

Qmake Manual

Qt is one of the most influential graphical toolkits for the Linux operating system and is quickly being adopted on other platforms (Windows, Mac OS) as well. It is necessary to learn for all Linux programmers. This book takes the reader step by step through the complexities of Qt, laying the groundwork that allows the reader to make the step from novice to professional. This book is full of real world examples that can be quickly integrated into a developer's project. While the reader is assumed to be a beginner at Qt development, they are required to have a working knowledge of C++ programming.

Enhance your cross-platform programming abilities with the powerful features and capabilities of Qt 6 Key FeaturesLeverage Qt and C++ capabilities to create modern, cross-platform applications that can run on a wide variety of software applicationsExplore what's new in Qt 6 and understand core concepts in depthBuild professional customized GUI applications with the help of Qt CreatorBook Description Qt is a cross-platform application development framework widely used for desktop applications that can run on a wide range of hardware platforms with little to no change in the underlying codebase. If you have basic knowledge of C++ and want to build desktop or mobile applications with a modern graphical user interface (GUI), Qt is the right choice for you. Cross-Platform Development with Qt 6 and Modern C++ helps you understand why Qt is one of the favorite GUI frameworks adopted by industries worldwide, covering the essentials of programming GUI apps across a multitude of platforms using the standard C++17 and Qt 6 features. Starting with the fundamentals of the Qt framework, including the features offered by Qt Creator, this practical guide will show you how to create classic user interfaces using Qt Widgets and touch-friendly user interfaces using Qt Quick. As you advance, you'll explore the Qt Creator IDE for developing applications for multiple desktops as well as for embedded and mobile platforms. You will also learn advanced concepts about signals and slots. Finally, the book takes you through debugging and testing your app with Qt Creator IDE. By the end of this book, you'll be able to build cross-platform applications with a modern GUI along with the speed and power of native apps. What you will learnWrite cross-platform code using the Qt framework to create interactive applicationsBuild a desktop application using Qt WidgetsCreate a touch-friendly user interface with Qt QuickDevelop a mobile application using Qt and deploy it on different platformsGet to grips with Model/View programming with Qt Widgets and Qt QuickDiscover Qt's graphics framework and add animations to your user interfaceWrite test cases using the Qt Test framework and debug codeBuild a translation-aware applicationFollow best practices in Qt to write high-performance codeWho this book is for This book is for application developers who want to use C++ and Qt to create modern, responsive applications that can be deployed to multiple operating systems such as Microsoft Windows, Apple macOS, and Linux desktop platforms. Although no prior knowledge of Qt is expected, beginner-level knowledge of the C++ programming language and object-oriented programming system (OOPs) concepts will be helpful.

Explore the high-in demand core DevOps strategies with powerful DevOps tools such as Ansible, Jenkins, and Chef Key Features ●Get acquainted with methodologies and tools of the DevOps framework ●Perform continuous integration, delivery, deployment, and monitoring using DevOps tools ●Explore popular tools such as Git, Jenkins, Maven, Gerrit, Nexus, Selenium, and so on ●Embedded with assessments that will help you revise the concepts you have learned in this book Book Description DevOps is the most widely used software engineering culture and practice that aim sat software development and operation. Continuous integration is a cornerstone technique of DevOps that merges software code updates from developers into a shared central mainline. This book takes a practical approach and covers the tools and strategies of DevOps. It starts with familiarizing you with DevOps framework and then shows how toper form continuous delivery, integration, and deployment with DevOps. You will explore DevOps process maturity frameworks and progression models with checklist templates for each phase of DevOps. You will also be familiar with agile terminology, methodology, and the benefits accrued by an organization by adopting it. You will also get acquainted with popular tools such as Git, Jenkins ,Maven, Gerrit, Nexus, Selenium, and so on.You will learn configuration, automation, and the implementation of infrastructure automation (Infrastructure as Code) with tools such as Chef and Ansible. This book is ideal for engineers, architects, and developers, who wish to learn the core strategies of DevOps. What you will learn ●Get familiar with life cycle models, maturity states, progression and best practices of DevOps frameworks ●Learn to set up Jenkins and integrate it with Git ●Know how to build jobs and perform testing with Jenkins ●Implement infrastructure automation (Infrastructure as Code) with tools such as Chef and Ansible ●Understand continuous monitoring process with tools such as Splunk and Nagios ●Learn how Splunk Improves the code quality Who this book is for This book is for engineers, architects, and developers, who wish to learn the core strategies of DevOps.

