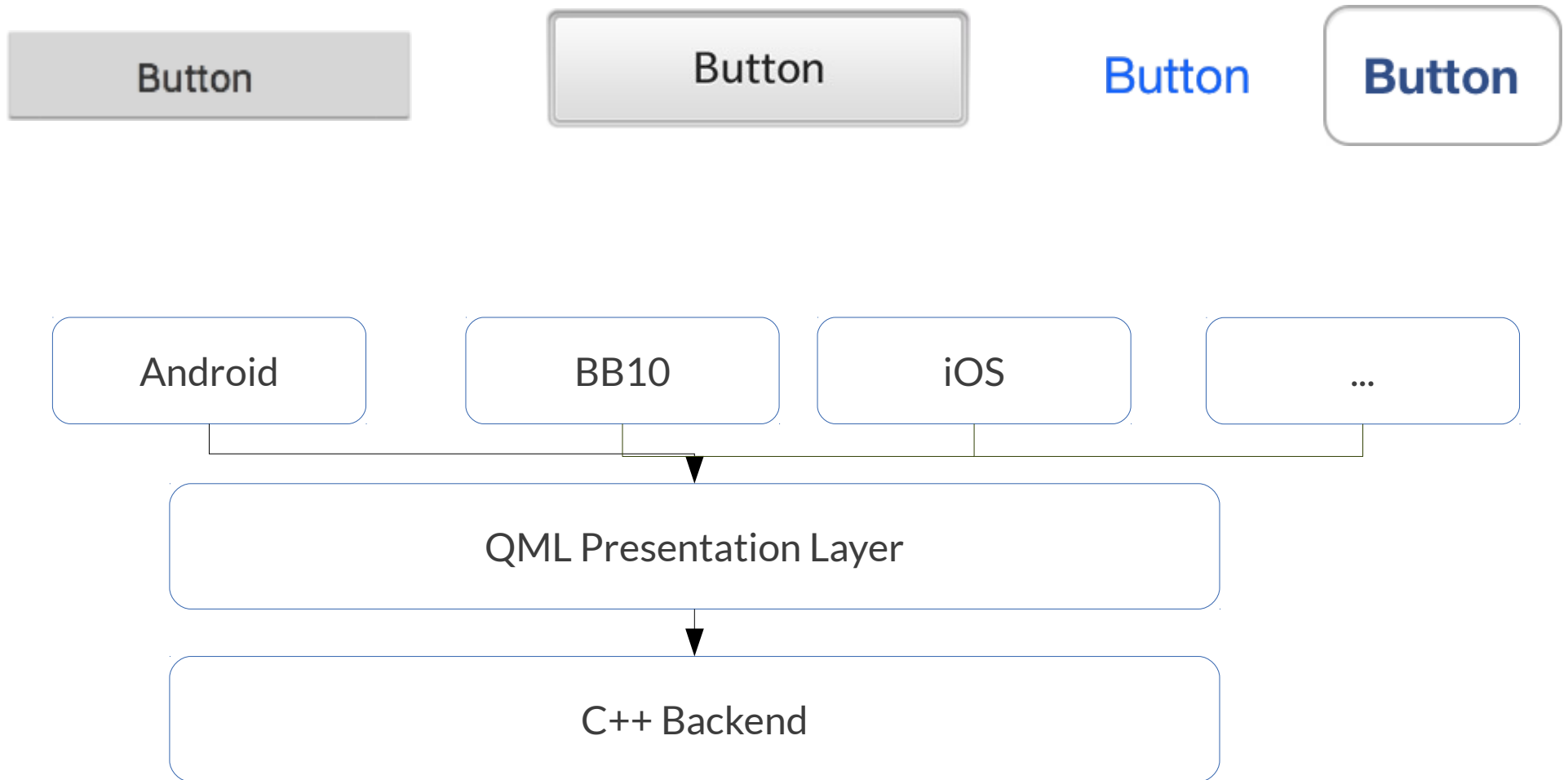
Application Architecture

```
┌─────────────────────────────────────────────┐
│                                               │
│          UI / Presentation Layer              │
│                  QML                          │
│                                               │
└─────────────────────────────────────────────┘
                        │
                        ▼
┌─────────────────────────────────────────────┐
│                                               │
│     Model / Controller / Engine / Backend     │
│                  C++                          │
│                                               │
└─────────────────────────────────────────────┘
```

UI Resources

1x   1.5x   2x   3x

BASELINE

MDPI
~160 DPI

HDPI
~240 DPI

XHDPI
~320 DPI

XXHDPI
~480 DPI

1 2 3
4 5 6
7 8 9

QML Presentation Layer

Resource Loader
QFileSelector / QQmlFileSelector

C++ Engine

Native UI (Look-and-Feel)

