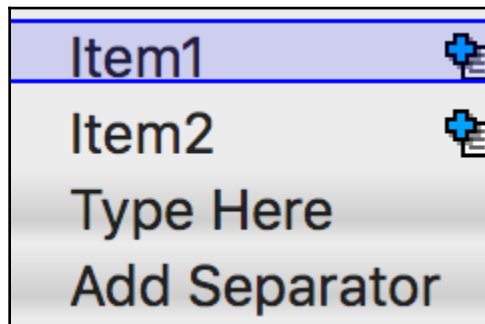
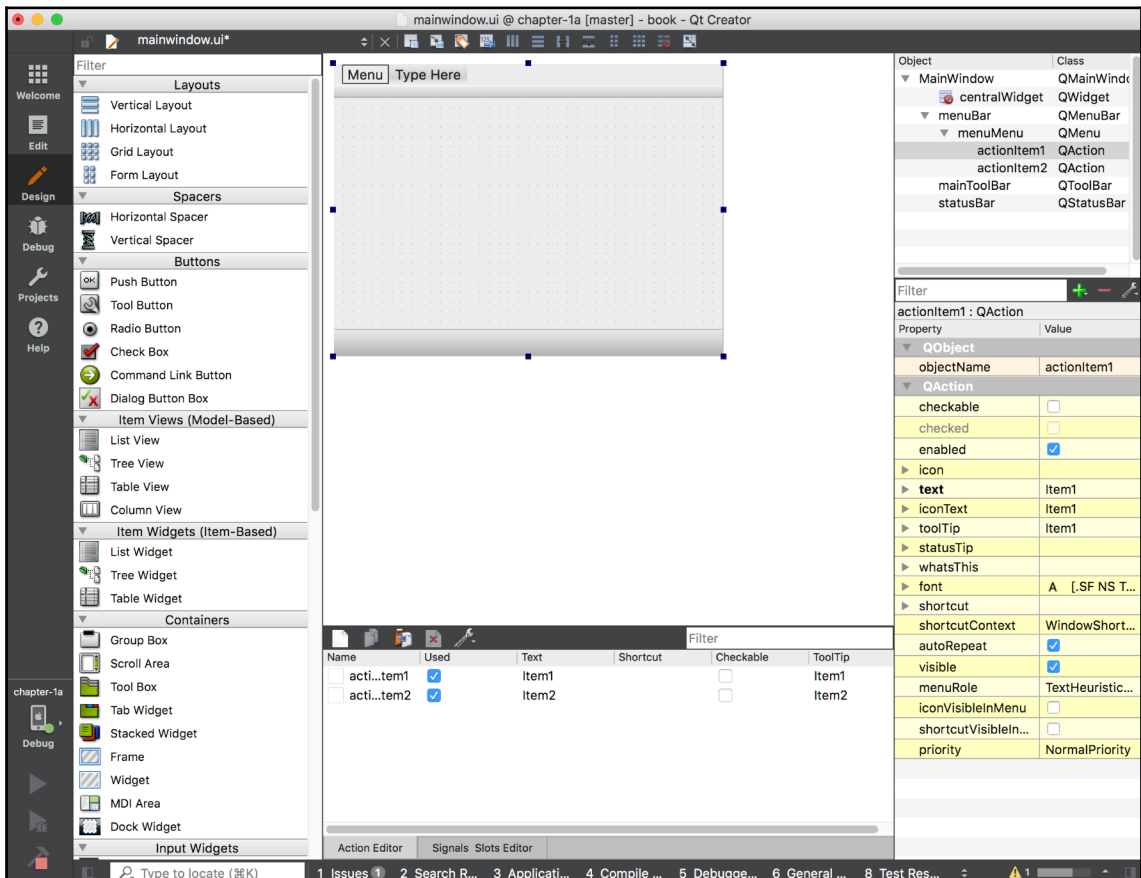
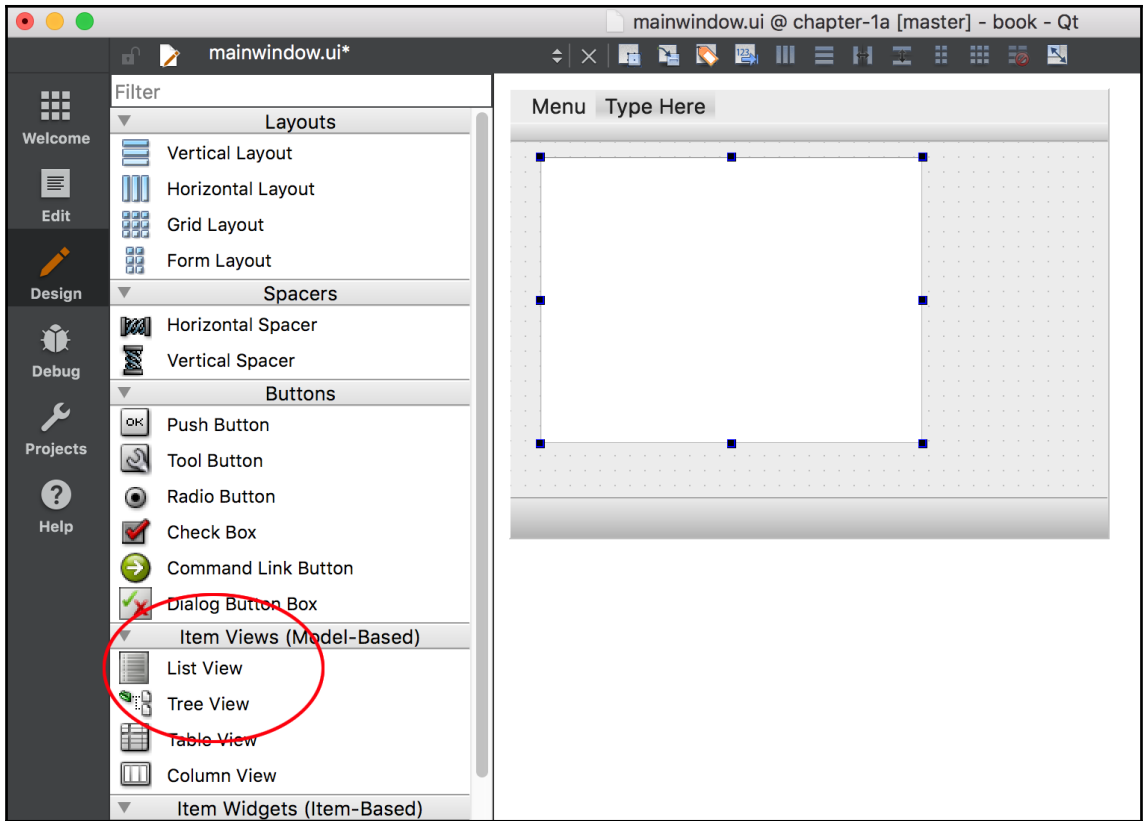
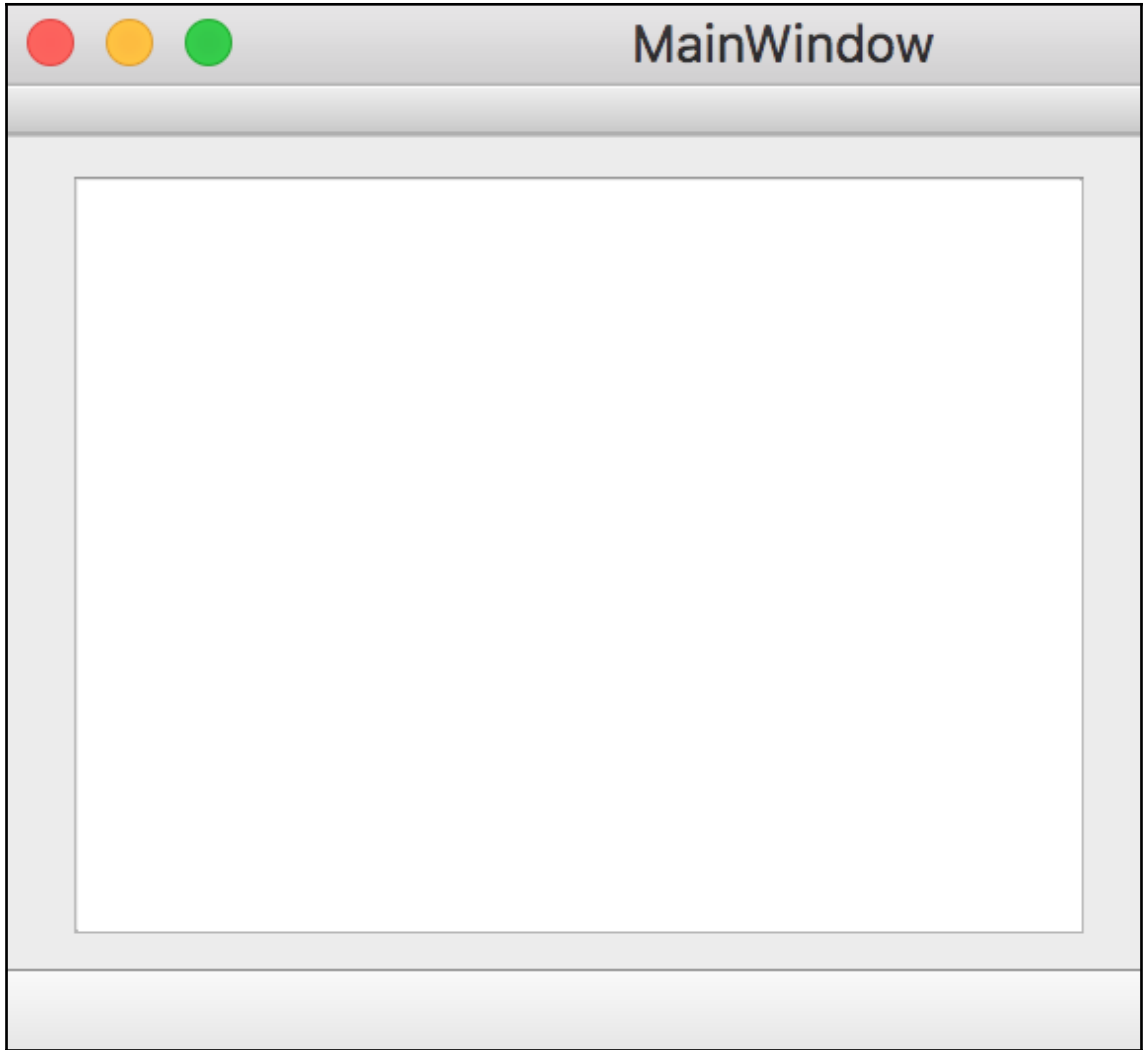