If you are a developer without the idioms of Symbian C++, have existing software assets that you'd like to re-use on Symbian devices, or are an open source developer still waiting for an open Linux-based device to gain significant market penetration, this is the book for you! Beginning with an introduction to the native programming environments available and descriptions of the various technologies and APIs available, you will first learn how to go about porting your code to the Symbian platform. Next, you will discover how to port to Symbian from other common platforms including Linux and Windows. Finally, you can examine sample porting projects as well as advanced information on topics such as platform security. The author team consists of no less than six Forum Nokia Champions, together with technical experts from the Symbian community, either working on Symbian platform packages or third party application development. With this book, you will benefit from their combined knowledge and experience. In this book, you will learn: How to port and make use of existing open source code to speed up your development projects How to port applications from other popular mobile platforms to the Symbian platform How to write code that is portable across multiple platforms The APIs in the Symbian platform for cross-platform development, such as support for standard C/C++ and Qt.

Hands-On Embedded Programming with Qt
Build visually appealing, multithreaded, cross-platform computer vision applications
Computer Language
Interfacing to the Real World with Embedded Linux
Build modern, responsive cross-platform desktop applications with Qt, C++, and QML
Open Source Systems: Enterprise Software and Solutions
Learn the fundamentals of Qt 5 framework to develop interactive cross-platform applications Key Features A practical guide on the fundamentals of application development with QT 5 Learn to write scalable, robust and adaptable C++ code with QT Deploy your application on different platforms such as Windows, Mac OS, and Linux Book Description Qt is a mature and powerful framework for delivering sophisticated applications across a multitude of platforms. It has a rich history in the Linux world, is widely used in embedded devices, and has made great strides in the Mobile arena over the past few years. However, in the Microsoft Windows and Apple Mac OS X worlds, the dominance of C#/NET and Objective-C/Cocoa means that Qt is often overlooked. This book demonstrates the power and flexibility of the Qt framework for desktop application development and shows how you can write your application once and deploy it to multiple operating systems. Build a complete real-world line of business (LOB) solution from scratch, with distinct C++ library, QML user interface, and QTTest-driven unit-test projects. This is a suite of essential techniques that cover the core requirements for most LOB applications and will empower you to progress from a blank page to shipped application. What you will learn · Install and configure the Qt Framework and Qt Creator IDE · Create a new multi-project solution from scratch and control every aspect of it with QMake · Implement a rich user interface with QML · Learn the fundamentals of QTTest and how to integrate unit testing · Build self-aware data entities that can serialize to and from JSON and persist data with SQLite and CRUD operations · Reach out to the internet and consume an RSS feed · Produce application packages for distribution to other users Who this book is for This book is for application developers who want a powerful and flexible framework to create modern, responsive applications on Microsoft Windows, Apple Mac OS X, and Linux desktop platforms. You should be comfortable with C++ but no prior knowledge of Qt or QML is required.

Expand Raspberry Pi capabilities with fundamental engineering principles Exploring Raspberry Pi is the innovators guide to bringing Raspberry Pi to life. This book favors engineering principles over a 'recipe' approach to give you the skills you need to design and build your own projects. You'll understand the fundamental principles in a way that transfers to any type of electronics, electronic modules, or external peripherals, using a 'learning by doing' approach that caters to both beginners and experts. The book begins with basic Linux and programming skills, and helps you stock your inventory with common parts and supplies. Next, you'll learn how to make parts work together to achieve the goals of your project, no matter what type of components you use. The companion website provides a full repository that structures all of the code and scripts, along with links to video tutorials and supplementary content that takes you deeper into your project. The Raspberry Pi's most famous feature is its adaptability. It can be used for thousands of electronic applications, and using the Linux OS expands the functionality even more. This book helps you get the most from your Raspberry Pi, but it also gives you the fundamental engineering skills you need to incorporate any electronics into any project. Develop the Linux and programming skills you need to build basic applications Build your inventory of parts so you can always "make it work" Understand interfacing, controlling, and communicating with almost any component Explore advanced applications with video, audio, real-world interactions, and more Be free to adapt and create with Exploring Raspberry Pi.

Beginning Linux Programming, Fourth Edition continues its unique approach to teaching UNIX programming in a simple and structured way on the Linux platform. Through the use of detailed and realistic examples, students learn by doing, and are able to move from being a Linux beginner to creating custom applications in Linux. The book introduces fundamental concepts beginning with the basics of writing Unix programs in C, and including material on basic system calls, file I/O, interprocess communication (for getting programs to work together), and shell programming. Parallel to this, the book introduces the toolkits and libraries for working with user interfaces, from simpler terminal mode applications to X and GTK+ for graphical user interfaces. Advanced topics are covered in detail such as processes, pipes, semaphores, socket programming, using MySQL, writing applications for the GNOME or the KDE desktop, writing device drivers, POSIX Threads, and kernel programming for the latest Linux Kernel.