Button   Button   Button   **Button**

| Android | BB10 | iOS | ... |

QML Presentation Layer

C++ Backend

UI Navigation

Home   Conversation list   Conversation details

QML Presentation Layer

State machine | C++ Backend
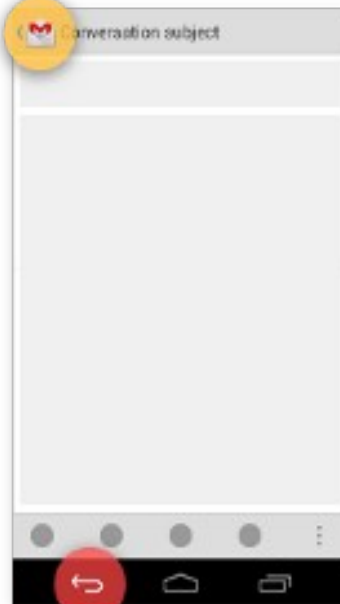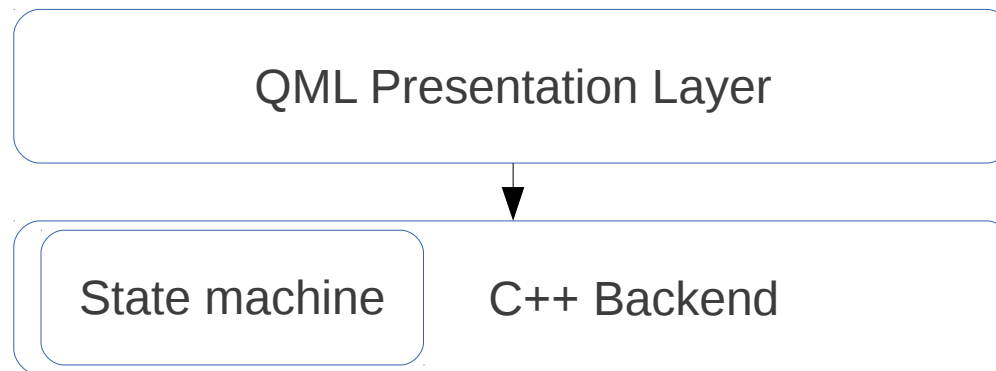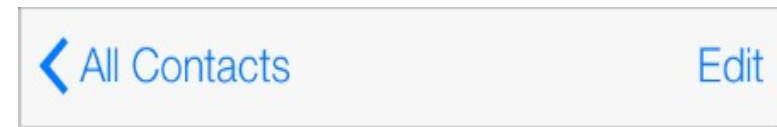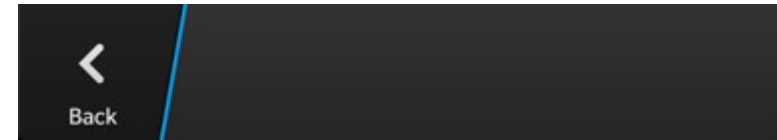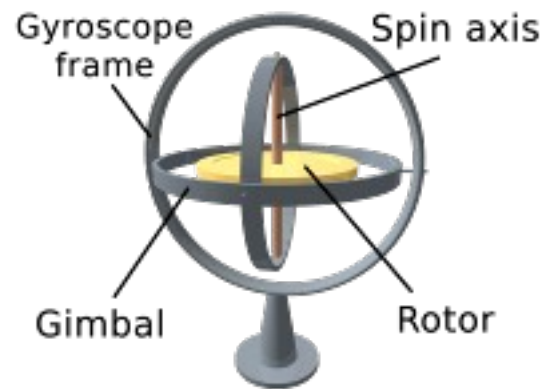
Platform / Device features
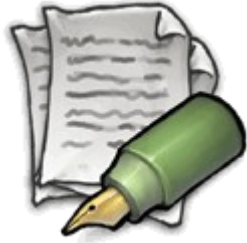
Code Maintainence

- Smoke check builds after incremental changes

- Test performance and UI on all platforms after incremental changes

- CI is your best friend

Develop and deploy using Qt Creator

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Qt Creator

Version info

- Qt version info – 5.1.1

- Qt Creator version info – 3.0

- Sailfish SDK version info – latest alpha (Oct 1, 2013)

Setting up Android

- Android SDK

  - For Windows: Install Android Debug Bridge provided by device manufacturer to enable USB debugging.

- Android NDK

- Apache Ant v1.8 or later

- JDK / OpenJDK v6 or later

- Run <adb>/sdk/tools/android update sdk

- Configure Qt Creator

Setting up Blackberry

- Blackberry 10 NDK

- Run sdkinstall --install x.x.x.x

- Run sdkinstall --simulator (Requires VMPlayer)

- Configure Qt Creator

Setting up for iOS

- Install latest XCode
  - iOS SDK
  - Command line tools
- Get a developer license
- Configure Qt Creator

- Deployment works out of the box
- Debugging support – Qt Creator 3.0

Setting up for Sailfish

- Requires VirtualBox

- Sailfish SDK from www.sailfish.org website

Summary

- Dedicated Resource Handler

- Keep styles in separate QML components

- Use a state machine for UI navigation

- Do not assume platform / device features

- CI is your best friend

- Development environment setup

- Build and Deploy

THANK YOU

Contact

IRC: auri_ : #qt #qt-creator