Chapter 1: Standard Qt Widgets









Welcome



Edit



Design



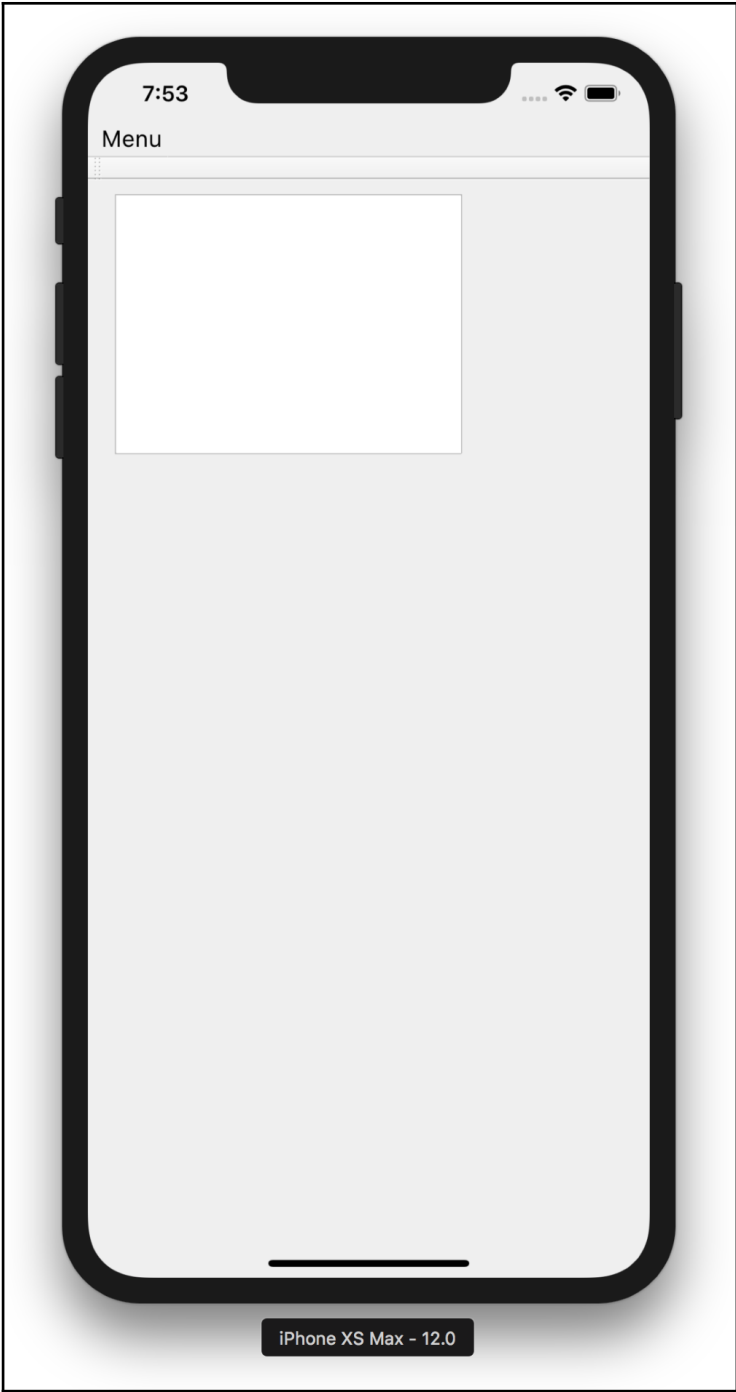
Debug



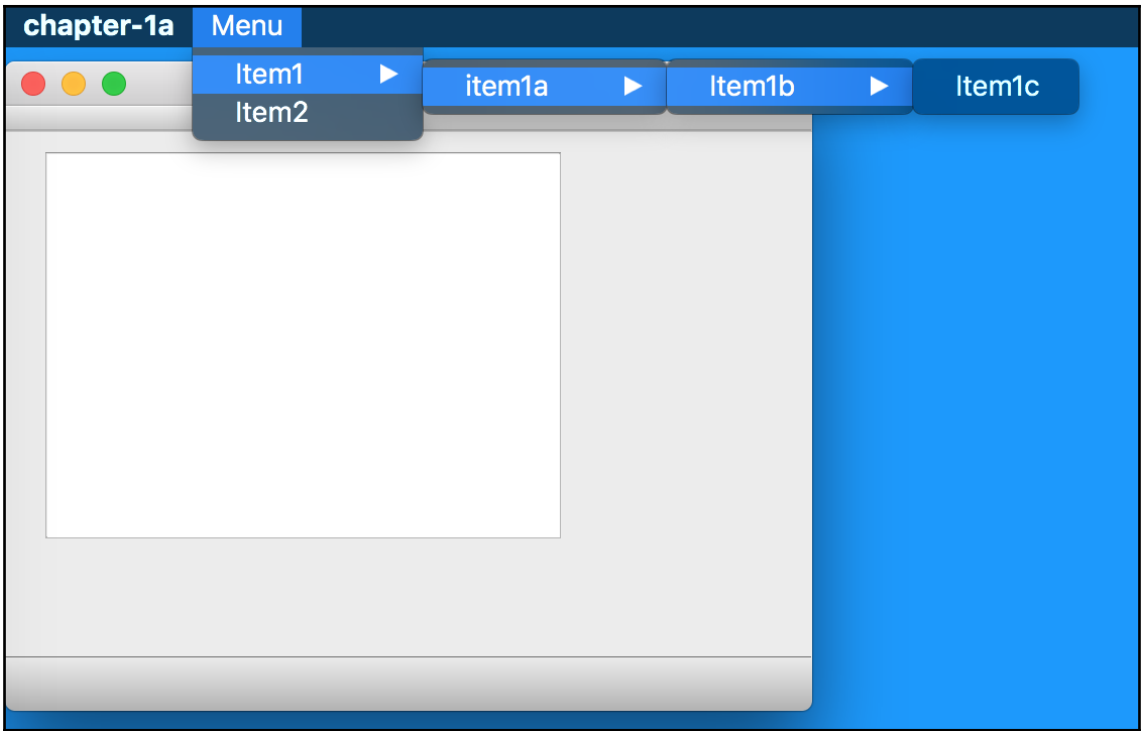
Projects

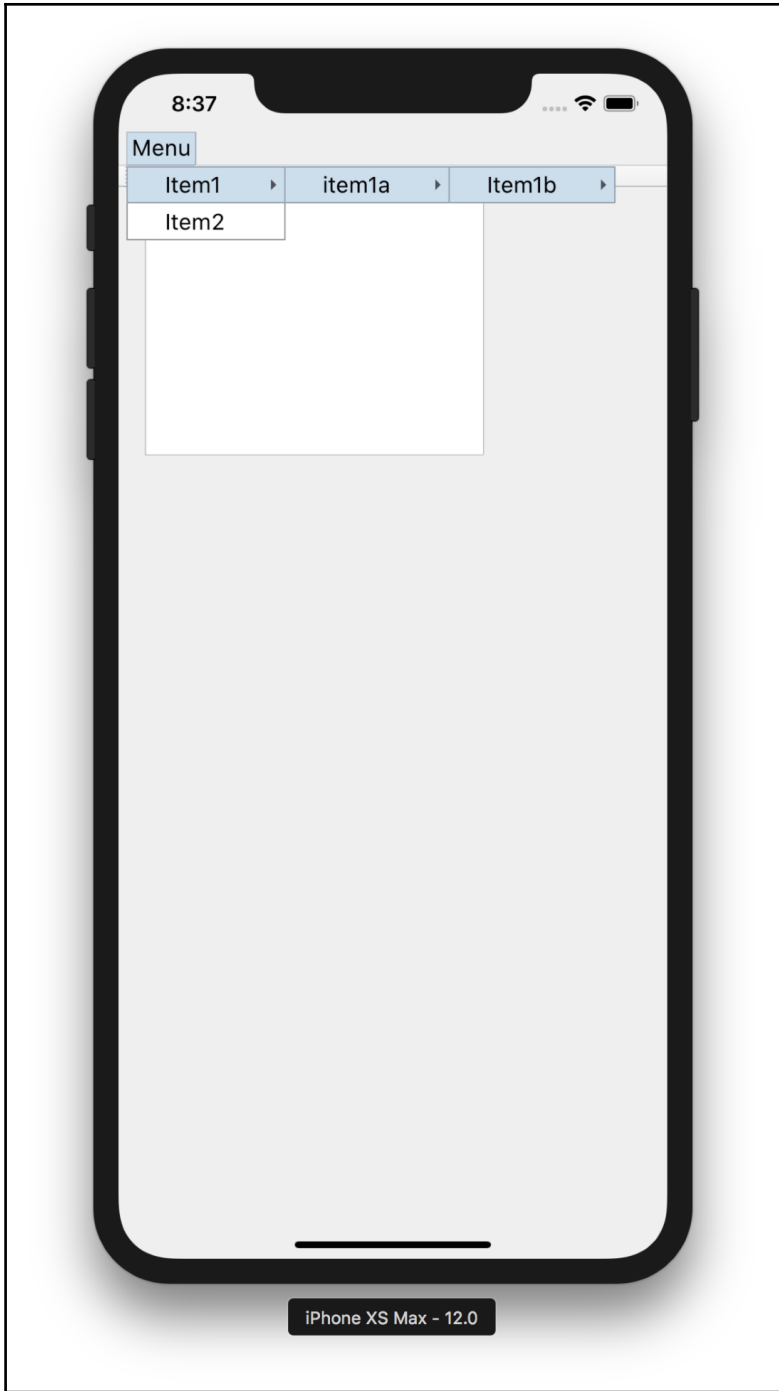


Help



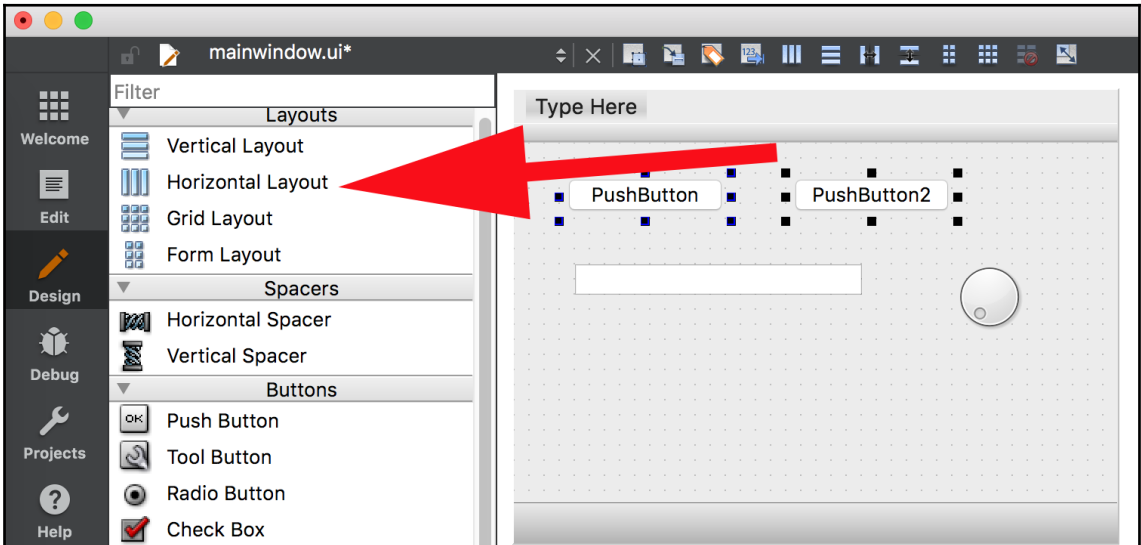
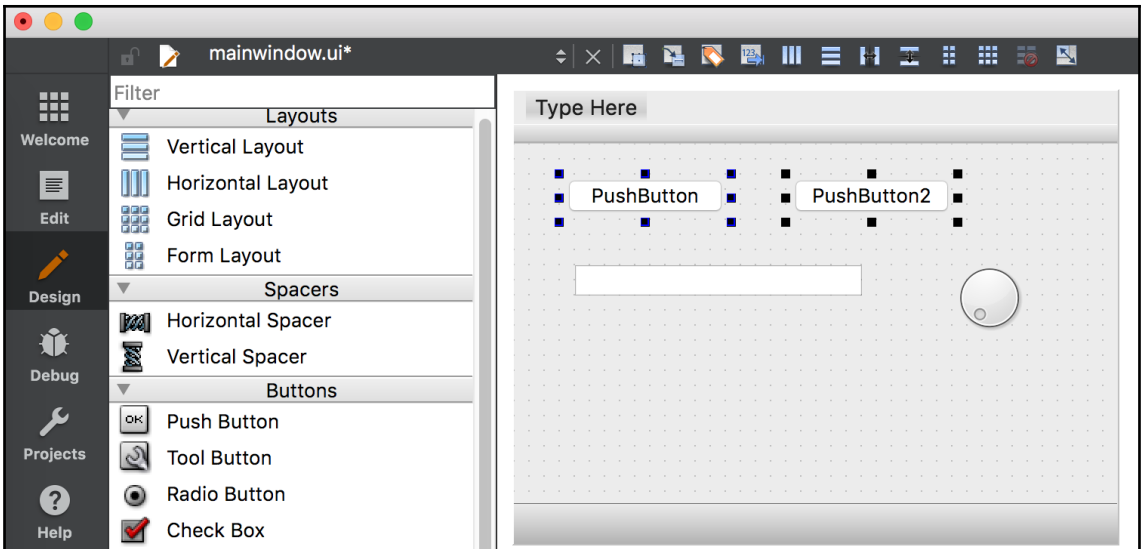
iPhone XS Max - 12.0

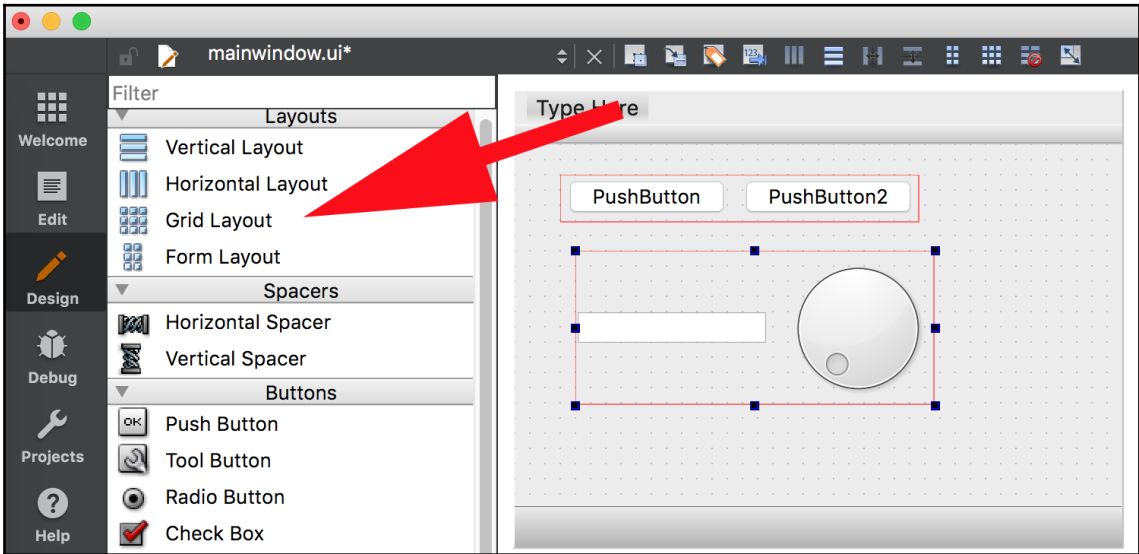
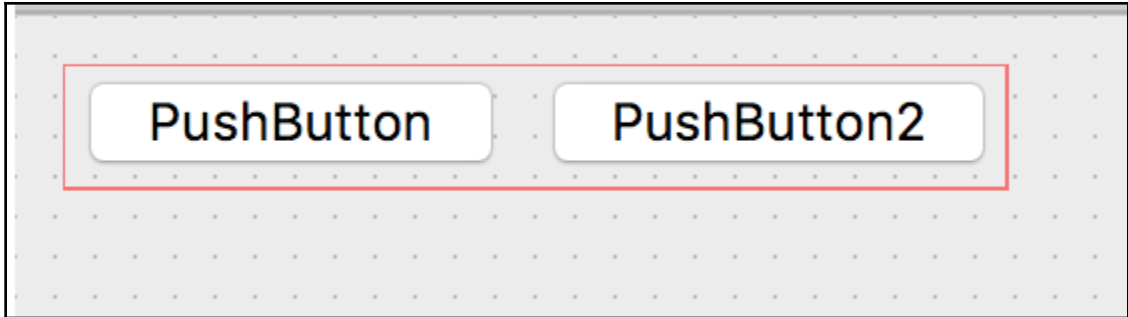






- Change objectName...
- Change toolTip...
- Change whatsThis...
- Change styleSheet...**
- Size Constraints ▶
- Promote to ...
- Go to slot...
- Send to Back
- Bring to Front
- Cut
- Copy
- Paste
- Select All
- Delete
- Lay out ▶





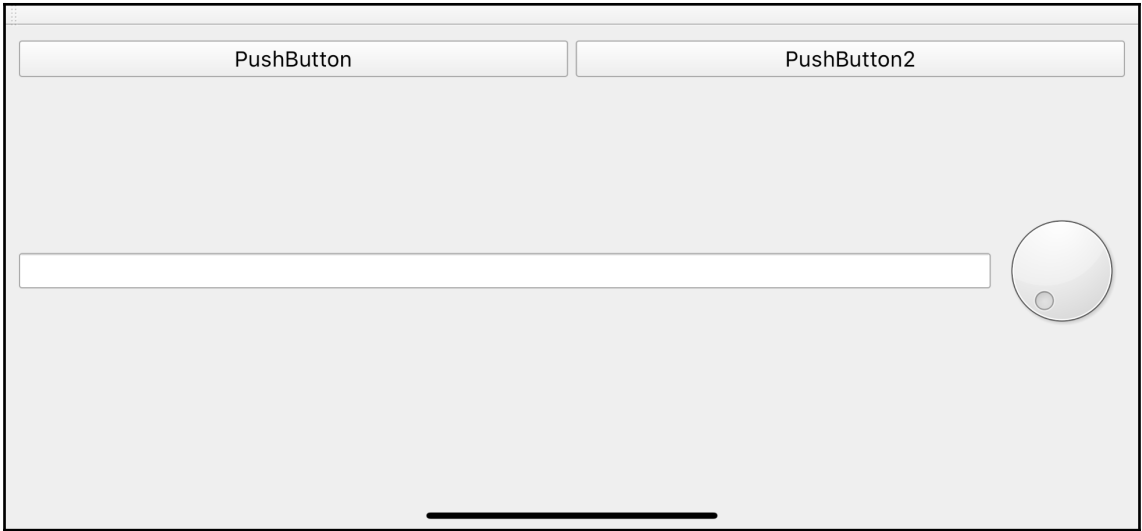
3:55

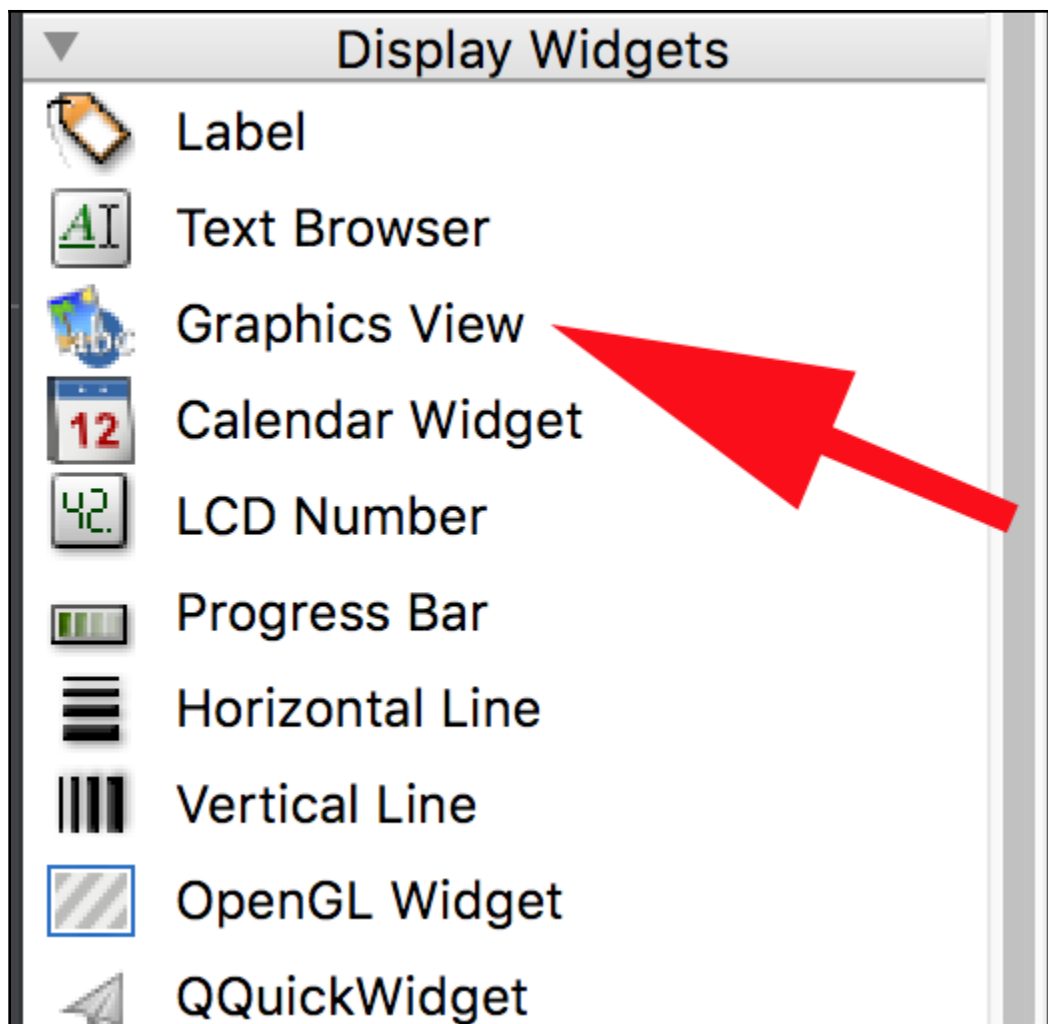


PushButton

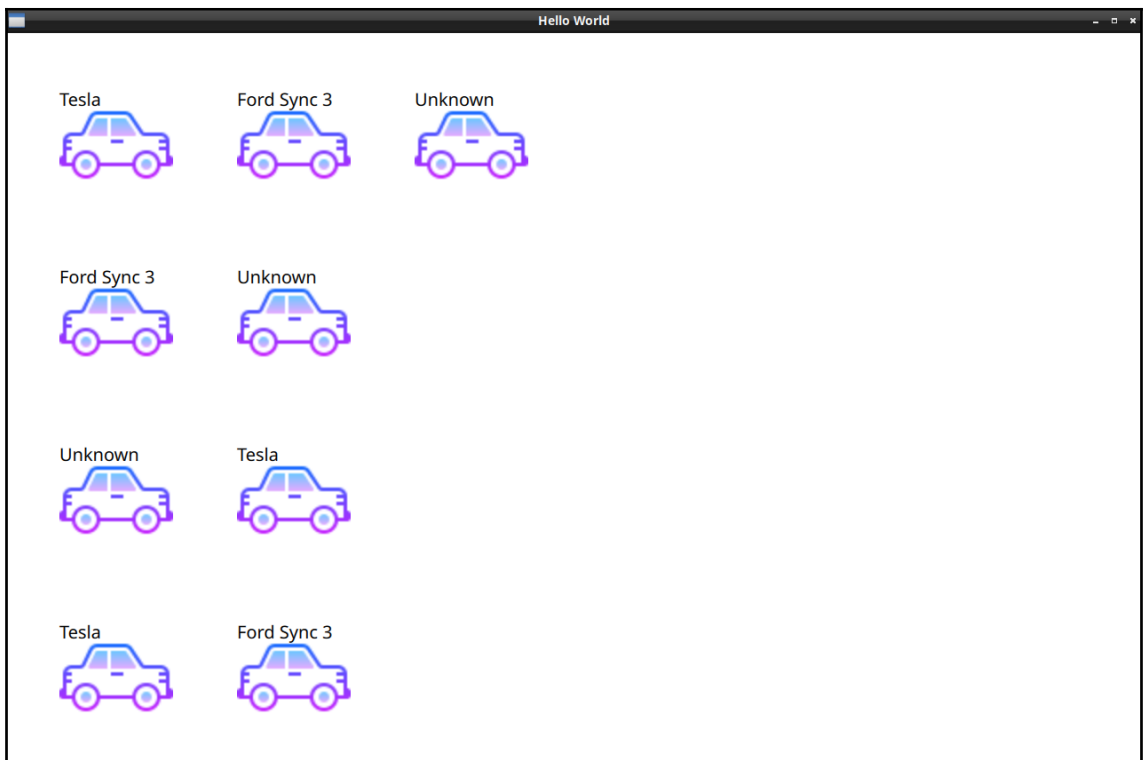
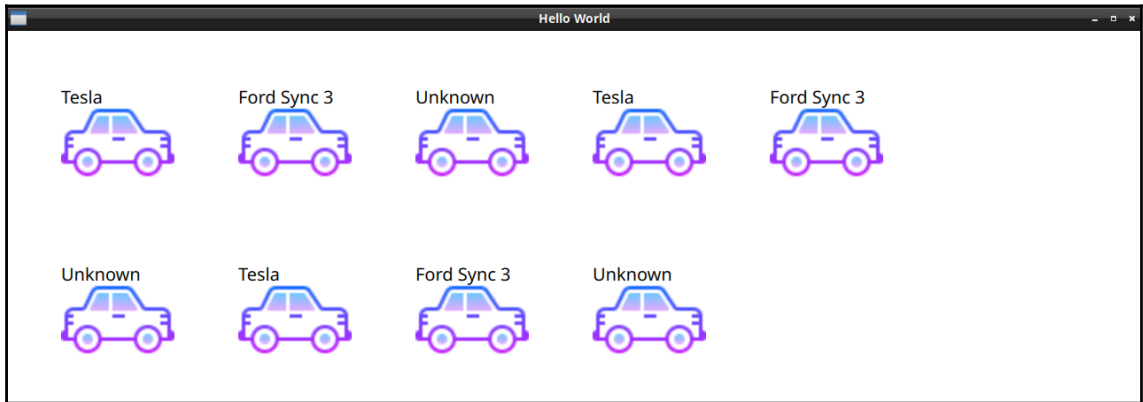
PushButton2