The Only Official, Best-Practice Guide to Qt 4.3 Programming Using Trolltech's Qt you can build industrial-strength C++ applications that run natively on Windows, Linux/Unix, Mac OS X, and embedded Linux without source code changes. Now, two Trolltech insiders have written a start-to-finish guide to getting outstanding results with the latest version of Qt: Qt 4.3. Packed with realistic examples and in-depth advice, this is the book TrollTech uses to teach Qt to its own new hires. Extensively revised and expanded, it reveals today's best Qt programming patterns for everything from implementing model/view architecture to using Qt 4.3's improved graphics support. You'll find proven solutions for virtually every GUI development task, as well as sophisticated techniques for providing database access, integrating XML, using subclassing, composition, and more. Whether you're new to Qt or upgrading from an older version, this book can help you accomplish everything that Qt 4.3 makes possible. Completely updated throughout, with significant new coverage of databases, XML, and Qtopia embedded programming Covers all Qt 4.2/4.3 changes, including Windows Vista support, native CSS support for widget styling, and SVG file generation Contains separate 2D and 3D chapters, coverage of Qt 4.3's new graphics view classes, and an introduction to QPainter's OpenGL back-end Includes new chapters on look-and-feel customization and application scripting Illustrates Qt 4.3's model/view architecture, plugin support, layout management, event processing, container classes, and much more Presents advanced techniques covered in no other book—from creating plugins to interfacing with native APIs Includes a new appendix on Qt Jambi, the new Java version of Qt

14th IFIP WG 2.13 International Conference, OSS 2018, Athens, Greece, June 8-10, 2018, Proceedings

Create amazing games with Qt 5, C++, and Qt Quick, 2nd Edition

PC Tech Journal

Qt 5 Blueprints

An Integrated Approach

Open Mobile Development in C/C++

ODROID-C1+ User Manual

A comprehensive guide that will get you up and running with embedded software development using Qt5 Key Features Learn to create fluid, cross-platform applications for embedded devices Achieve optimum performance in your applications with Qt Lite project Explore the implementation of Qt with IoT using QtMqtt, QtKNX, and QtWebSockets Book Description Qt is an open-source toolkit suitable for cross-platform and embedded application development. This book uses inductive teaching to help you learn how to create applications for embedded and Internet of Things (IoT) devices with Qt 5. You 'll start by learning to develop your very first application with Qt. Next, you 'll build on the first application by understanding new concepts through hands-on projects and written text. Each project will introduce new features that will help you transform your basic first project into a connected IoT application running on embedded hardware. In addition to practical experience in developing an embedded Qt project, you will also gain valuable insights into best practices for Qt development, along with exploring advanced techniques for testing, debugging, and monitoring the performance of Qt applications. Through the course of the book, the examples and projects are demonstrated in a way so that they can be done both locally and on an embedded platform. By the end of this book, you will have the skills you need to use Qt 5 to confidently develop modern embedded applications. What you will learn Understand how to develop Qt applications using Qt Creator under Linux Explore various Qt GUI technologies to build resourceful and interactive applications Understand Qt 's threading model to maintain a responsive UI Get to grips with remote target load and debug under Qt Creator Become adept at writing IoT code using Qt Learn a variety of software best practices to ensure that your code is efficient Who this book is for This book is for software and hardware professionals with experience in different domains who are seeking new career opportunities in embedded systems and IoT. Working knowledge of the C++ Linux command line will be useful to get the most out of this book.

Explore Qt Creator, Qt Quick, and QML to design and develop applications that work on desktop, mobile, embedded, and IoT platforms Key FeaturesBuild a solid foundation in Qt by learning about its core classes, multithreading, File I/O, and networkingLearn GUI programming and build custom interfaces using Qt Widgets, Qt Designer, and QMLUse the latest features of C++17 for improving the performance of your Qt applicationsBook Description Qt is a powerful development framework that serves as a complete toolkit for building cross-platform applications, helping you reduce development time and improve productivity. Completely revised and updated to cover C++17 and the latest developments in Qt 5.12, this comprehensive guide is the third edition of Application Development with Qt Creator. You'll start by designing a user interface using Qt Designer and learn how to instantiate custom messages, forms, and dialogues. You'll then understand Qt's support for multithreading, a key tool for making applications responsive, and the use of Qt's Model-View-Controller (MVC) to display data and content. As you advance, you'll learn to draw images on screen using Graphics View Framework and create custom widgets that interoperate with Qt Widgets. This Qt programming book takes you through Qt Creator's latest features, such as Qt Quick Controls 2, enhanced CMake support, a new graphical editor for SCXML, and a model editor. You'll even work with multimedia and sensors using Qt Quick, and finally develop applications for mobile, IoT, and embedded devices using Qt Creator. By the end of this Qt book, you'll be able to create your own cross-platform applications from scratch using Qt Creator and the C++ programming language. What you will learnCreate programs from scratch using the Qt framework and C++ languageCompile and debug your Qt Quick and C++ applications using Qt CreatorImplement map view with your Qt application and display device location on the mapUnderstand how to call Android and iOS native functions from Qt C++ codeLocalize your application with Qt LinguistExplore various Qt Quick components that provide access to audio and video playbacksDevelop GUI applications using both Qt and Qt QuickWho this book is for If you are a beginner looking to harness the power of Qt and the Qt Creator framework for cross-platform development, this book is for you. Although no prior knowledge of Qt and Qt Creator is required, basic knowledge of C++ programming is assumed.