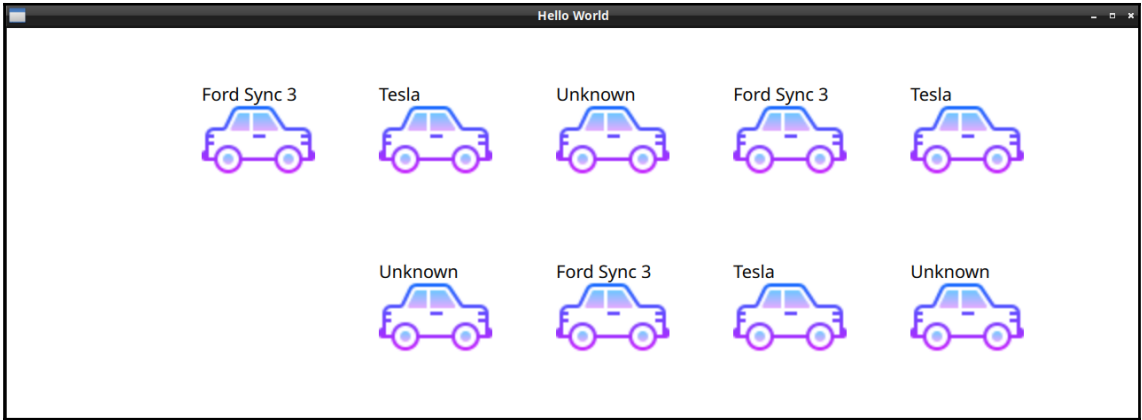






Chapter 2: Fluid UI with Qt Quick





Hello World

Unknown



Ford Sync 3



Tesla



Tesla



Ford Sync 3



Unknown



Tesla



Ford Sync 3



Unknown



Tesla

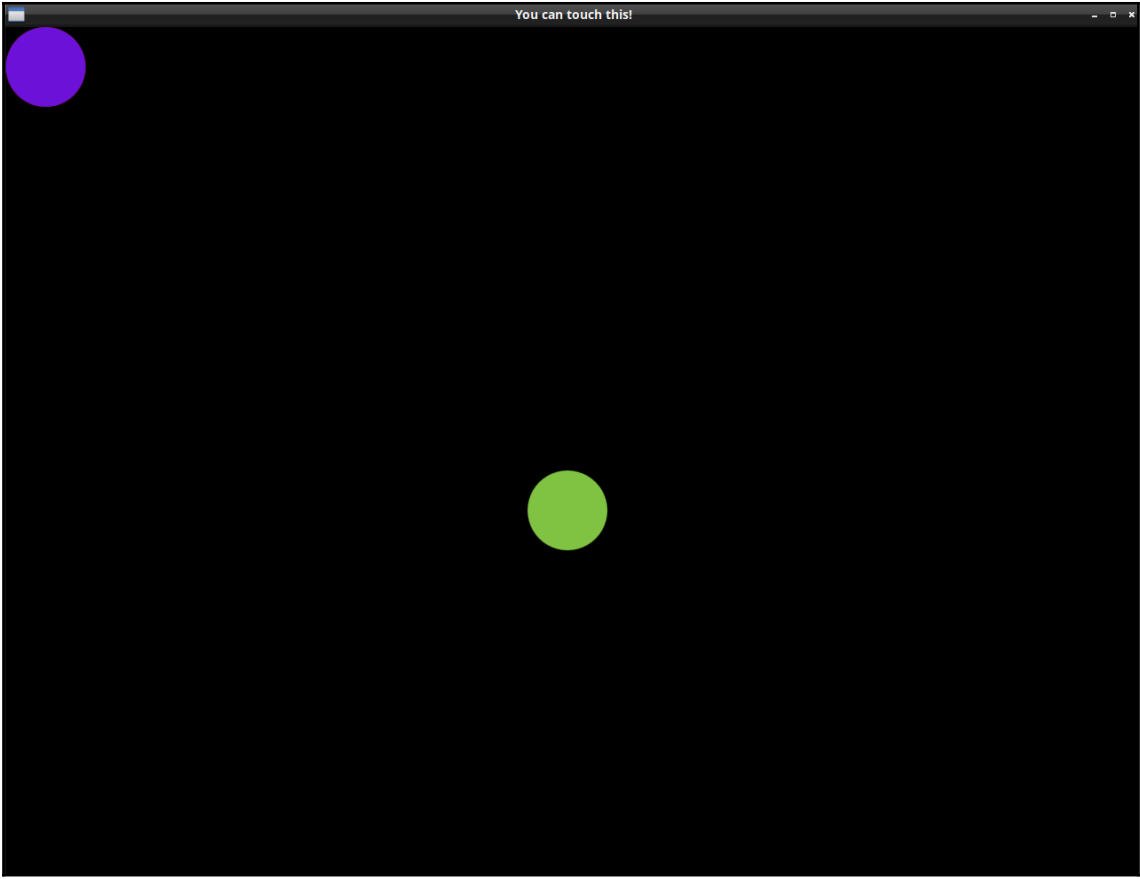


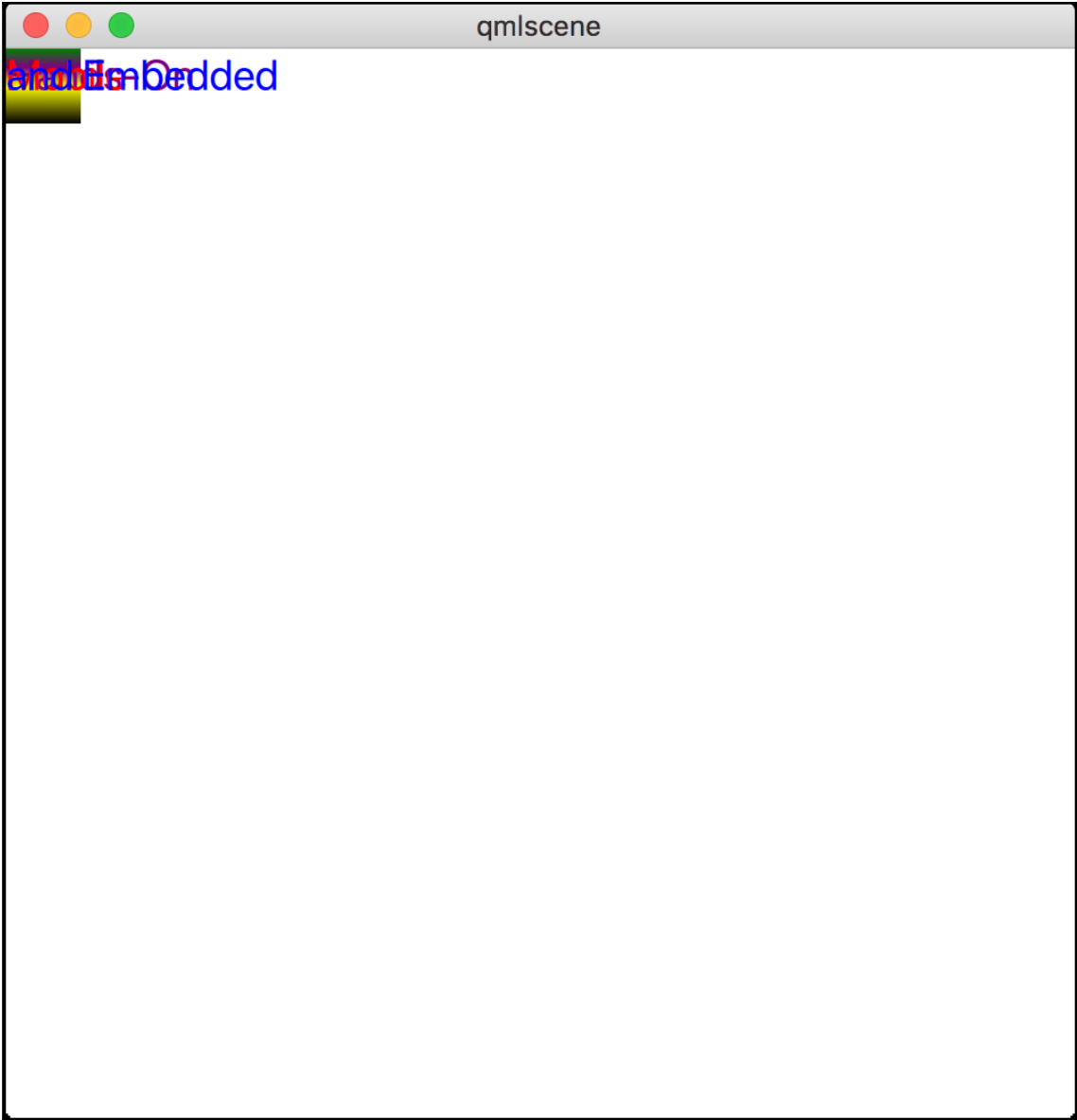
Ford Sync 3

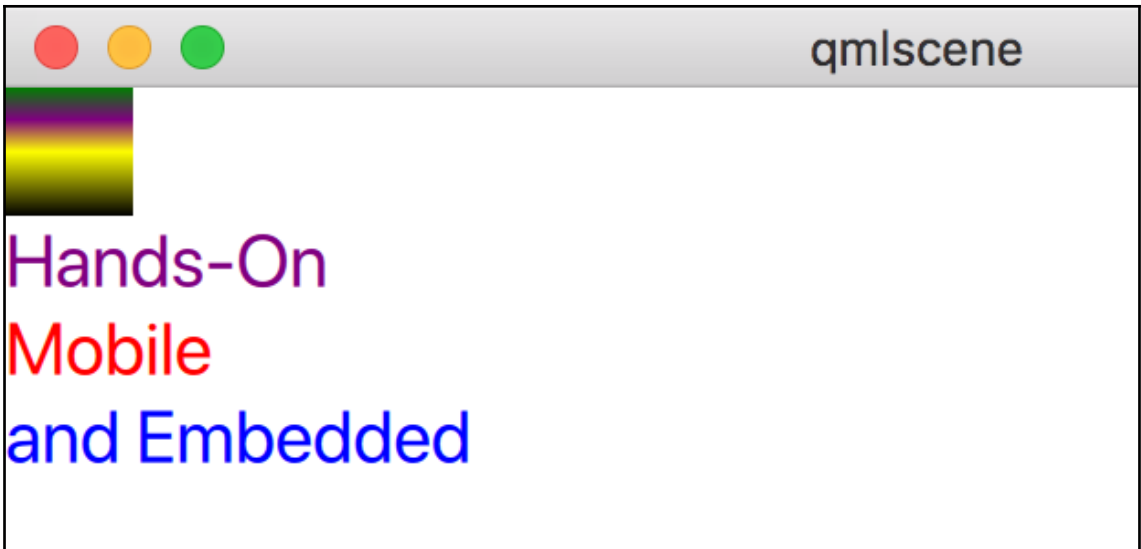


Unknown





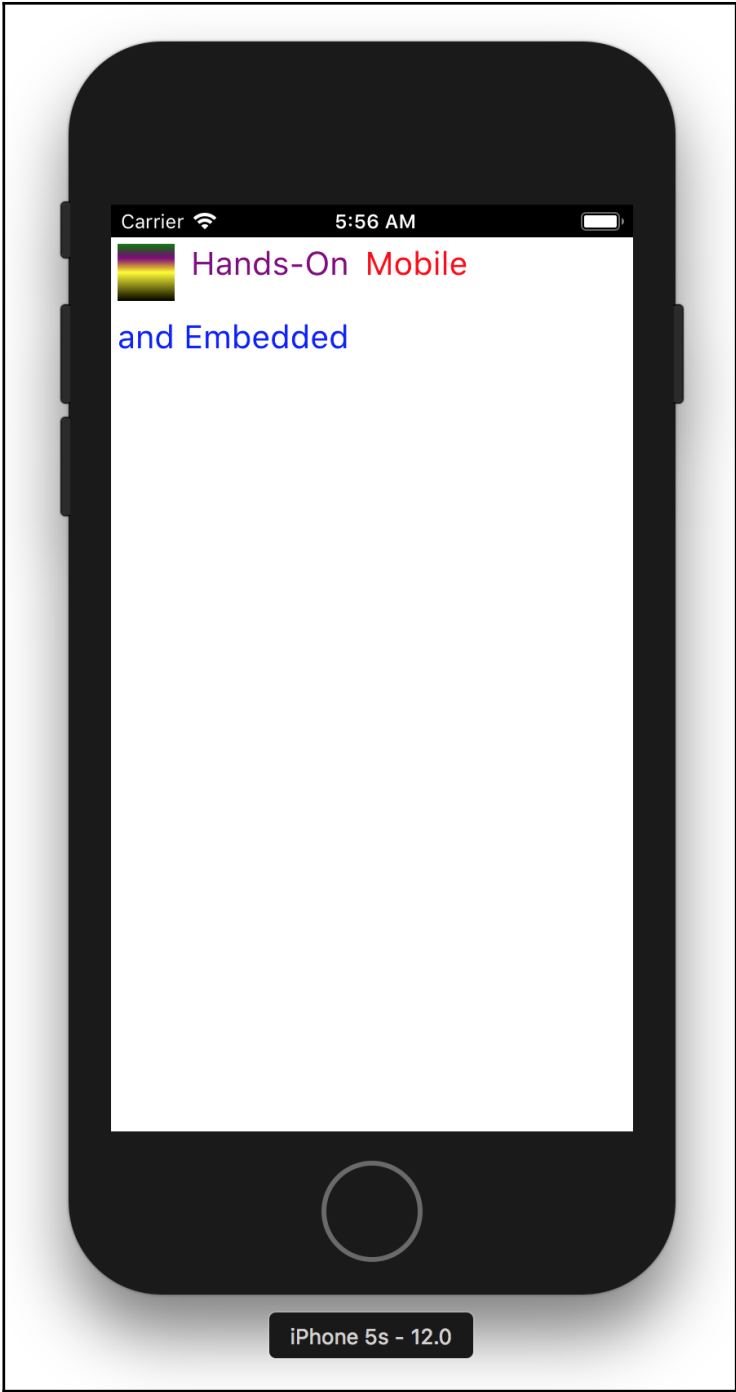


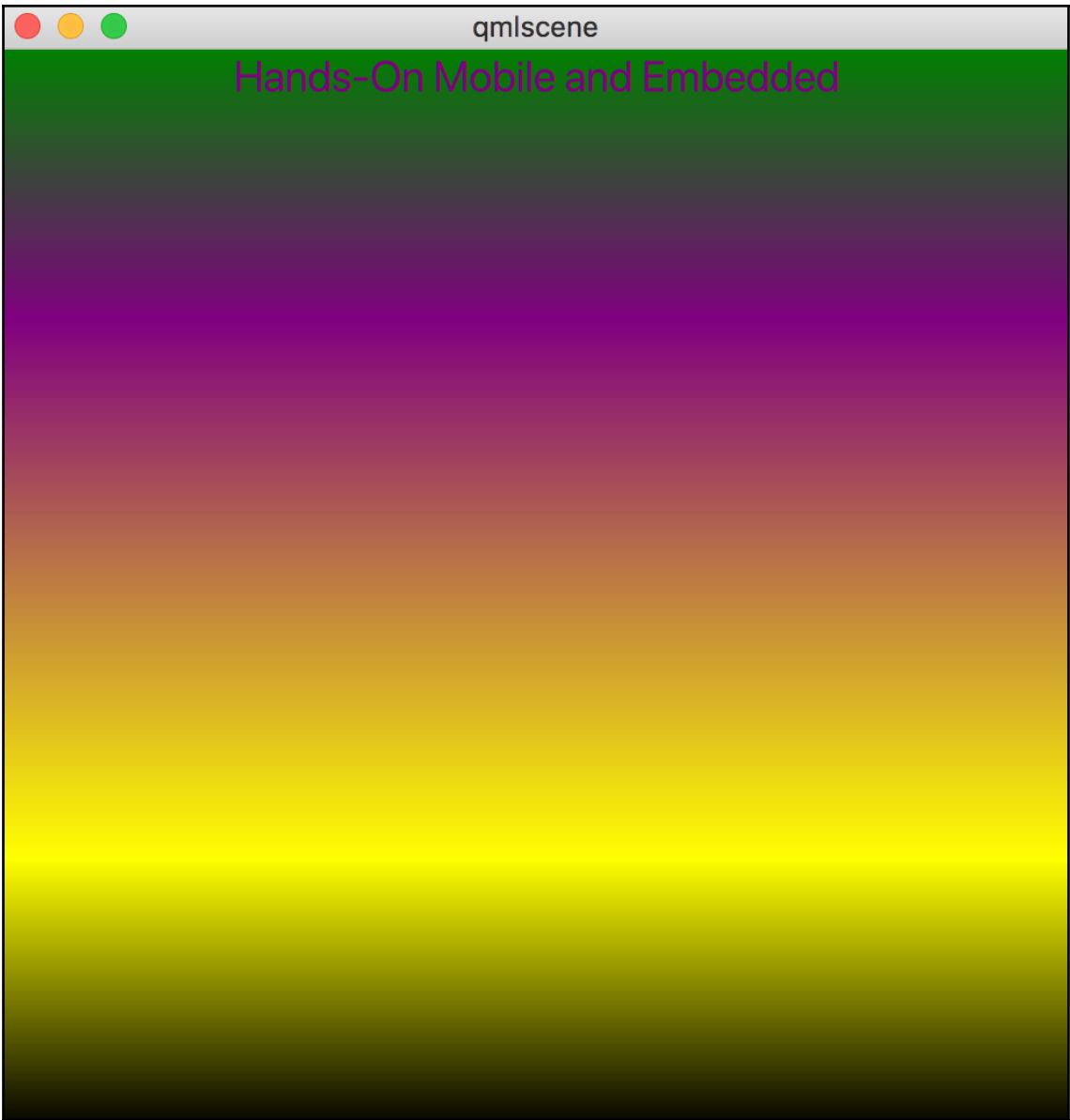


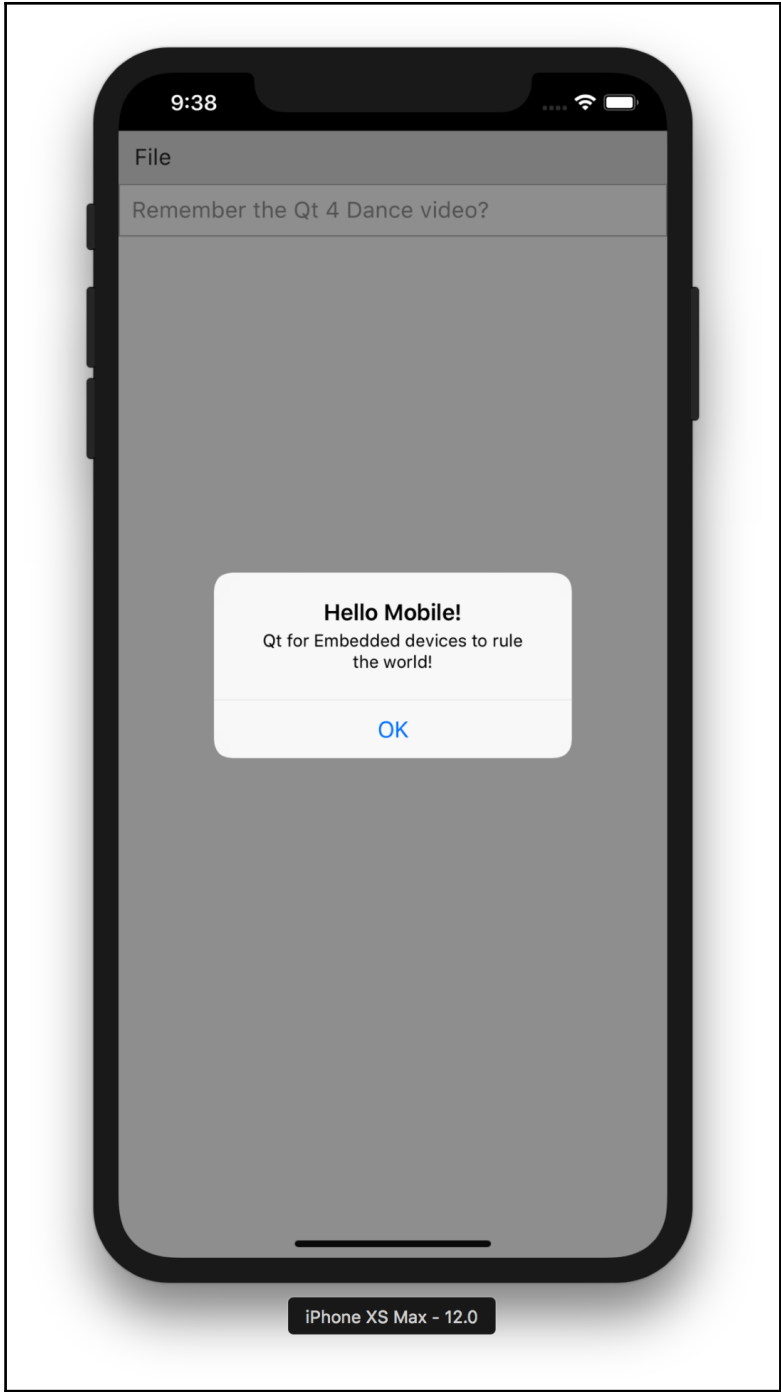
Hands-On

Mobile

and Embedded







9:38

File

Remember the Qt 4 Dance video?

Hello Mobile!

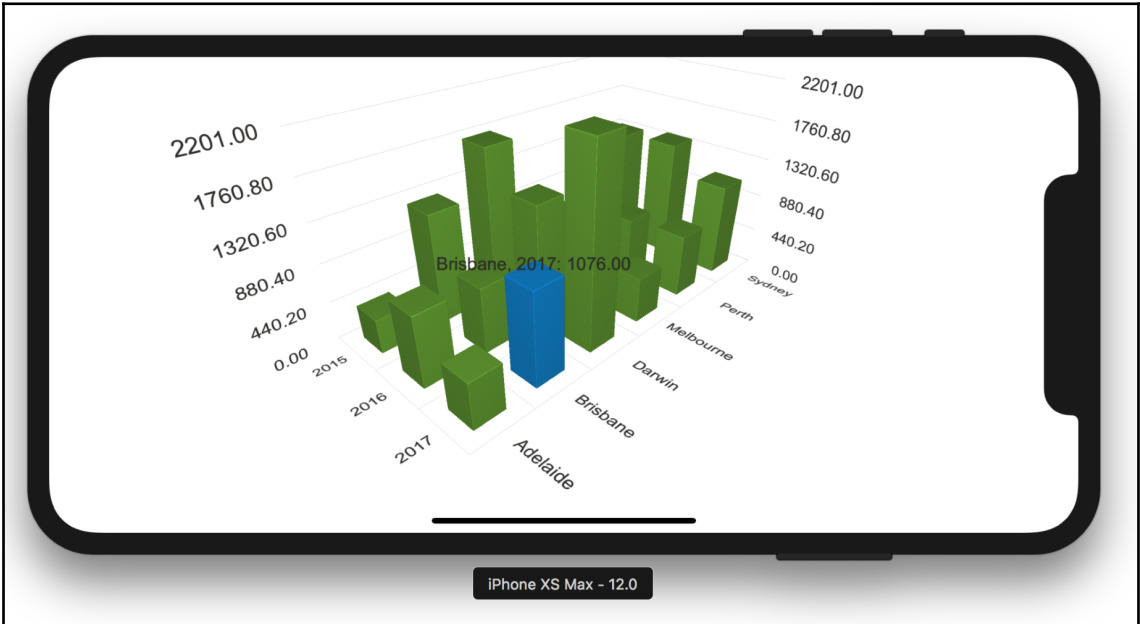
Qt for Embedded devices to rule
the world!

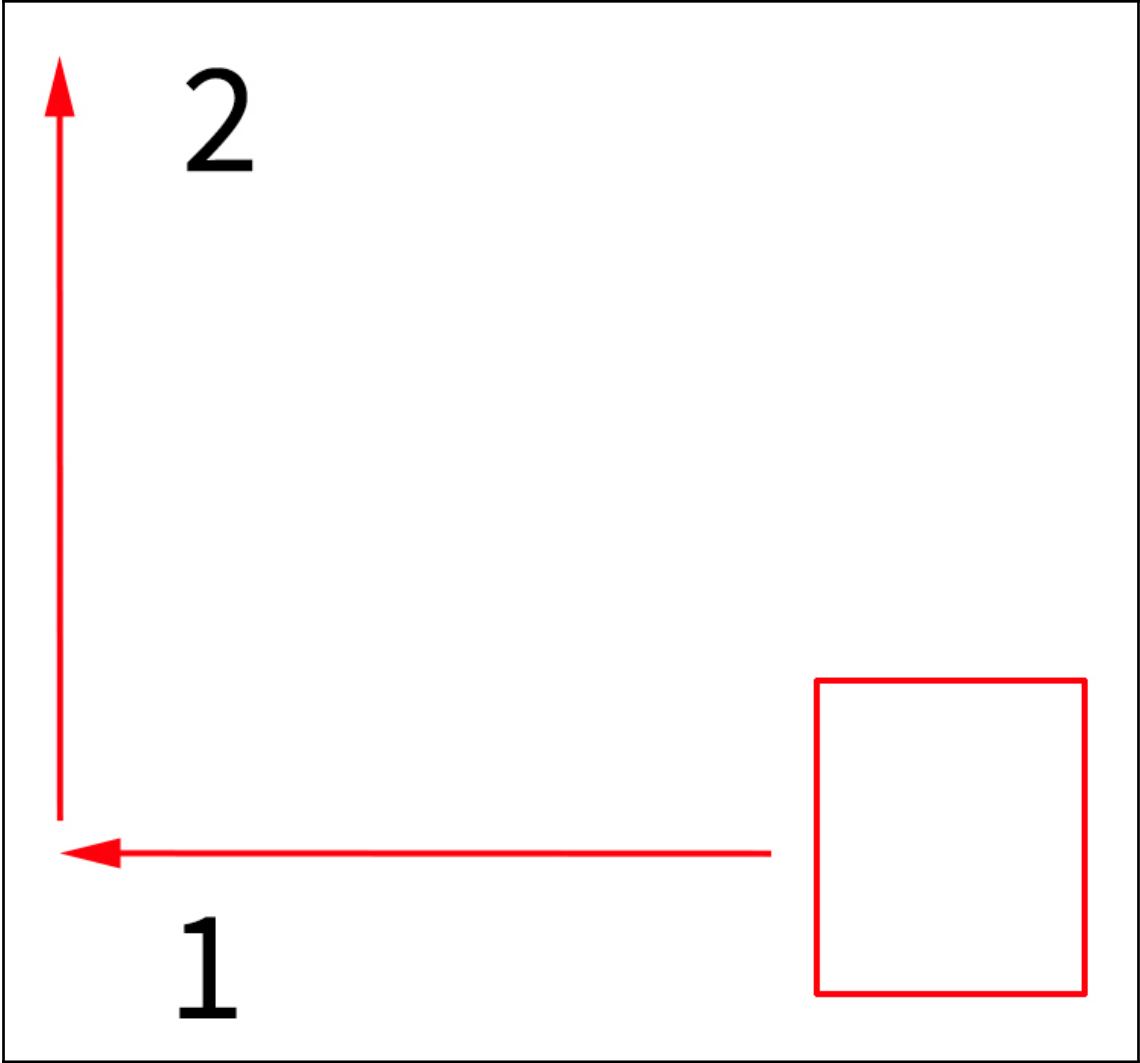
OK

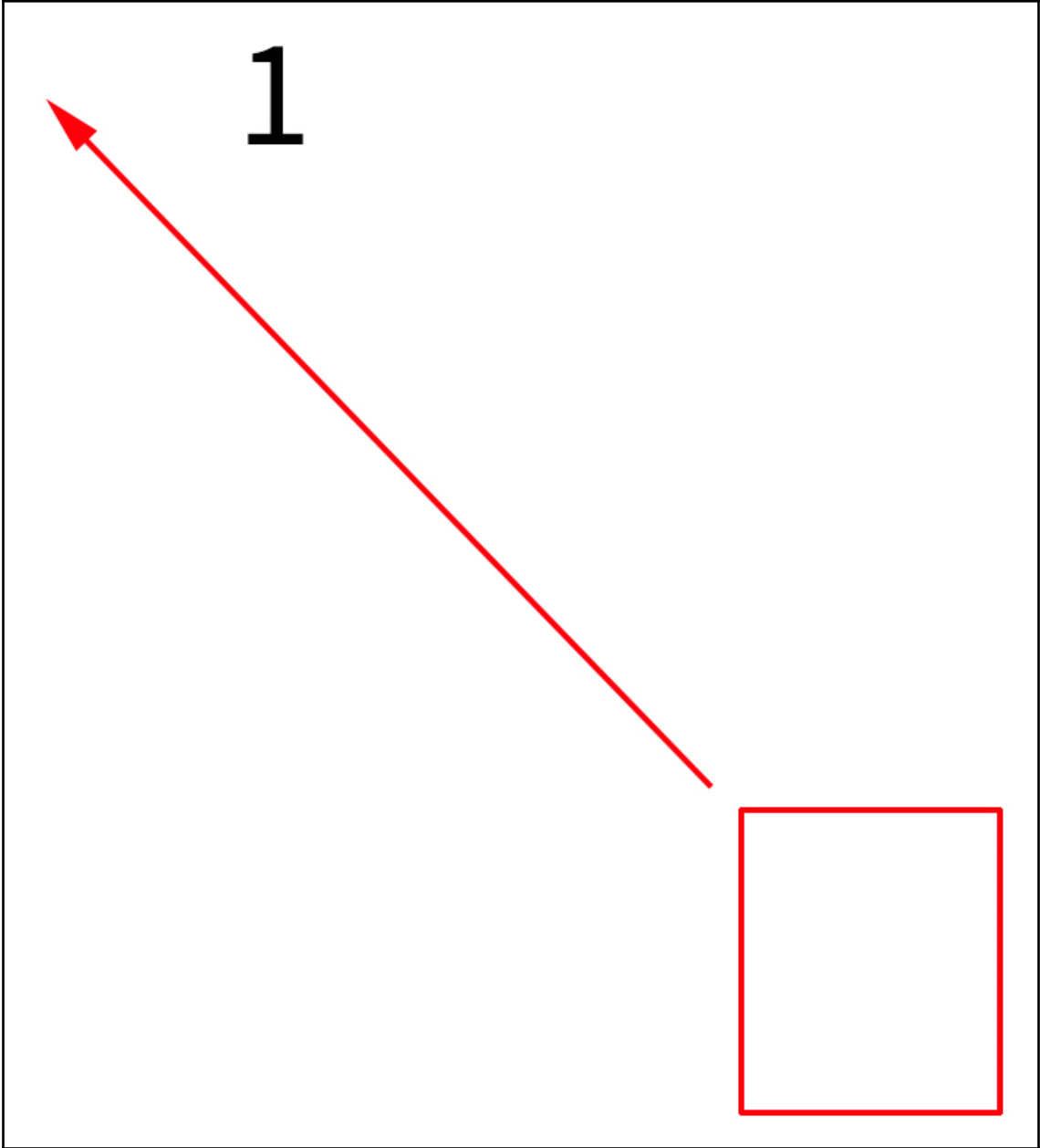
iPhone XS Max - 12.0

CLICK TO GO BACK

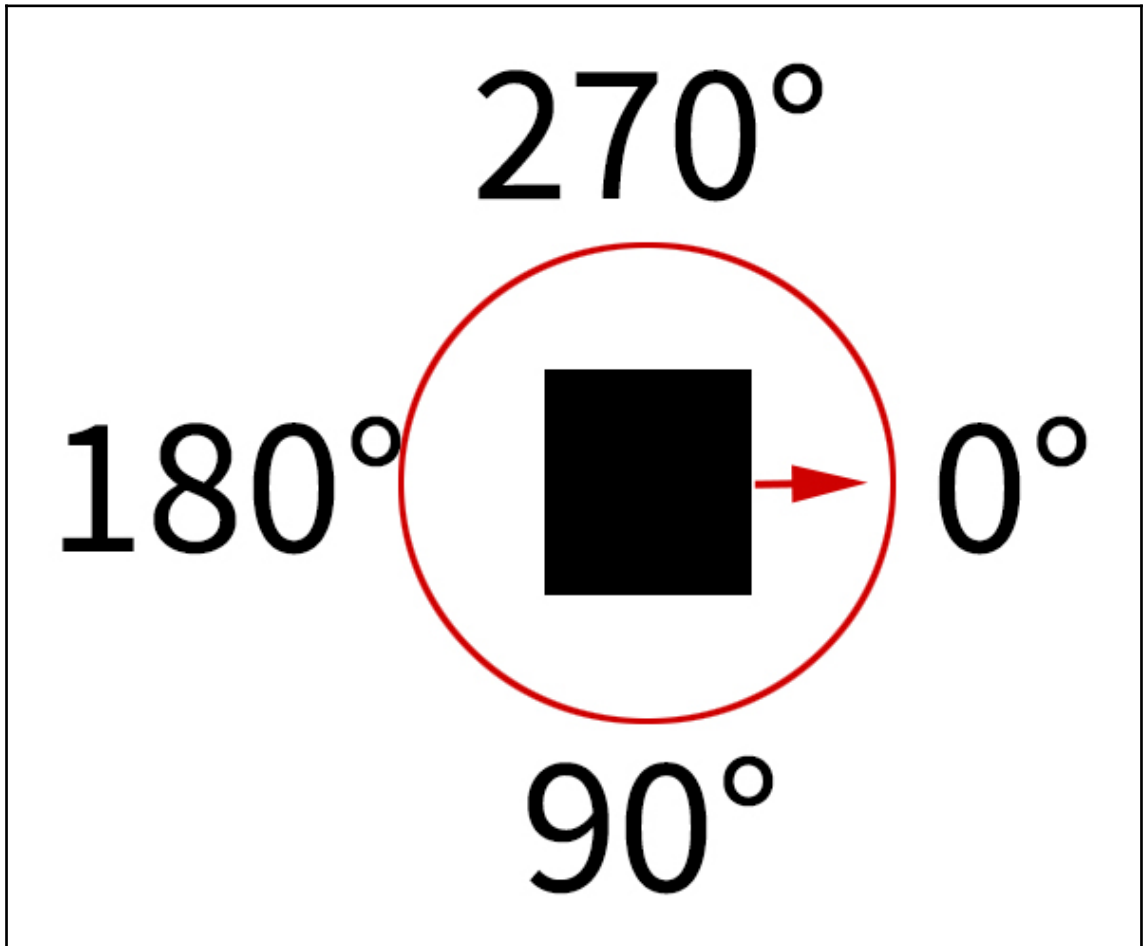




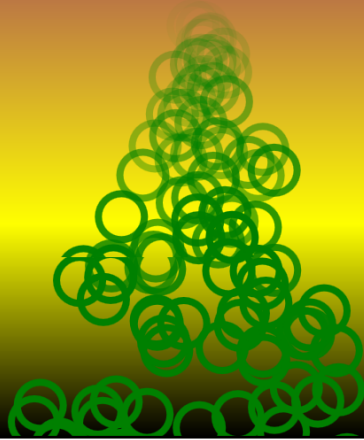




Chapter 3: Graphical and Special Effects



Hands-On Mobile and Embedded



Hands-On Mobile and Embedded



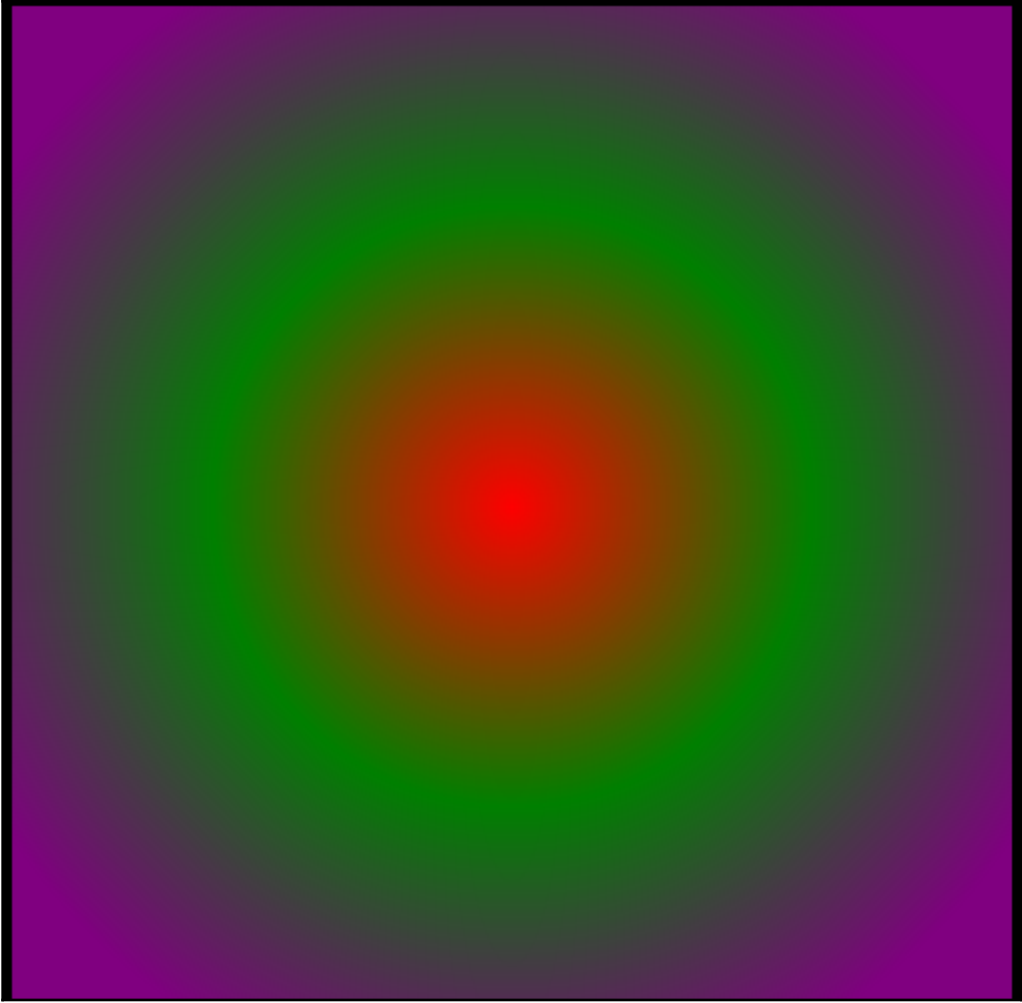
Hands-On Mobile and Embedded



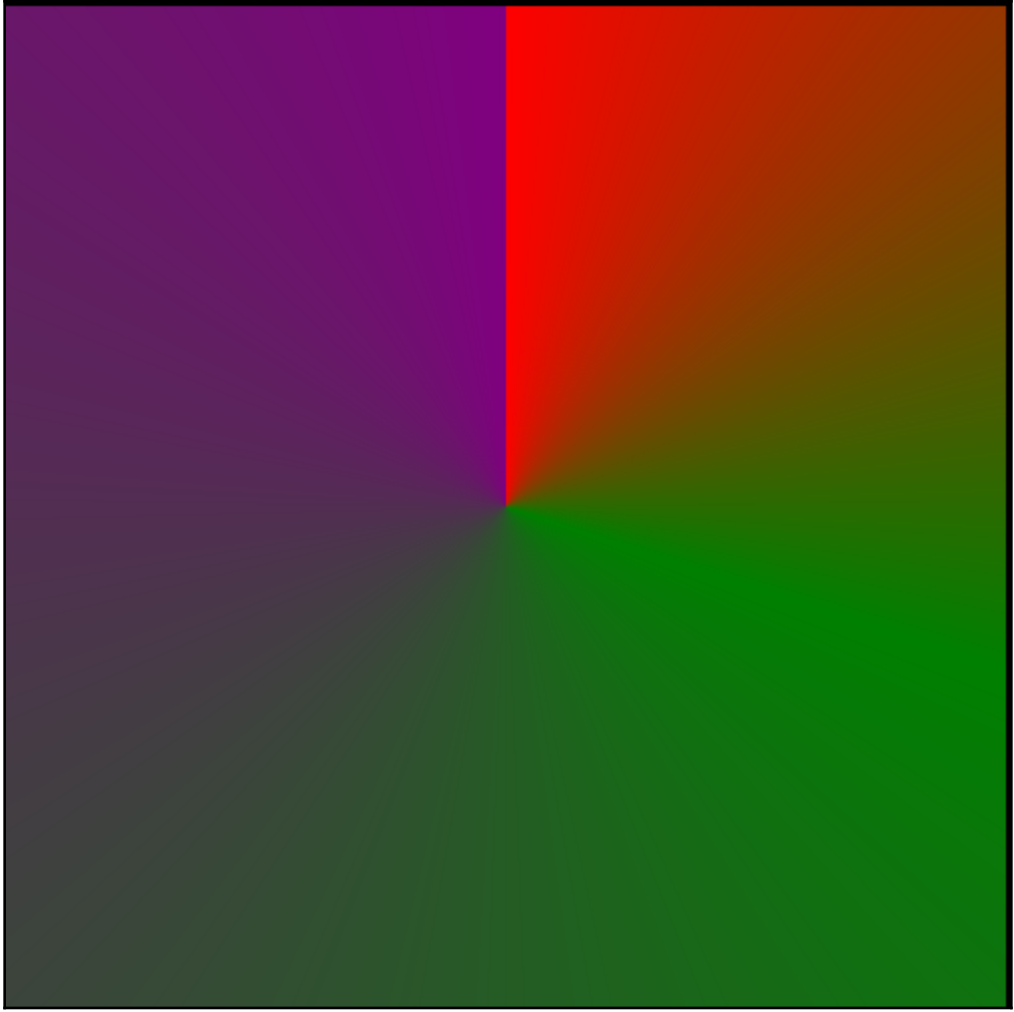
Hands-On Mobile and Embedded

Hands-On Mobile and Embedded

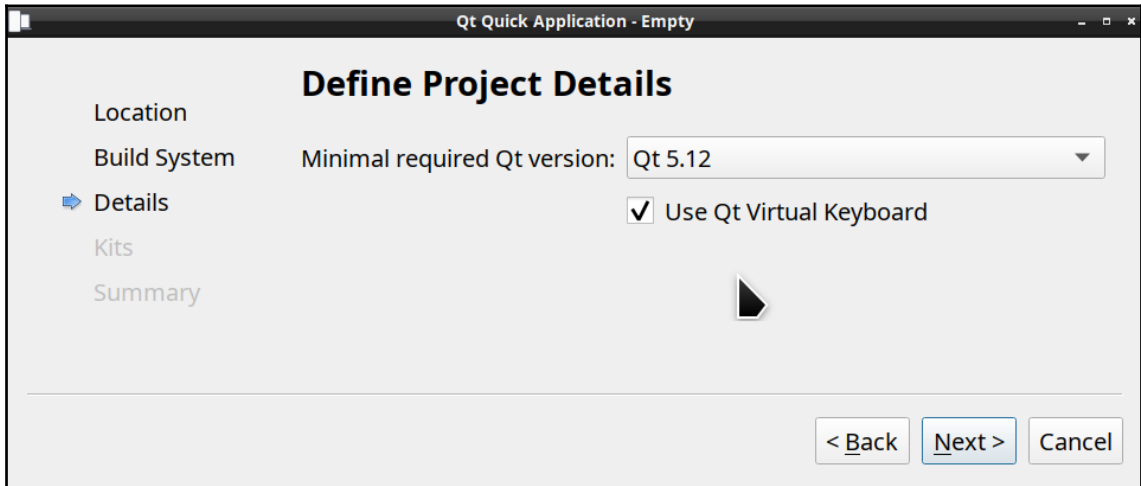
Hands-On Mobile and Embedded

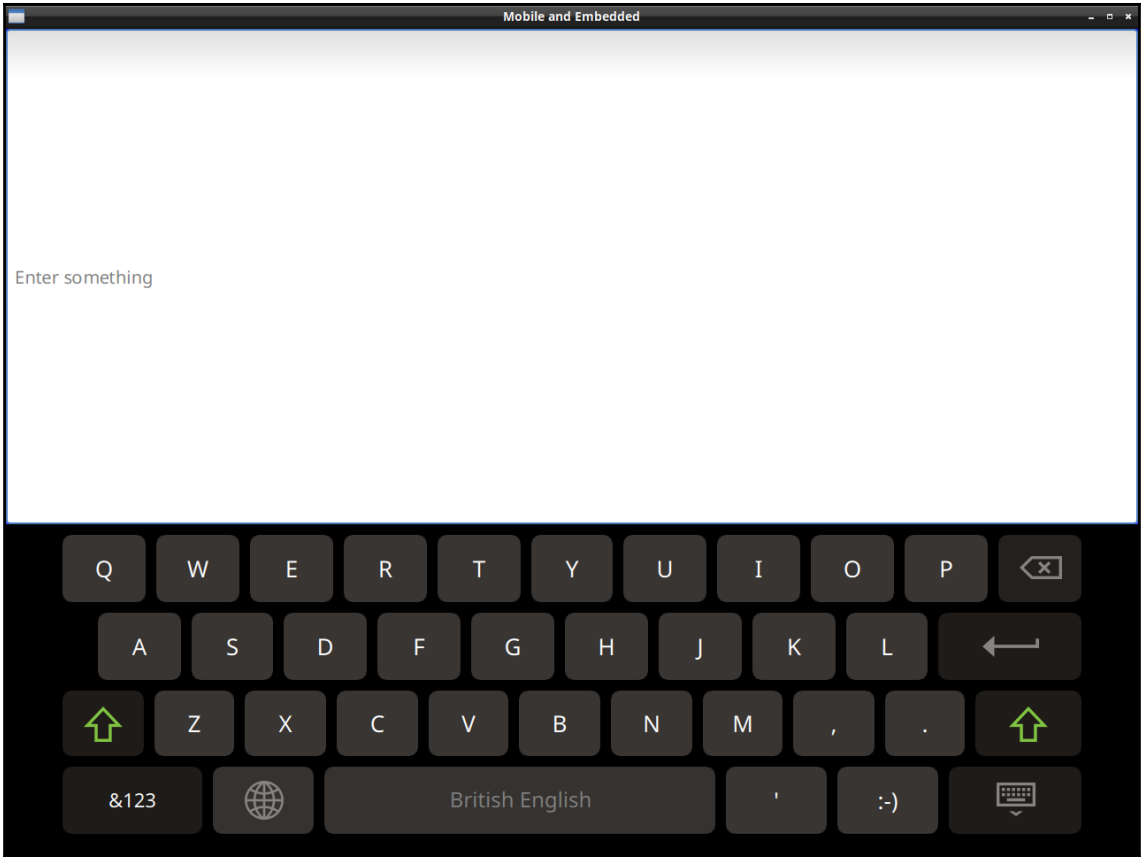






Chapter 4: Input and Touch





Connection Status

Status

Latitude

-27

Longitude

154



Chapter 6: Connectivity with Qt Bluetooth LE

| | |
|---------------------------|--------------------------|
| Moto Z2 Play | 38:80:DF:0C:DE:91 |
| 56-5D-59-7A-70-10 | 56:5D:59:7A:70:10 |
| 5C-9A-41-CA-B6-0A | 5C:9A:41:CA:B6:0A |
| Bedroom Apple TV | 60:03:08:C5:A0:6F |
| 66-B4-4F-A5-71-40 | 66:B4:4F:A5:71:40 |
| 7D-D4-D5-50-04-78 | 7D:D4:D5:50:04:78 |
| Lorn's MacBook Pro | 98:01:A7:9B:B5:B2 |
| b2qt-raspberrypi3 | B8:27:EB:5C:13:B3 |

Local address: FC:01:7C:72:9C:44

MainWindow

| | |
|---------------------------|--------------------------|
| Moto Z2 Play | 38:80:DF:0C:DE:91 |
| 56-5D-59-7A-70-10 | 56:5D:59:7A:70:10 |
| 5C-9A-41-CA-B6-0A | 5C:9A:41:CA:B6:0A |
| Bedroom Apple TV | 60:03:08:C5:A0:6F |
| 66-B4-4F-A5-71-40 | 66:B4:4F:A5:71:40 |
| 7D-D4-D5-50-04-78 | 7D:D4:D5:50:04:78 |
| Lorn's MacBook Pro | 98:01:A7:9B:B5:B2 |
| b2qt-raspberrypi3 | B8:27:EB:5C:13:B3 |

Local address: FC:01:7C:72:9C:44

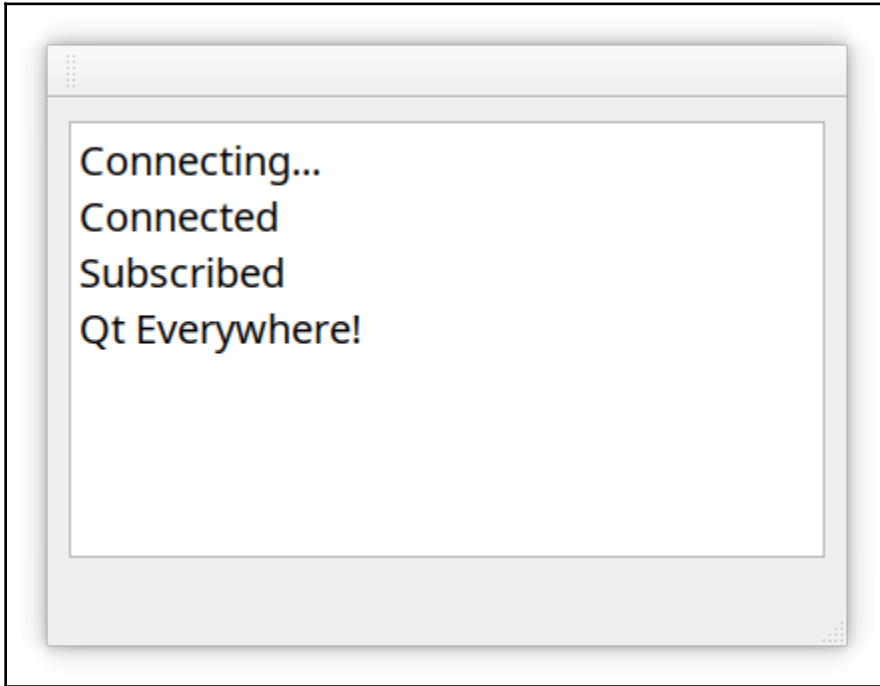
ch6-1a

Bluetooth Pairing.

Do you want to pair with device: 98:01:A7:9B:B5:B2

OK Cancel

Chapter 7: Machines Talking



Chapter 8: Where Am I? Location and Positioning

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 14 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 14 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 14 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 14 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70

Number of satellites in view: 1
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70

Number of satellites in view: 2
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

Number of satellites in view: 2
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

Number of satellites in view: 2
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

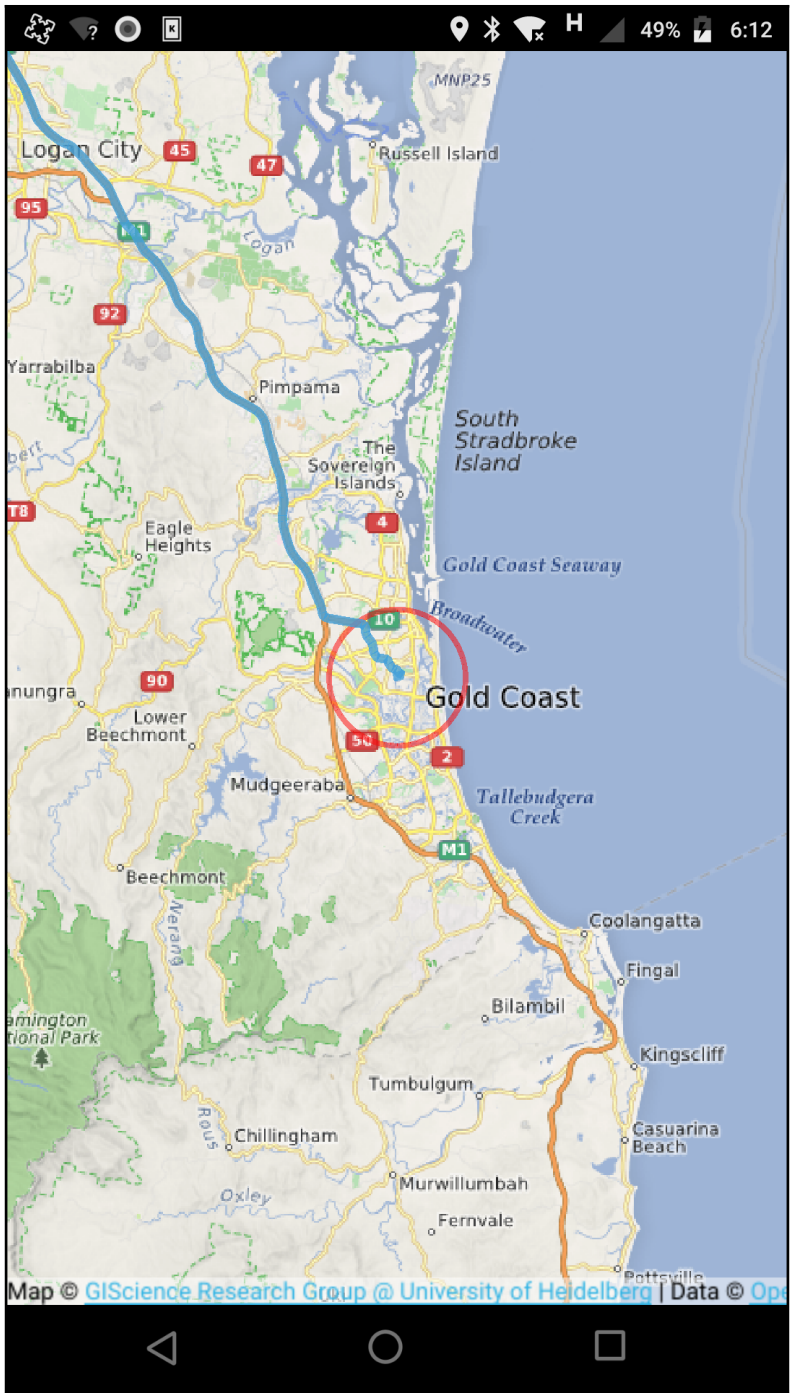
Number of satellites in view: 2
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

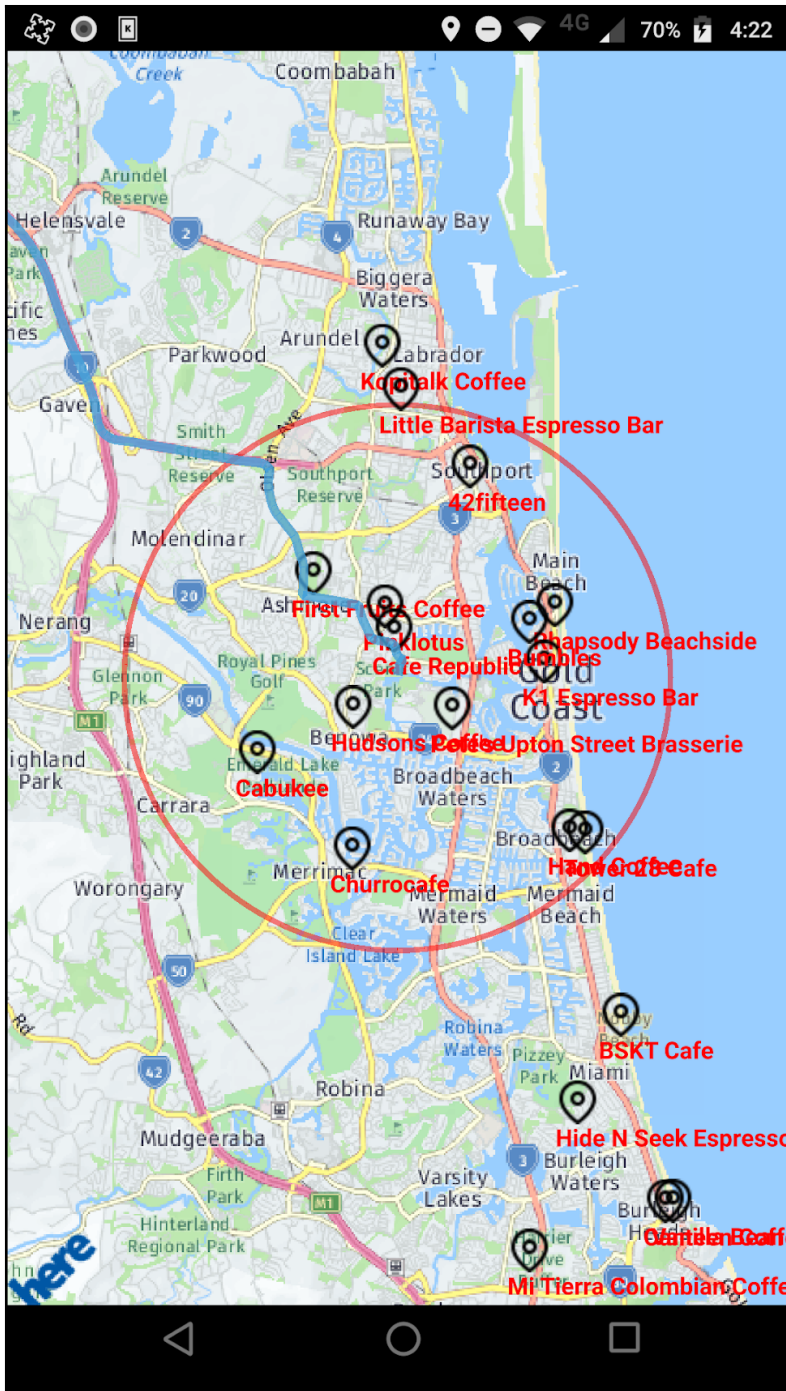
Number of satellites in view: 2
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

Number of satellites in view: 3
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier21 signalStrength 14 Elevation 46 Azimuth 216
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133

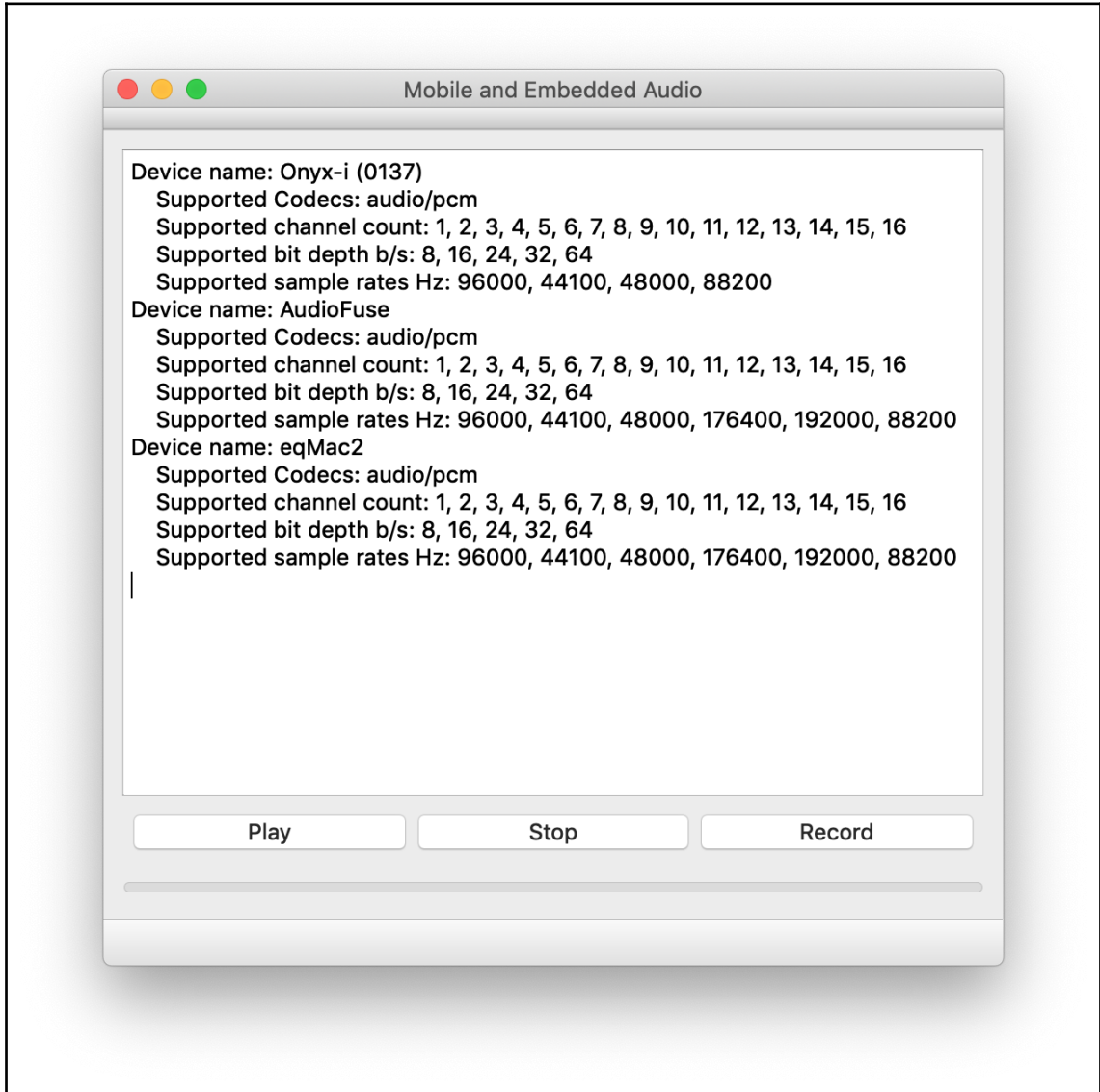
Number of satellites in view: 3
satelliteIdentifier15 signalStrength 13 Elevation 45 Azimuth 70
satelliteIdentifier21 signalStrength 14 Elevation 46 Azimuth 216
satelliteIdentifier65 signalStrength 12 Elevation 60 Azimuth 133







Chapter 9: Sounds and Visions - Qt Multimedia



Optus

4:41 pm

88%

Device name: default

Supported Codecs: audio/pcm

Supported channel count: 1, 2, 3,
4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,
16

Supported bit depth b/s: 8, 16,
24, 32, 64

Supported sample rates Hz:
48000, 11025, 22050, 44100, 8000

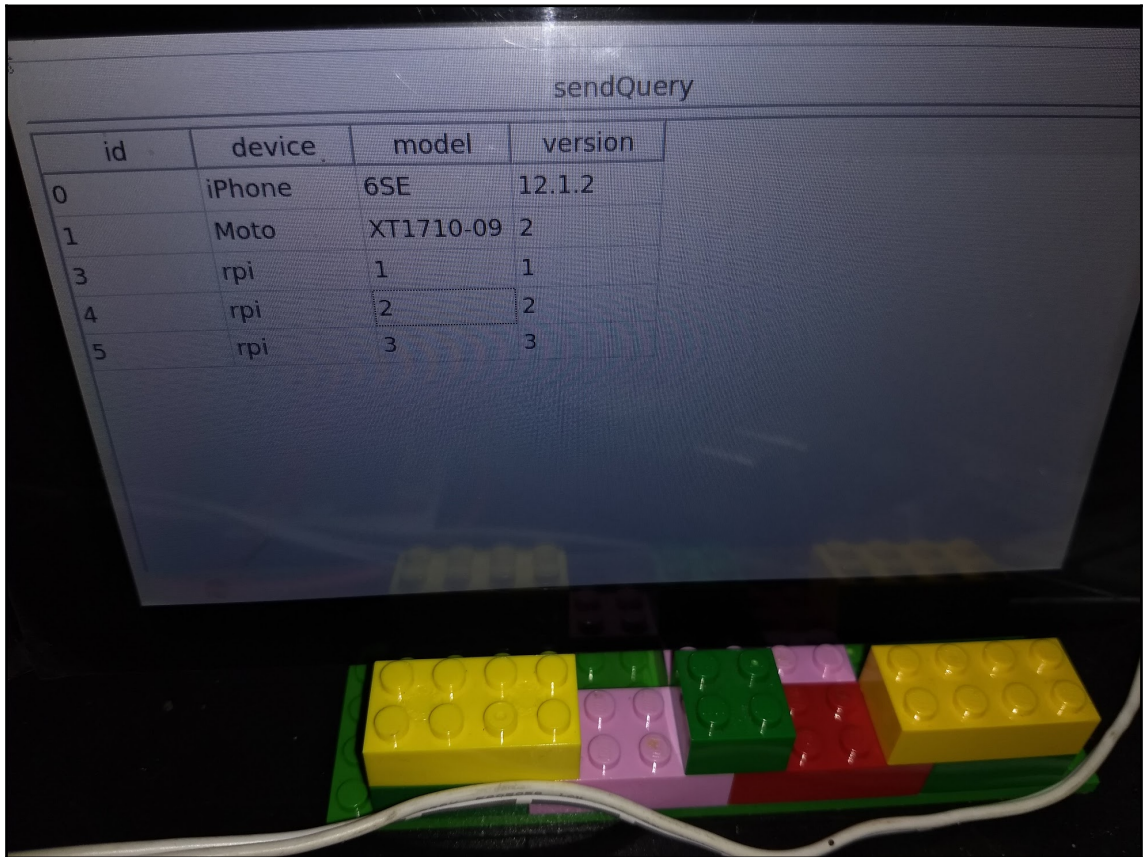
Play

Stop

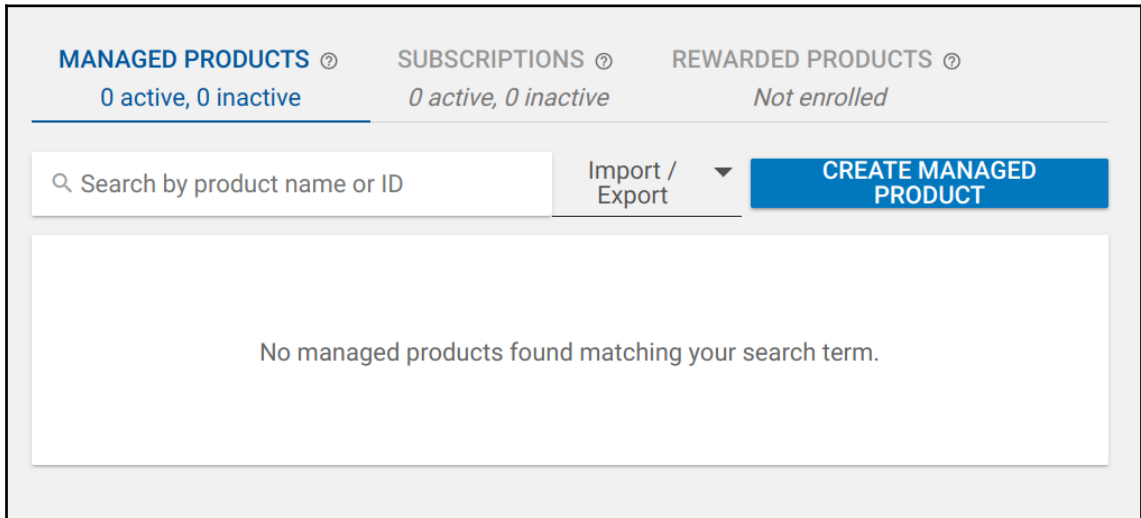
Record

0%

Chapter 10: Remote Databases with Qt SQL



Chapter 11: Enabling In-App Purchases with Qt Purchasing



← New managed product

DELETE

Product ID *

_____ 0/148

Starts with number or lowercase letter and can contain only numbers (0-9), lowercase letters (a-z), underscores (_) & periods (.).

You can't modify a product ID after the item is created, and you can't reuse a product ID within an app.

[Learn more](#)

Managed product details

parallels recover snapshots deleted - Google Search

ENGLISH (UNITED STATES) - EN-US

ADD TRANSLATIONS

Title *

English (United States) - en-US

_____ 0/55

Description *

English (United States) - en-US

_____ 0/80

Status

INACTIVE

ACTIVE

In-App Purchases (0) [+](#)

Select the in-app purchase you want to create.

- Consumable**
A product that is used once, after which it becomes depleted and must be purchased again.
Example: Fish food for a fishing app.

- Non-Consumable**
A product that is purchased once and does not expire or decrease with use.
Example: Race track for a game app.

- Auto-Renewable Subscription**
A product that allows users to purchase dynamic content for a set period. This type of subscription renews automatically unless cancelled by the user.
Example: Monthly subscription for an app offering a streaming service.

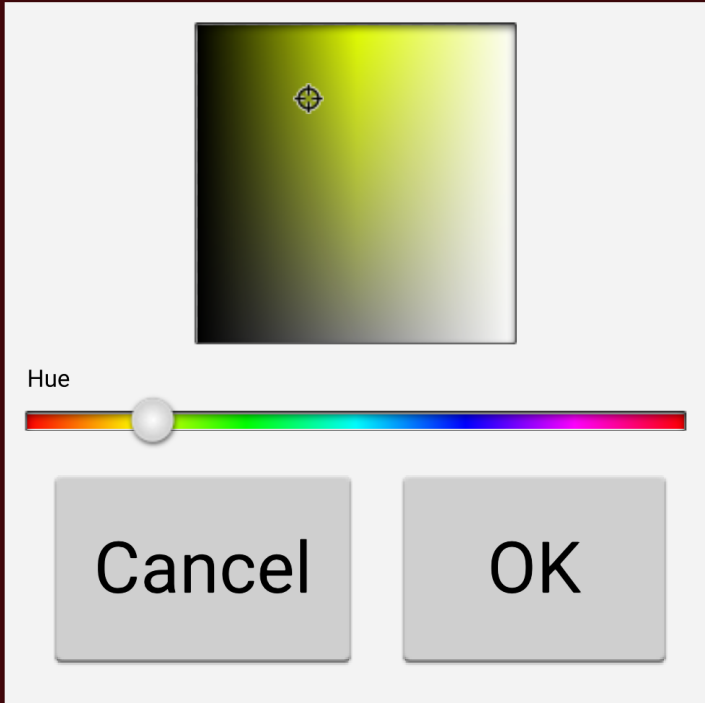
- Non-Renewing Subscription**
A product that allows users to purchase a service with a limited duration. The content of this in-app purchase can be static. This type of subscription does not renew automatically.
Example: One-year subscription to a catalog of archived articles.

[Learn more about In-App Purchases.](#)

[Cancel](#)

[Create](#)

Pick a color to purchase



A color picker dialog box with a white background and a dark red border. At the top is a square color gradient from black to yellow with a crosshair cursor. Below it is a horizontal hue slider with a white knob, labeled "Hue". At the bottom are two buttons: "Cancel" and "OK".

Pick a color to purchase

Pick a color

Google Play



Chapter 11 color

Mobile and Embedded Development with Qt 5

\$0.99



Test card, always approves



This is a test order, you will not be charged.

includes tax ⓘ

1-TAP BUY



Pick a color to purchase

Pick a color



Payment successful



Your colors

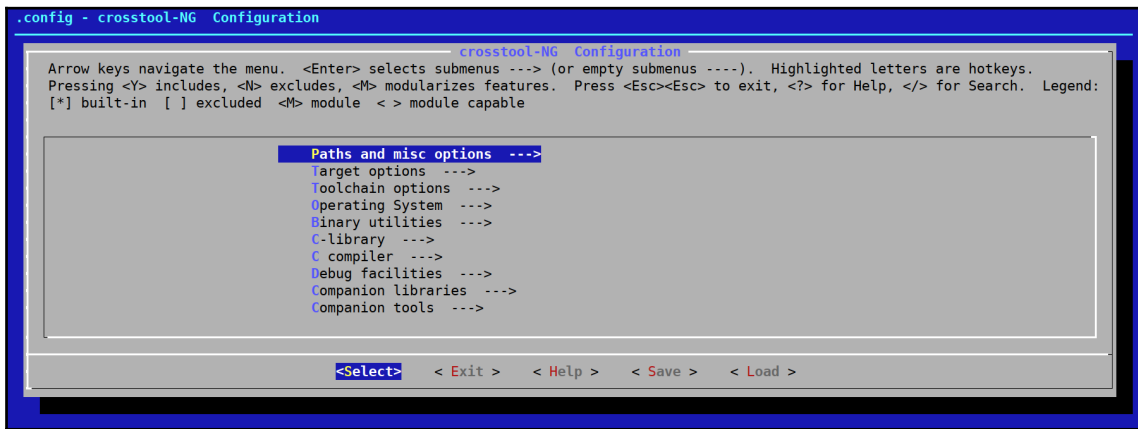
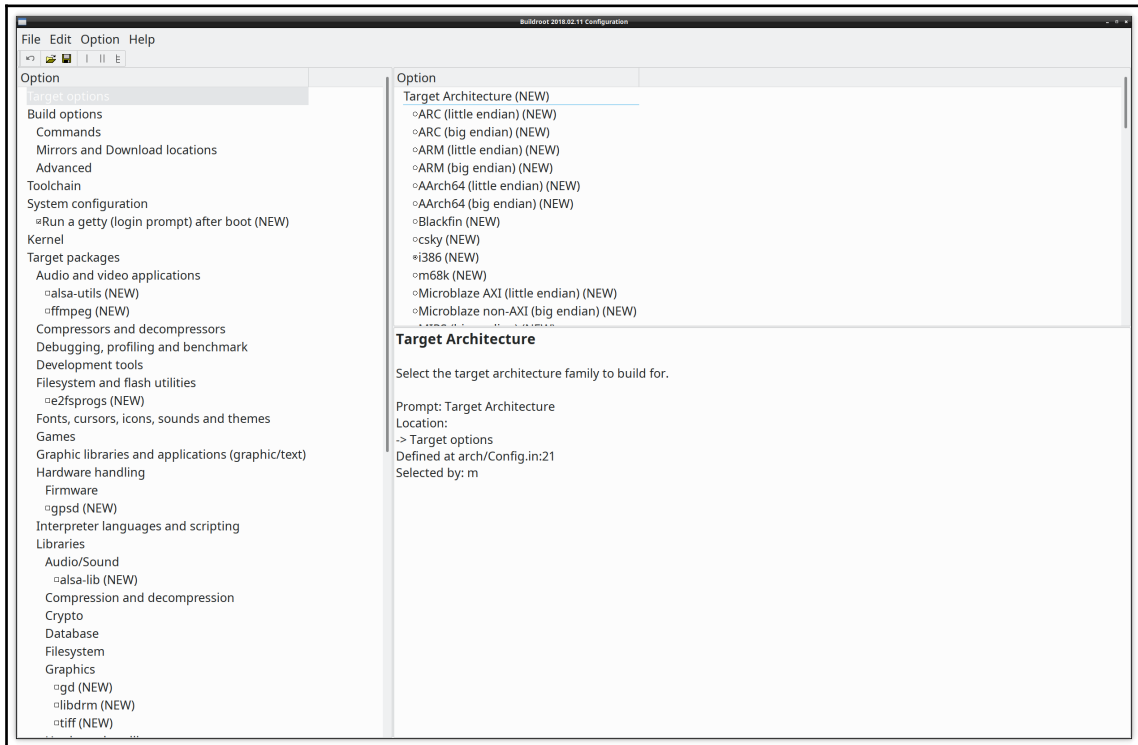


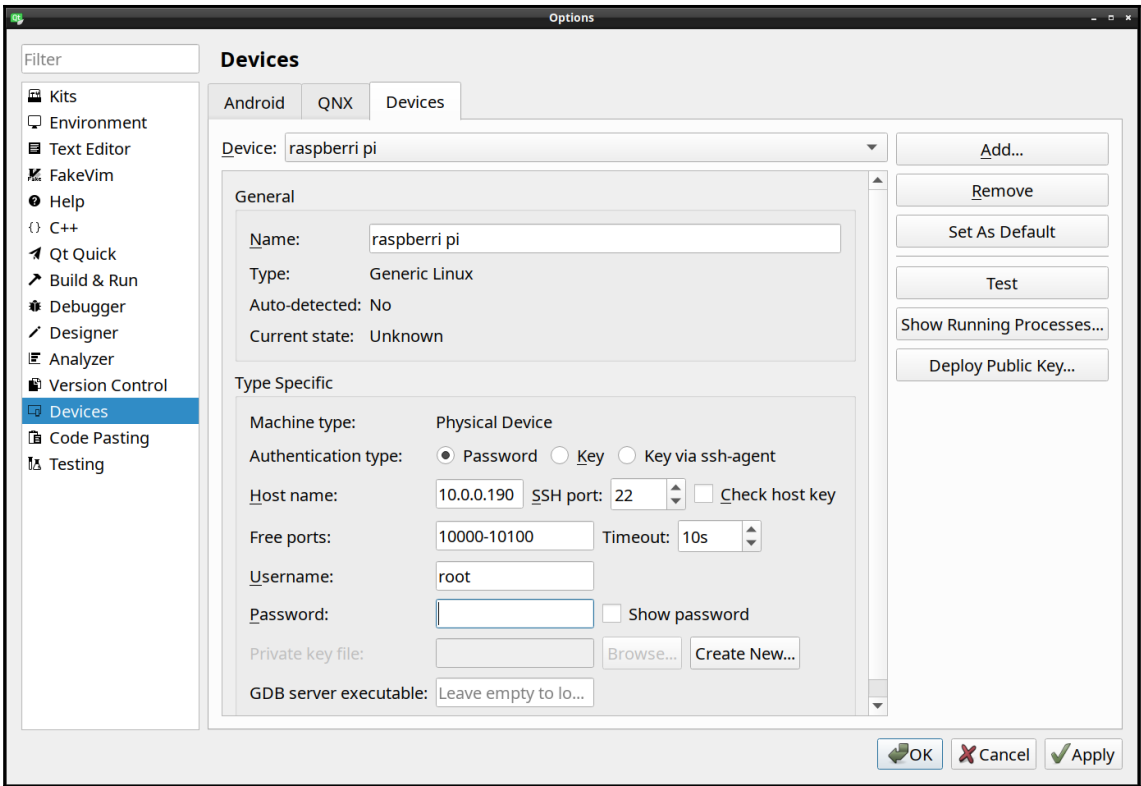
Restore

Purchase color

Colors

Chapter 12: Cross Compiling and Remote Debugging





Options

Filter

- Kits
- Environment
- Text Editor
- FakeVim
- Help
- C++
- Qt Quick
- Build & Run
- Debugger
- Designer
- Analyzer
- Version Control
- Devices**
- Code Pasting
- Testing

Devices

Android QNX Devices

Java Settings

JDK location: /usr/lib/jvm/jdk1.8.0_181

✓ Java Settings are OK.

Android Settings

Android SDK location: /home/Ipotter/Android/Sdk

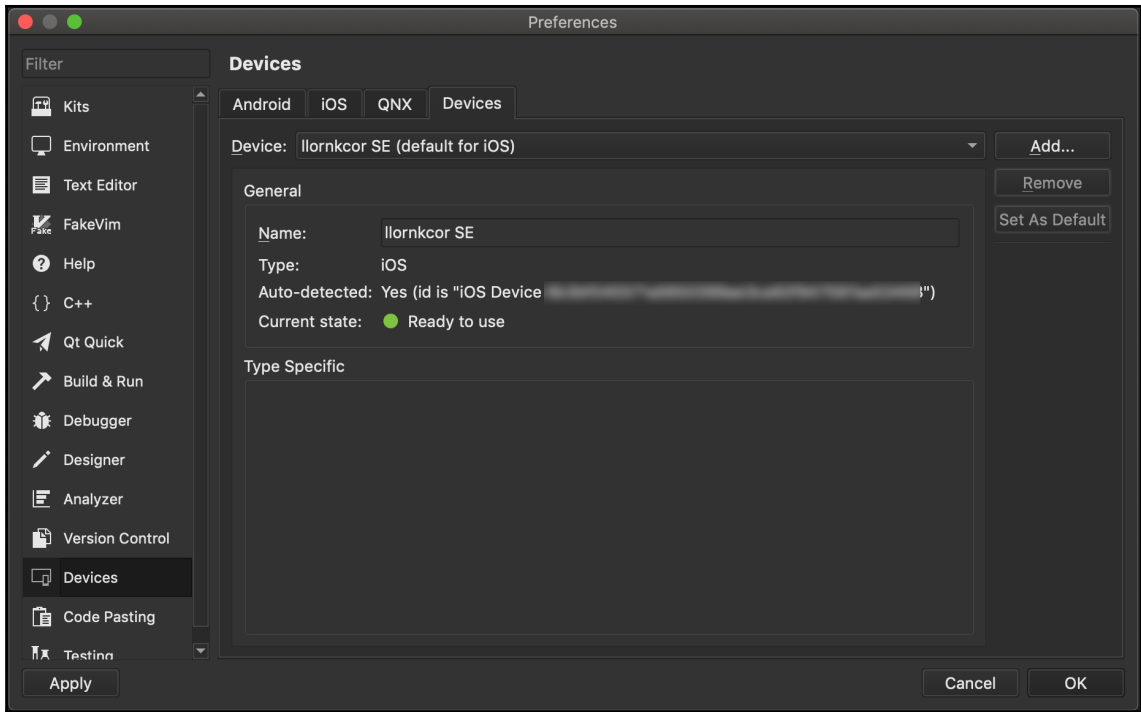
Android NDK location: /home/Ipotter/Android/Sdk/android-ndk-r10e

✓ Android settings are OK. (SDK Version: 26.1.1, NDK Version: 10.4.0)

Automatically create kits for Android tool chains

AVD Manager SDK Manager

| AVD Name | AVD Target | CPU/ABI | System/data partition size: |
|---------------------|------------|---------|--|
| 3 | API 28 | x86 | 1024 Mb <input type="button" value="↑"/> |
| Nexus_5X_API_28_x86 | API 28 | x86 | |



```
23     ...QString::a("crab");  
24     ...QString::b("Apple");
```

```
22  
23     ...QString::a("crab");  
24     ...QString::b("Apple");  
25  
26     ...QDebug() <<< a <<< b;
```


| Name | Value | Type |
|--------|--------------|------------|
| ▶ a | "crab" | QString |
| ▶ b | "" | QString |
| ▶ this | "MainWindow" | MainWindow |

| Name | Value | Type |
|--------|--------------|------------|
| ▶ a | "crab" | QString |
| ▶ b | "Apple" | QString |
| ▶ this | "MainWindow" | MainWindow |

```
22  
23     ...QString a("crab");  
24     ...QString b("Apple");  
25  
26     ...qDebug() << a << b;  
27 }
```

```
19     ...for(int i=0; i<20; i++){  
20         ...qDebug() << i;  
21     ...}
```

Qt Edit Breakpoint Properties

Basic

Breakpoint type: File Name and Line Number

File name: /home/lpotter/src/book/cp12-1/mainwindow.cpp Browse...

Line number: 20

Enabled:

Address:

Expression:

Function:

One shot only:

Advanced

Condition: Commands:

Ignore count: 0

Thread specification: (all)

Path: Use Engine Default

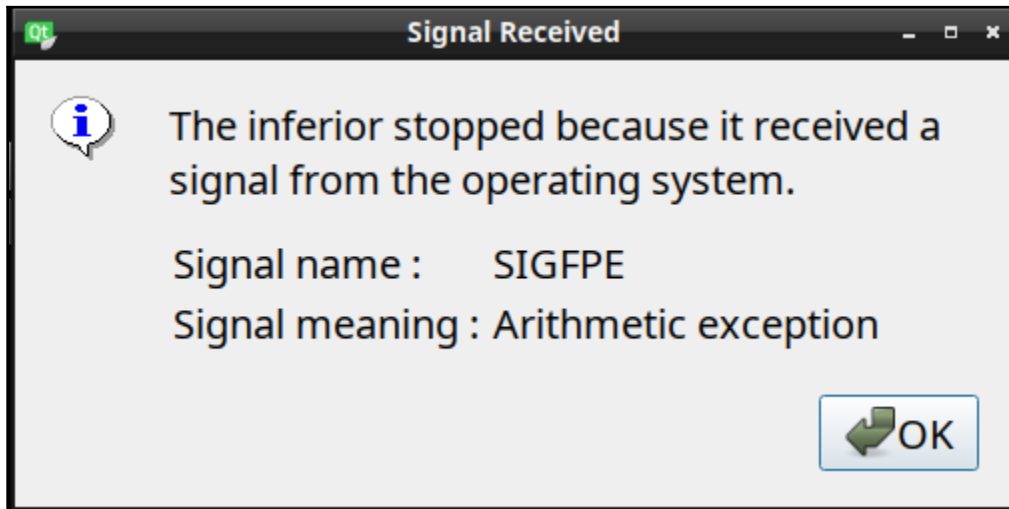
Module:

OK Cancel

Advanced


Condition:

| Name | Value | Type |
|--------|------------------|------------|
| a | <not accessible> | QString |
| b | "" | QString |
| i | 15 | int |
| ▶ this | "MainWindow" | MainWindow |



| Level | Function | File | Line | Address | Views |
|-------|---|-----------------|------|----------------|-------|
| 1 | MainWindow::on_pushButtonCrash_clicked | mainwindow.cpp | 31 | 0x55555555703d | |
| 2 | MainWindow::qt_static_metacall | moc_mainwind... | 76 | 0x555555558262 | |
| 3 | MainWindow::qt_metacall | moc_mainwind... | 109 | 0x55555555835a | |
| 4 | QMetaObject::activate(QObject *, int, int, void **) | | | 0x7ffff70c4f74 | |
| 5 | QAbstractButton::clicked(bool) | | | 0x7ffff77d43a2 | |
| 6 | QAbstractButtonPrivate::emitClicked() | | | 0x7ffff77d45a4 | |
| 7 | QAbstractButtonPrivate::click() | | | 0x7ffff77d613e | |
| 8 | QAbstractButton::mouseReleaseEvent(QMouseEvent *) | | | 0x7ffff77d6295 | |
| 9 | QWidget::event(QEvent *) | | | 0x7ffff772c688 | |
| 10 | QApplicationPrivate::notify_helper(QObject *, QEvent *) | | | 0x7ffff76efe2c | |

Chapter 13: Deploying to Mobile and Embedded



Build Settings

Edit build configuration:

Build Steps

qmake: qmake cp11-1.pro -spec android-g++ CONFIG+=qtquic

Details ▾

Make: make -j12 in /home/lpotter/src/book/build-cp11-1-Andr

Details ▾

Make install

Build Android APK

Details ▲

Application

Android build SDK:

android-28 ▾

Sign package

Keystore:

Browse...

Create...

Sign package

Certificate alias:

Advanced Actions

- Open package location after build
- Verbose output
- Add debug server
- Use Ministro service to install Qt

Android

Create Templates

Additional Libraries

Add...

Remove

AndroidManifest.xml | General | XML Source

Package name:

Version code:

Version name:

Minimum required SDK:

Target SDK:

Application

Application name:

Activity name:

Run:

Application icon:

Permissions

Include default permissions for Qt modules.

Include default features for Qt modules.

Create a keystore and a certificate

| Keystore | Certificate |
|---|--|
| <p>Password: <input type="password"/></p> <p>Retype password: <input type="password"/></p> <p><input type="checkbox"/> Show password</p> | <p>Alias name: <input type="text"/></p> <p>Keysize: 2048 <input type="button" value="▲"/> <input type="button" value="▼"/></p> <p>Validity (days): 10000 <input type="button" value="▲"/> <input type="button" value="▼"/></p> <p>Password: <input type="password"/></p> <p>Retype password: <input type="password"/></p> <p><input type="checkbox"/> Use Keystore password <input type="checkbox"/> Show password</p> |
| <p>Certificate Distinguished Names</p> <p>First and last name: <input type="text"/></p> <p>Organizational unit (e.g. Necessitas): <input type="text"/></p> <p>Organization (e.g. KDE): <input type="text"/></p> <p>City or locality: <input type="text"/></p> <p>State or province: <input type="text"/></p> <p>Two-letter country code for this unit (e.g. RO): <input type="text"/></p> | |
| <p><input type="button" value="Save"/> <input type="button" value="Close"/></p> | |



Release: cp11_1.1.0 [Edit](#)
seconds ago: Full rollout.

RELEASE TO ALPHA ^

Rollout history

seconds ago: Full rollout.

What's new in this release?

Default – English (United States) – en-US
new first alpha

🌐 1 language translation [Edit release notes](#)

Android App Bundles and APKs

[Expand all](#)

| Type | Version code | Uploaded | APK download size [?] | Installs on active devices |
|---------------|--------------|----------------|--------------------------------|----------------------------|
| 1 APK added ^ | | | | |
| APK | 1 | Today, 7:03 AM | 12.75 MB | No data ± |

← Alpha

Manage testers

Closed Alpha Testing ^

Choose how to run your testing program. [Learn more](#)

Choose a testing method Closed Alpha Testing ▼

Users

[CREATE LIST](#)

After you create a list, you can reuse the list for Closed Testing with any of your published apps.

| ActiveList name | Number of users | |
|--|-----------------|----------------------|
| <input checked="" type="checkbox"/> llkcr internal | 1 tester | EDIT |

Feedback Channel [?]

Opt-in URL

[REMOVE TESTERS](#)

[SAVED](#)

9:16 54% 4G

← Google Play 🔍 ⋮

Mobile and Embedded Development with Qt 5

llornkcor

Books & Reference

UNINSTALL

OPEN

In-app purchases

What's new ●
Last updated Mar 6, 2019

new first alpha

Developer contact ^

- Website
- Email
lorn.potter@gmail.com

You might also like MORE

Navigation bar: back, home, recent apps



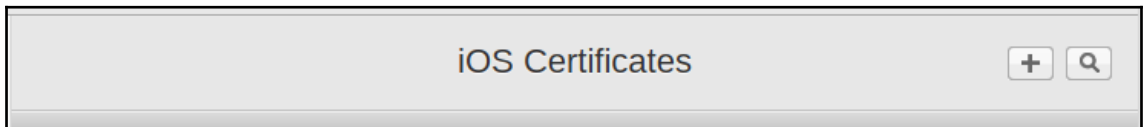
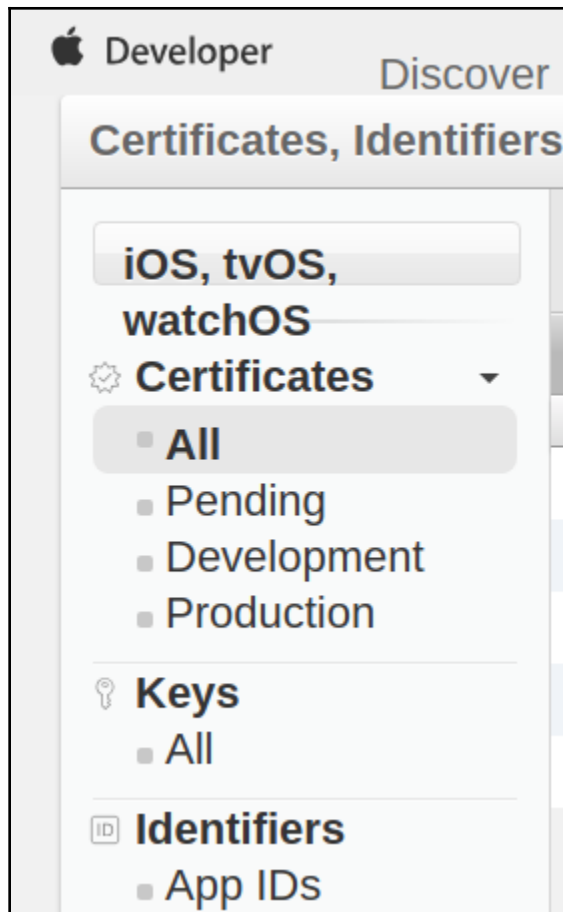
Certificates, Identifiers & Profiles

Manage the certificates, identifiers, profiles, and devices you need to develop and distribute apps.



App Store Connect

Publish and manage your apps on the App Store with App Store Connect.



Development

iOS App Development

Sign development versions of your iOS app.

Apple Push Notification service SSL (Sandbox)

Establish connectivity between your notification server and the Apple Push Notification service sandbox environment to deliver remote notifications to your app. A separate certificate is required for each app you develop.

Production

App Store and Ad Hoc

Sign your iOS app for submission to the App Store or for Ad Hoc distribution.

Apple Push Notification service SSL (Sandbox & Production)

Establish connectivity between your notification server, the Apple Push Notification service sandbox, and production environments to deliver remote notifications to your app. When utilizing HTTP/2, the same certificate can be used to deliver app notifications, update ClockKit complication data, and alert background VoIP apps of incoming activity. A separate certificate is required for each app you distribute.

Pass Type ID Certificate

Sign and send updates to passes in Wallet.

ID Identifiers

- App IDs
- Pass Type IDs
- Website Push IDs
- iCloud Containers
- App Groups
- Merchant IDs
- Music IDs
- Maps IDs



What type of provisioning profile do you need?

Development

- iOS App Development**
Create a provisioning profile to install development apps on test devices.
 - tvOS App Development**
Create a provisioning profile to install development apps on tvOS test devices.
-

Distribution

- App Store**
Create a distribution provisioning profile to submit your app to the App Store.
- tvOS App Store**
Create a distribution provisioning profile to submit your tvOS app to the App Store.
- Ad Hoc**
Create a distribution provisioning profile to install your app on a limited number of registered devices.
- tvOS Ad Hoc**
Create a distribution provisioning profile to install your app on a limited number of registered tvOS devices.

▼ Signing

Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.

▼ Signing

Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.

▼ Signing (Debug)

Provisioning Profile **cp11** ⓘ

Team **Lorn Potter**

Signing Certificate **iPhone Distribution: Lorn Potter (46U23456Q8)**

▼ Signing (Release)

Provisioning Profile **cp11** ⓘ

Team **Lorn Potter**

Signing Certificate **iPhone Distribution: Lorn Potter (46U23456Q8)**

▼ Deployment Info

▼ Signing (Release)

Provisioning Profile **None** ⓘ

Team **None**

Signing Certificate **None**

Status ⓘ "cp11-1" requires a provisioning profile.
Select a provisioning profile for the "Release" build configuration in the project editor.

▼ **Signing**

Automatically manage signing

Xcode will create and update profiles, app IDs, and certificates.

▼ **Signing (Debug)**

Provisioning Profile ⓘ

Team Lorn Potter

Signing Certificate iPhone Distribution: Lorn Potter ()

▼ **Signing (Release)**

Provisioning Profile ⓘ

Team Lorn Potter

Signing Certificate iPhone Distribution: Lorn Potter ()



Search

New App

Platforms ?

iOS tvOS

Name ?

cp11

Primary Language ?

English (U.S.)

Bundle ID ?

cp11 - com.llornkcor.cp11

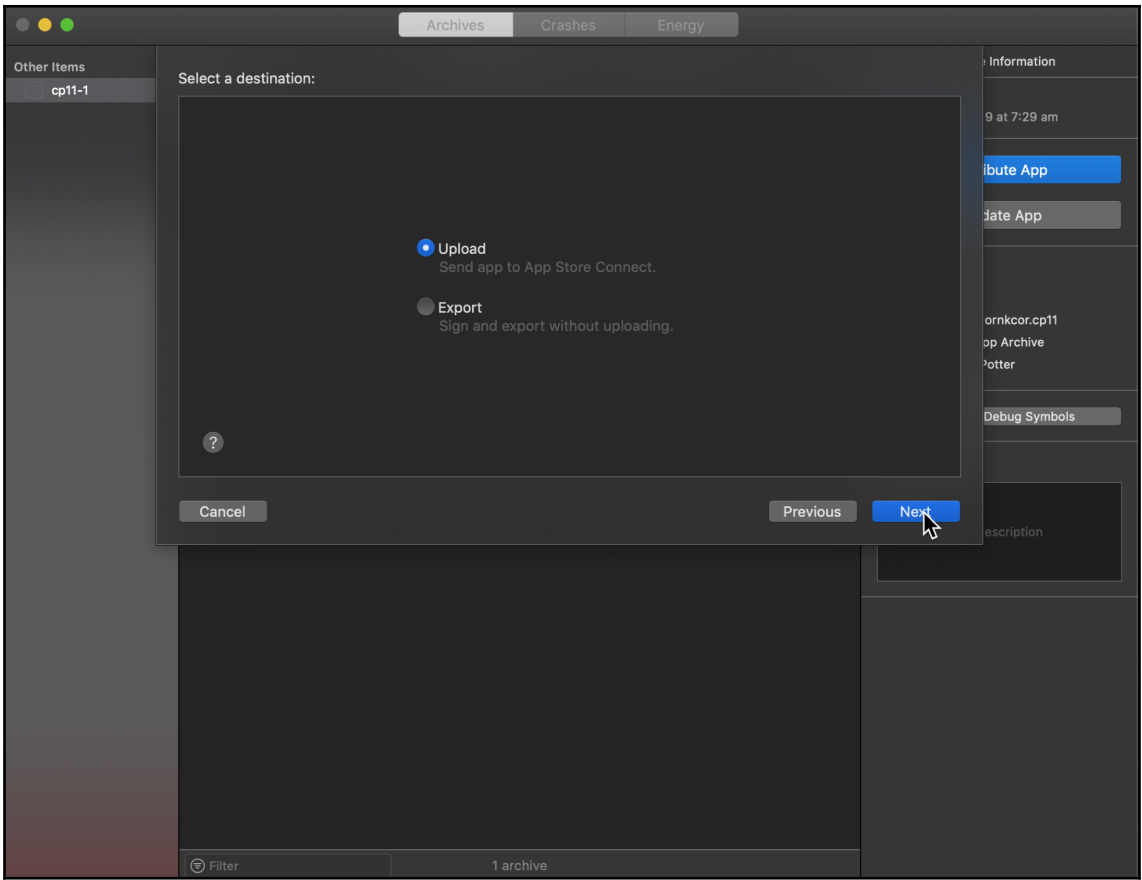
SKU ?

User Access ?

Limited Access Full Access

Cancel

Create





Welcome to Jolla Harbour

Dry dock and slipway for Jolla developers - Jolla Harbour is home for developers with all the engineering tools needed to launch apps to Jolla Store.

[Sign up](#)

OR

[Sign in](#)



Sailfish OS apps

When your app is ready bring it to the Harbour and we'll make sure it's working, compatible with Sailfish OS and help you launch it for Jolla device. After that you can follow the development on your dashboard and make any corrections.




Android™ apps

Your existing Android™ apps can dock here too and will work on SailfishOS. Join the Jolla developer fleet and submit your app to Jolla Store today for free.

Dashboard

Active installs

 **6144**


Total downloads

 **9016**


Total likes

 **315**


Total reviews

 **52**

Number of apps submitted yesterday

 **2**

Estimated hours for approval


 **N/A**

Notifications

- ✓ Compass approved 5 years ago
Compass submitted 5 years ago
- ✗ Compass rejected 5 years ago
Compass submitted 5 years ago
- ✗ Compass rejected 5 years ago
Compass submitted 5 years ago
- ✓ Compass approved 5 years ago
Compass submitted 5 years ago
- Compass submitted 5 years ago
- Compass submitted 5 years ago

[All notifications](#)

Submit a new app



Congratulations! You've worked hard and have an app that you hope is seaworthy. Tell us all about it and Harbour QA will inspect it to make sure there are no obvious problems - like a big hole in the hull! When we're happy it's all watertight, we'll let you know and you'll be ready for a launch party.

[Start here](#)

Top apps



File Browser
Kari
5083 likes



Android™ support
Jolla
4831 likes



YTPlayer
tworaz
3447 likes



Sailfish Utilities
Jolla
3390 likes



Store
Aptoide
2292 likes



Weather
Jolla
2174 likes



Flashlight
artem.marchenko
2000 likes



Maps
Jolla
1994 likes



MeeCast
Vasvlad
1816 likes



Mail
Jolla
1775 likes



Clock
Jolla
1712 likes



CodeReader
slava
1426 likes



Calculator
Jolla
1377 likes



Calendar
Jolla
1325 likes



Yandex.Store
Jolla
1293 likes



Media
Jolla
1275 likes



Documents



screenshot

Compass
lpotter



Compass



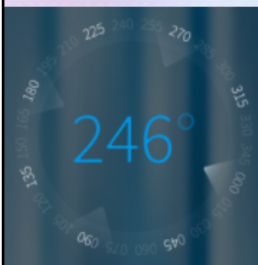
✓ Installed

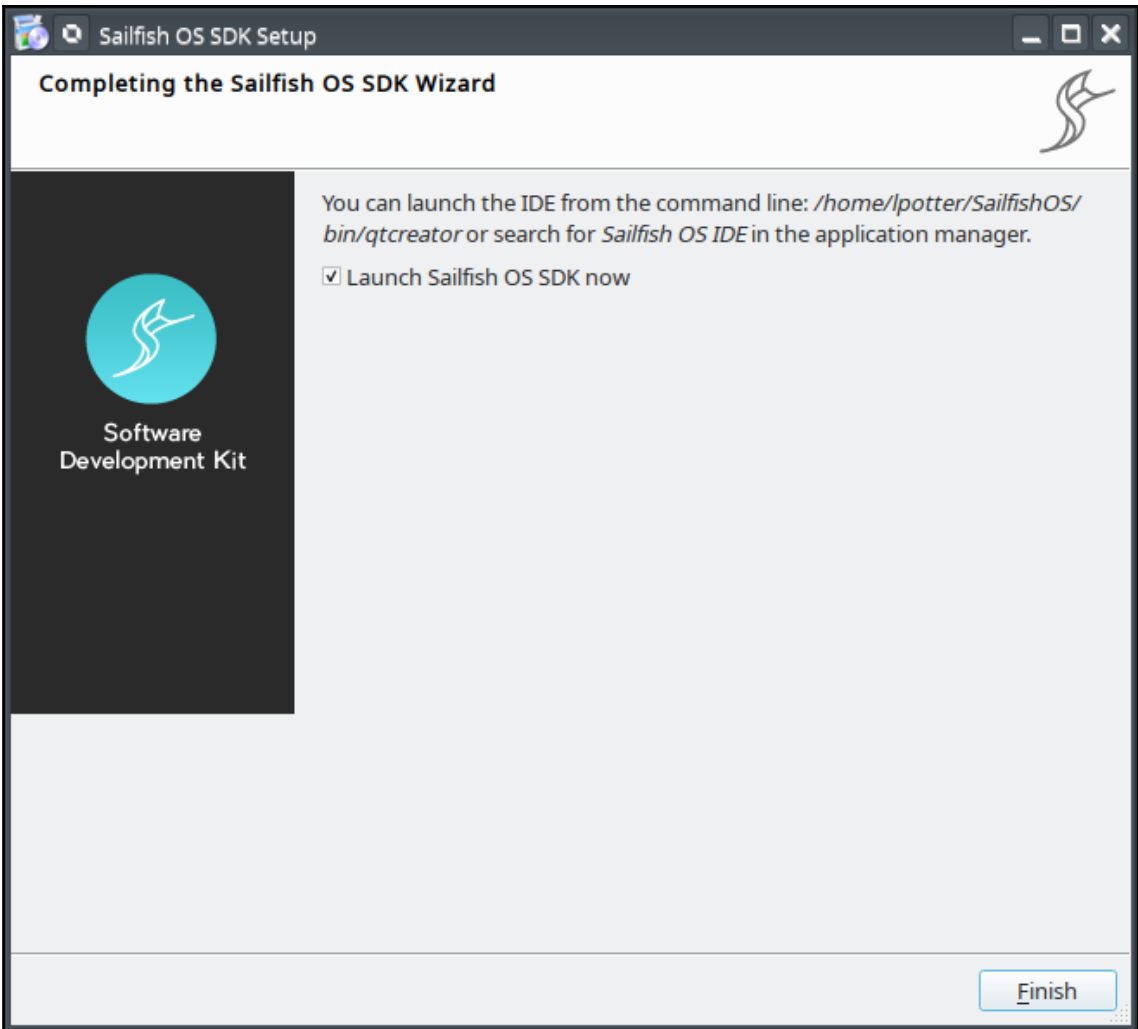
5,000+ 315

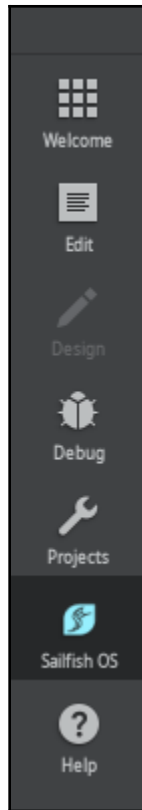


Compass is a simple compass app that shows the degrees from magnetic north.

A simple compass app, showing the degrees from magnetic north the top of the phone is pointing.



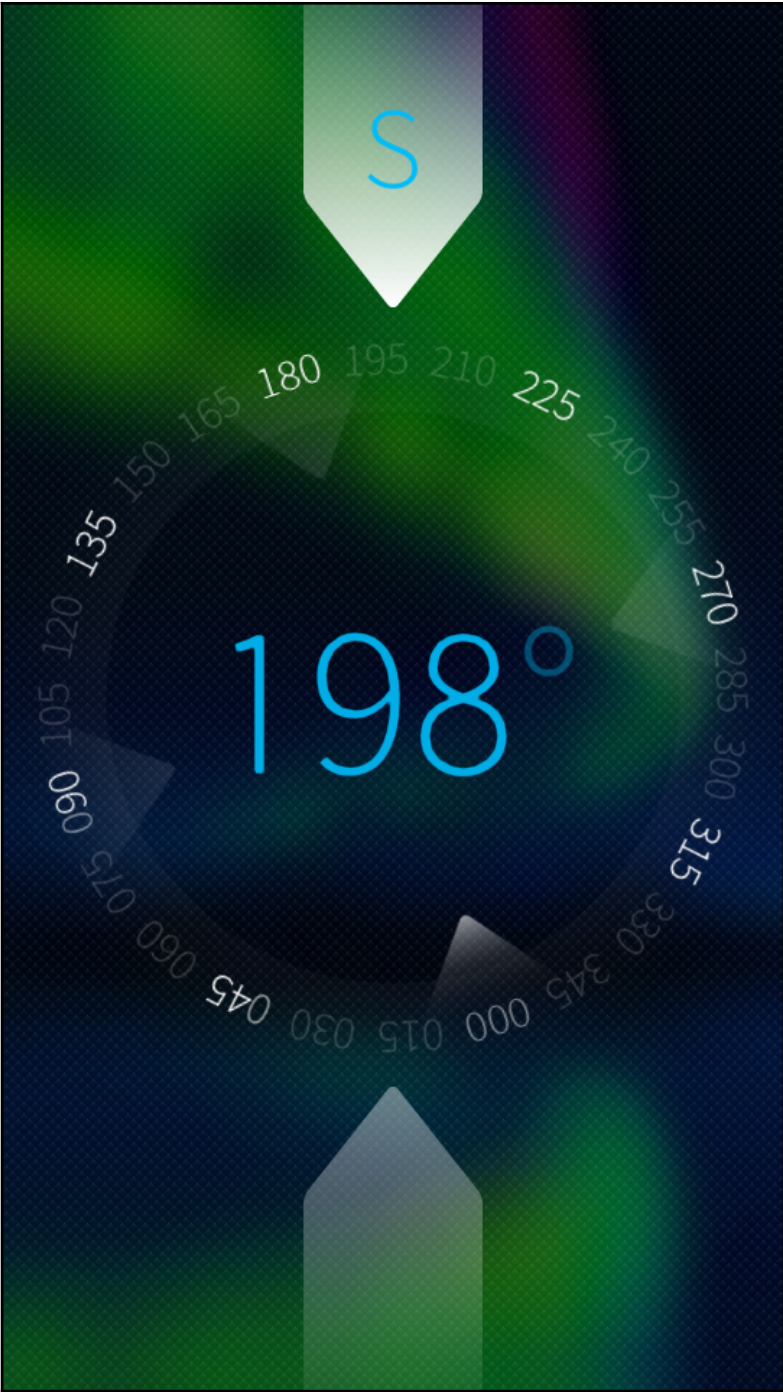




The Build Engine is not Running

[Start the build engine!](#)

A Sailfish OS build engine can be controlled with the  button - available on the lower left side *when a Sailfish OS project is open*.





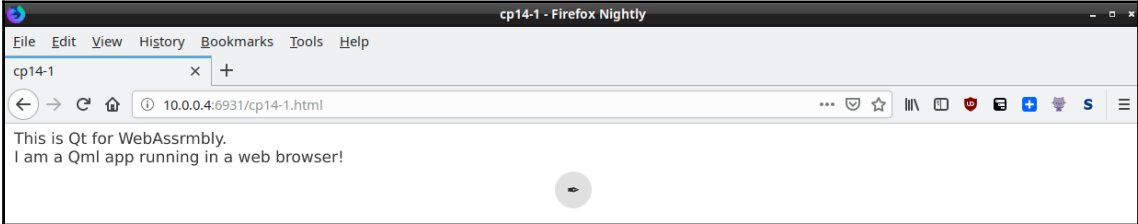
Compass

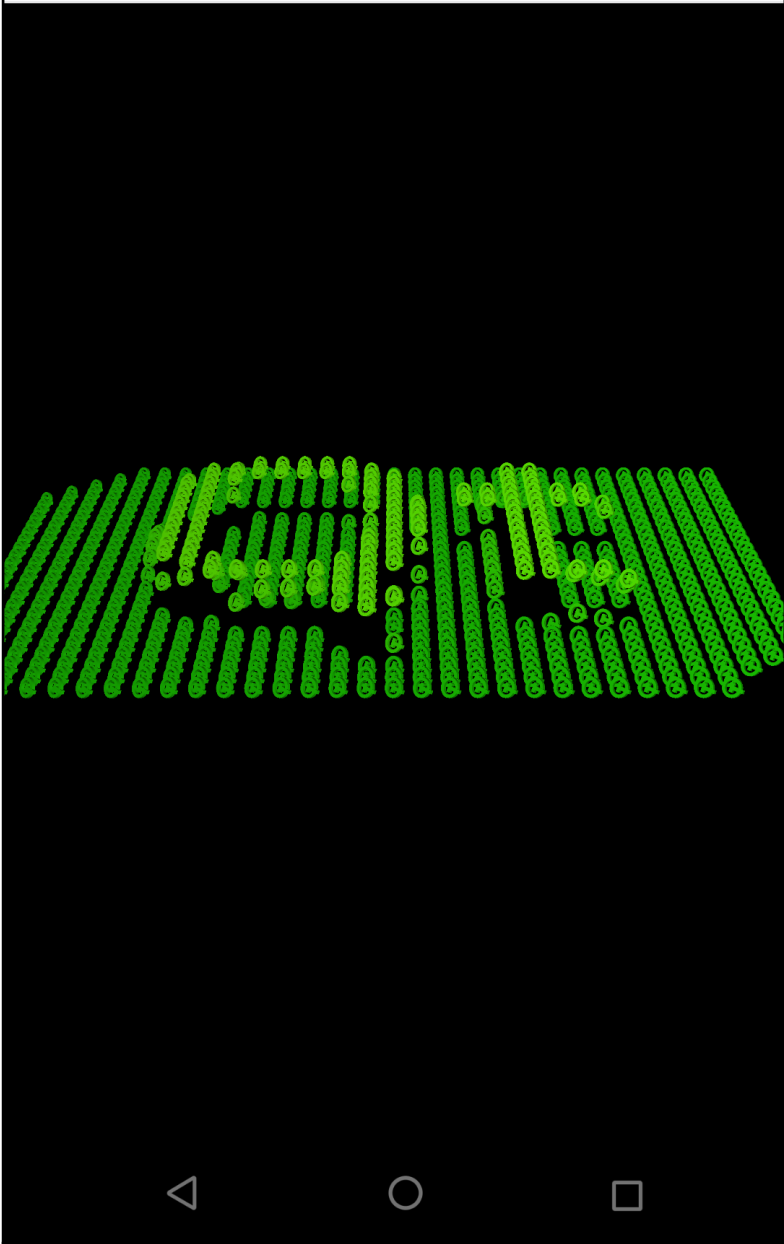


App submitted for QA

[Back to the dashboard](#)

Chapter 14: Universal Platform for Mobiles and Embedded Devices








The background here is a squircle rendered with raw OpenGL using the 'beforeRender()' signal in QQuickWindow. This text label and its border is rendered using QML

cp14-1 - Firefox Nightly

File Edit View History Bookmarks Tools Help

cp14-1 x +

10.0.0.4:6931/cp14-1.html



Qt for WebAssembly: cp14-1
Application exit (Error: FS error)

Inspector Console Debugger Style Editor Performance Memory Network Storage Accessibility Canvas

Filter output Persist Logs

Errors Warnings Logs Info Debug CSS XHR Requests

```
11:17:46.855 qrc:/main.qml:3 module "QtQuick.Controls" is not installed qtloader.js:352:17
11:17:46.855 unmount@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:55120 qtloader.js:352:17
11:17:46.860 exception thrown: Error: FS error,ErnoError@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:71340 qtloader.js:352:17
    @http://10.0.0.4:6931/qtloader.js line 411 > eval:1:55120
    ASM_CONSTS@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:16775
    _emscripten_asm_const_i@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:17017
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[7236]:0x254309
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[9122]:0x2f2a7d
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[14805]:0x4d859b
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[752]:0x1a486
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[7233]:0x2541b6
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[5134]:0x16e112
    @http://10.0.0.4:6931/cp14-1.wasm:wasm-function[16567]:0x556326
    Module_main@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:342746
    callMain@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:354067
    doRun@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:354740
    run/@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:354905
    setTimeout handler@run@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:354833
    runCaller@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:353701
    removeRunDependency@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:14168
    receiveInstance@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:15439
    completeLoadEmscriptenModule/Module.instantiateWasm/@http://10.0.0.4:6931/qtloader.js:316:17
    promise callback*completeLoadEmscriptenModule/Module.instantiateWasm@http://10.0.0.4:6931/qtloader.js:315:58
    createWasm@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:15557
    Module.asm@http://10.0.0.4:6931/qtloader.js line 411 > eval:1:16716
    @http://10.0.0.4:6931/qtloader.js line 411 > eval:1:341516
    completeLoadEmscriptenModule@http://10.0.0.4:6931/qtloader.js:411:9
    loadEmscriptenModule/@http://10.0.0.4:6931/qtloader.js:302:13
    promise callback*loadEmscriptenModule@http://10.0.0.4:6931/qtloader.js:301:73
    init@http://10.0.0.4:6931/cp14-1.html:56:11
    onload@http://10.0.0.4:6931/cp14-1.html:1:1
```

Chapter 15: Building a Linux System

```
~/development/builds/boot2qt $> $~/Qt-comm/5.11.2/Boot2Qt/sources/meta-boot2qt/b2qt-init-build-env list-devices
Available device configurations:
am335x-evm
apalis-imx6
apalis-imx8
beagleboard
beaglebone
colibri-imx6
colibri-imx7
colibri-vf
emulator
h3ulcb
imx6dlsabresd
imx6qsabresd
imx7dsabresd
imx7s-warp
imx8qmlpddr4arm2
intel-corei7-64
jetson-tx1
jetson-tx2
m3ulcb
nitrogen6x
nitrogen7
raspberrypi0
raspberrypi2
raspberrypi3
raspberrypi
salvator-x
smarc-samx6i
tegra-t18x
```

```
~/development/b2qt/build-raspberrypi3 $> $devtool --help
usage: devtool [--basepath BASEPATH] [--bbpath BBPATH] [-d] [-q]
      [--color COLOR] [-h]
      <subcommand> ...

OpenEmbedded development tool

options:
  --basepath BASEPATH  Base directory of SDK / build directory
  --bbpath BBPATH      Explicitly specify the BBPATH, rather than getting it
                       from the metadata
  -d, --debug          Enable debug output
  -q, --quiet          Print only errors
  --color COLOR        Colorize output (where COLOR is auto, always, never)
  -h, --help          show this help message and exit

subcommands:
  Beginning work on a recipe:
    add                Add a new recipe
    modify             Modify the source for an existing recipe
    upgrade            Upgrade an existing recipe
  Getting information:
    status             Show workspace status
    search             Search available recipes
  Working on a recipe in the workspace:
    build              Build a recipe
    rename             Rename a recipe file in the workspace
    edit-recipe        Edit a recipe file in your workspace
    configure-help     Get help on configure script options
    update-recipe      Apply changes from external source tree to recipe
    reset              Remove a recipe from your workspace
    finish             Finish working on a recipe in your workspace
  Testing changes on target:
    deploy-target      Deploy recipe output files to live target machine
    undeploy-target    Undeploy recipe output files in live target machine
    build-image        Build image including workspace recipe packages
  Advanced:
    create-workspace   Set up workspace in an alternative location
    extract            Extract the source for an existing recipe
    sync               Synchronize the source tree for an existing recipe
  Use devtool <subcommand> --help to get help on a specific command
```



```

~/development/b2qt/build-raspberrypi3 $> $devtool add sensors-examples https://github.com/lpotter/sensors-examples.git
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
Loading cache: 100% |#####| Time: 0:00:00
Loaded 2888 entries from dependency cache.
Parsing recipes: 100% |#####| Time: 0:00:00
Parsing of 2109 .bb files complete (2108 cached, 1 parsed). 2889 targets, 350 skipped, 2 masked, 0 errors.

Summary: There was 1 WARNING message shown.
NOTE: Fetching git://github.com/lpotter/sensors-examples.git;protocol=https...
NOTE: Using default source tree path /home/lpotter/development/b2qt/build-raspberrypi3/workspace/sources/sensors-examples
NOTE: Recipe /home/lpotter/development/b2qt/build-raspberrypi3/workspace/recipes/sensors-examples/sensors-examples_git.bb has been automatically created; further editing may be required to make it fully functional

```

```

~/development/b2qt/build-raspberrypi3 $> $devtool build sensors-examples
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
Loading cache: 100% |#####| Time: 0:00:01
Loaded 2888 entries from dependency cache.
Parsing recipes: 100% |#####| Time: 0:00:00
Parsing of 2109 .bb files complete (2108 cached, 1 parsed). 2889 targets, 350 skipped, 2 masked, 0 errors.
NOTE: Resolving any missing task queue dependencies

Build Configuration:
BB_VERSION      = "1.34.0"
BUILD_SYS      = "x86_64-linux"
NATIVELSBSTRING = "universal"
TARGET_SYS     = "arm-poky-linux-gnueabi"
MACHINE        = "raspberrypi3"
DISTRO         = "b2qt"
DISTRO_VERSION = "2.3.4"
TUNE_FEATURES  = "arm armv7ve vfp thumb neon vfpv4 callconvention-hard cortexa7"
TARGET_FPU     = "hard"
SDKMACHINE     = "x86_64"
meta
meta-poky
meta-raspberrypi
meta-oe
meta-python
meta-networking
meta-initramfs
meta-multimedia
meta-boot2qt
meta-boot2qt-distro
meta-raspberrypi-extras
meta-mingw
meta-qt5
workspace      = "<unknown>:<unknown>"

Initialising tasks: 100% |#####| Time: 0:00:02
NOTE: Executing SetScene Tasks
NOTE: Executing RunQueue Tasks
sensors-examples-1.0+git999-r0 do_compile: NOTE: sensors-examples: compiling from external source tree /home/lpotter/development/b2qt/build-raspberrypi3/workspace/sources/sensors-examples
NOTE: Tasks Summary: Attempted 1287 tasks of which 1279 didn't need to be rerun and all succeeded.

Summary: There was 1 WARNING message shown.

```

```

~/development/b2qt/build-raspberrypi3 $> $devtool modify qtsensors
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failures. It is recommended that you use a tested distribution.
Loading cache: 100% |#####| Time: 0:00:00
Loaded 2888 entries from dependency cache.
Parsing recipes: 100% |#####| Time: 0:00:00
Parsing of 2109 .bb files complete (2108 cached, 1 parsed). 2889 targets, 350 skipped, 2 masked, 0 errors.

Summary: There was 1 WARNING message shown.
NOTE: Executing RunQueue Tasks
NOTE: Executing do_fetch...
NOTE: Executing do_unpack...
NOTE: Tasks Summary: Attempted 2 tasks of which 0 didn't need to be rerun and all succeeded.
NOTE: Patching...
NOTE: Executing RunQueue Tasks
NOTE: Executing do_patch...
NOTE: Tasks Summary: Attempted 3 tasks of which 2 didn't need to be rerun and all succeeded.
NOTE: Source tree extracted to /home/lpotter/development/b2qt/build-raspberrypi3/workspace/sources/qtsensors
NOTE: Recipe qtsensors now set up to build from /home/lpotter/development/b2qt/build-raspberrypi3/workspace/sources/qtsensors

```

```
~/development/b2qt/build-raspberrypi3/workspace/sources/qt5/qt5/qt5 $[devtool] $patch -p 1 < ~/depot/qt5/qt5/qt5/0001-Add-sensehat-sensor-backend-plugin-for-rpi.patch
patching file src/plugins/plugins.pro
patching file src/plugins/sensors/sensehat/sensors.conf
patching file src/plugins/sensors/sensehat/main.cpp
patching file src/plugins/sensors/sensehat/plugin.json
patching file src/plugins/sensors/sensehat/qt5/qt5/qt5-sensehatpluginprivate_p.h
patching file src/plugins/sensors/sensehat/sensehat.pro
patching file src/plugins/sensors/sensehat/sensehataccelerometer.cpp
patching file src/plugins/sensors/sensehat/sensehataccelerometer.h
patching file src/plugins/sensors/sensehat/sensehatcompass.cpp
patching file src/plugins/sensors/sensehat/sensehatcompass.h
patching file src/plugins/sensors/sensehat/sensehatgyroscope.cpp
patching file src/plugins/sensors/sensehat/sensehatgyroscope.h
patching file src/plugins/sensors/sensehat/sensehathumiditysensor.cpp
patching file src/plugins/sensors/sensehat/sensehathumiditysensor.h
patching file src/plugins/sensors/sensehat/sensehatmagnetometer.cpp
patching file src/plugins/sensors/sensehat/sensehatmagnetometer.h
patching file src/plugins/sensors/sensehat/sensehatpressure.cpp
patching file src/plugins/sensors/sensehat/sensehatpressure.h
patching file src/plugins/sensors/sensehat/sensehatrotationsensor.cpp
patching file src/plugins/sensors/sensehat/sensehatrotationsensor.h
patching file src/plugins/sensors/sensehat/sensehatsensorbase.cpp
patching file src/plugins/sensors/sensehat/sensehatsensorbase.h
patching file src/plugins/sensors/sensehat/sensehattemperaturesensor.cpp
patching file src/plugins/sensors/sensehat/sensehattemperaturesensor.h
patching file src/plugins/sensors/sensors.pro
Hunk #1 FAILED at 21.
Hunk #2 succeeded at 43 with fuzz 1 (offset 9 lines).
1 out of 2 hunks FAILED -- saving rejects to file src/plugins/sensors/sensors.pro.rej
patching file src/sensors/configure.json
```

```
~/development/b2qt/build-raspberrypi3 $> $recipetool create --help
usage: recipetool create [-h] [-o OUTFILE] [-m] [-x EXTRACTPATH] [-N NAME]
                        [-V VERSION] [-b] [--also-native]
                        [--src-subdir SUBDIR] [-a] [--keep-temp]
                        [--fetch-dev]
                        source

Creates a new recipe from a source tree

arguments:
  source          Path or URL to source

options:
  -h, --help          show this help message and exit
  -o OUTFILE, --outfile OUTFILE
                      Specify filename for recipe to create
  -m, --machine       Make recipe machine-specific as opposed to
                      architecture-specific
  -x EXTRACTPATH, --extract-to EXTRACTPATH
                      Assuming source is a URL, fetch it and extract it to
                      the directory specified as EXTRACTPATH
  -N NAME, --name NAME
                      Name to use within recipe (PN)
  -V VERSION, --version VERSION
                      Version to use within recipe (PV)
  -b, --binary        Treat the source tree as something that should be
                      installed verbatim (no compilation, same directory
                      structure)
  --also-native       Also add native variant (i.e. support building recipe
                      for the build host as well as the target machine)
  --src-subdir SUBDIR
                      Specify subdirectory within source tree to use
  -a, --autorev       When fetching from a git repository, set SRCREV in the
                      recipe to a floating revision instead of fixed
  --keep-temp         Keep temporary directory (for debugging)
  --fetch-dev         For npm, also fetch devDependencies
```

```

~/development/b2qt/build-raspberrypi3 $> $recipepool -d create -o rotationray_1.bb https://github.com/lpotter/rotationray.git
DEBUG: Found bitbake path: /home/lpotter/development/b2qt/sources/poky/bitbake
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/poky/meta-poky/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/build-raspberrypi3/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/poky/meta/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-raspberrypi/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-openembedded/meta-oe/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-openembedded/meta-python/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-openembedded/meta-networking/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-openembedded/meta-initramfs/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-openembedded/meta-multimedia/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-boot2qt/meta-boot2qt/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-boot2qt/meta-boot2qt-distro/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-boot2qt/meta-raspberrypi-extras/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-mingw/lib/recipepool...
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/meta-qt5/lib/recipepool...
DEBUG: Loading plugin create_qt5
DEBUG: Loading plugins from /home/lpotter/development/b2qt/sources/poky/scripts/lib/recipepool...
DEBUG: Loading plugin create_npm
DEBUG: Loading plugin create_buildsys
DEBUG: Loading plugin create_buildsys_python
DEBUG: Loading plugin create_
DEBUG: Loading plugin create_kernel
DEBUG: Loading plugin newappend
DEBUG: Loading plugin setvar
DEBUG: Loading plugin append
DEBUG: Loading plugin create_kmod
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failure. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failure. It is recommended that you use a tested distribution.
WARNING: Host distribution "ubuntu-18.04" has not been validated with this version of the build system; you may possibly experience unexpected failure. It is recommended that you use a tested distribution.
Loading cache: 100% |#####| Time: 0:00:00
Loaded 2888 entries from dependency cache.

Summary: There was 1 WARNING message shown.
NOTE: Fetching git://github.com/lpotter/rotationray.git;protocol=https...
DEBUG: Fetcher accessed the network with the command git -c core.fsyncobjectfiles=0 ls-remote https://github.com/lpotter/rotationray.git

```

```

DEBUG: Loading recipe handlers
DEBUG: Handler: KernelRecipeHandler (priority 100)
DEBUG: Handler: PythonRecipeHandler (priority 70)
DEBUG: Handler: NpmRecipeHandler (priority 60)
DEBUG: Handler: CmakeRecipeHandler (priority 50)
DEBUG: Handler: AutotoolsRecipeHandler (priority 40)
DEBUG: Handler: SconsRecipeHandler (priority 30)
DEBUG: Handler: Qmake5RecipeHandler (priority 21)
DEBUG: Handler: QmakeRecipeHandler (priority 20)
DEBUG: Handler: KernelModuleRecipeHandler (priority 15)
DEBUG: Handler: MakefileRecipeHandler (priority 10)
DEBUG: Handler: VersionFileRecipeHandler (priority -1)
DEBUG: Handler: SpecFileRecipeHandler (priority -1)
NOTE: Recipe rotationray_1.bb has been created; further editing may be required to make it fully functional

```

```
~/development/b2qt/build-raspberrypi3 $> $bitbake-layers --help
usage: bitbake-layers [-d] [-q] [--color COLOR] [-h] <subcommand> ...

BitBake layers utility

optional arguments:
  -d, --debug           Enable debug output
  -q, --quiet          Print only errors
  --color COLOR        Colorize output (where COLOR is auto, always, never)
  -h, --help           show this help message and exit

subcommands:
  <subcommand>
  add-layer            Add a layer to bblayers.conf.
  remove-layer        Remove a layer from bblayers.conf.
  flatten             flatten layer configuration into a separate output
                    directory.
  show-layers         show current configured layers.
  show-overlaid       list overlaid recipes (where the same recipe exists
                    in another layer)
  show-recipes        list available recipes, showing the layer they are
                    provided by
  show-appends        list bbappend files and recipe files they apply to
  show-cross-depend  Show dependencies between recipes that cross layer
                    boundaries.
  layerindex-fetch    Fetches a layer from a layer index along with its
                    dependent layers, and adds them to conf/bblayers.conf.
  layerindex-show-depends
                    Find layer dependencies from layer index.

Use bitbake-layers <subcommand> --help to get help on a specific command
```

```
~/development/b2qt/build-raspberrypi3/workspace/sources $> $yocto-layer create mylayer
Please enter the layer priority you'd like to use for the layer: [default: 6] 98
Would you like to have an example recipe created? (y/n) [default: n] y
Please enter the name you'd like to use for your example recipe: [default: example] myexample
Would you like to have an example bbappend file created? (y/n) [default: n] y
Please enter the name you'd like to use for your bbappend file: [default: example] myexample
Please enter the version number you'd like to use for your bbappend file (this should match the recipe you're appending to): [default: 0.1]

New layer created in meta-mylayer.

Don't forget to add it to your BBLAYERS (for details see meta-mylayer/README).
```