Go from competent C++ developer to skilled designer or architect using this book as your C++ design master class. This title will guide you through the design and implementation of a fun, engaging case study. Starting with a quick exploration of the requirements for building the application, you'll delve into selecting an appropriate architecture, eventually designing and implementing all of the necessary modules to meet the project 's requirements. By the conclusion of Practical C++ Design, you'll have constructed a fully functioning calculator that builds and executes on multiple platforms. Access to the complete source code will help speed your learning. Utilize the Model-View-Controller pattern to determine the optimal architecture for the calculator; the observer pattern to design an event system; the singleton pattern as you design the calculator 's central data repository; a reusable stack; the command pattern to design a command system supporting unlimited undo/redo; and the abstract factory pattern for a cross-platform plugin infrastructure to make the calculator extensible. What You Will Learn Read a specification document and translate it into a practical C++ design Understand trade-offs in selecting between alternative design scenarios Gain practical experience in applying design patterns to realistic development scenarios Learn how to effectively use language elements of modern C++ to create a lasting design Develop a complete C++ program from a blank canvas through to a fully functioning, cross platform application Read, modify, and extend existing, high quality code Learn the fundamentals of API design, including class, module, and plugin interfaces Who This Book Is For The experienced C++ developer ready to take the next step to becoming a skilled C++ designer.

Create unique and amazing projects by using the powerful combination of Yocto and Raspberry Pi About This Book Set up and configure the Yocto Project efficiently with Raspberry Pi Deploy multimedia applications from existing Yocto/OE layers An easy-to-follow guide to utilize your custom recipes on your Raspberry Pi Who This Book Is For If you are a student or a developer of embedded software, embedded Linux engineer or embedded systems in competence with Raspberry Pi and want to discover the Yocto Project, then this book is for you. Experience with Yocto is not needed. What You Will Learn Explore the basic concept of Yocto's build system and how it is organized in order to use it efficiently with Raspberry Pi Generate your first image with Yocto for the Raspberry Pi Understand how to customize your Linux kernel within the Yocto Project Customize your image in order to integrate your own applications Write your own recipes for your graphical applications Integrate a custom layer for the Raspberry Pi In Detail The Yocto Project is a Linux Foundation workgroup, which produces tools (SDK) and processes (configuration, compilation, installation) that will enable the creation of Linux distributions for embedded software, independent of the architecture of embedded software (Raspberry Pi, i.MX6, and so on). It is a powerful build system that allows you to master your personal or professional development. This book presents you with the configuration of the Yocto Framework for the Raspberry Pi, allowing you to create amazing and innovative projects using the Yocto/OpenEmbedded eco-system. It starts with the basic introduction of Yocto's build system, and takes you through the setup and deployment steps for Yocto. It then helps you to develop an understanding of BitBake (the task scheduler), and learn how to create a basic recipe through a GPIO application example. You can then explore the different types of Yocto recipe elements (LICENSE, FILES, SRC_URI, and so on). Next, you will learn how to customize existing recipes in Yocto/OE layers and add layers to your custom environment (qt5 for example). Style and approach A step by step guide covering the fundamentals to create amazing new projects with Raspberry Pi and Yocto.

Multicore and GPU Programming

Learn to leverage the power of Yocto Project to build efficient Linux-based products

Build cross-platform applications and GUIs using Qt 5 and C++, 3rd Edition

Game Programming Using Qt: Beginner's Guide

Learn Qt 5

Linux for Embedded and Real-time Applications

die offizielle Einföhrung

This is a Starter guide designed to enable the reader to start using MinGW to develop Microsoft Windows applications as quickly, and as efficiently, as possible. This book is for C and C++ developers who are looking for new and effective instruments to use in application development for Microsoft Windows. No experience of MinGW is needed: this book will guide you through the essentials to get you using the software like a pro in a matter of hours.

Master multithreading and concurrent processing with C++ About This Book Delve into the fundamentals of multithreading and concurrency and find out how to implement them Explore atomic operations to optimize code performance Apply concurrency to both distributed computing and GPGPU processing Who This Book Is For This book is for intermediate C++ developers who wish to extend their knowledge of multithreading and concurrent processing. You should have basic experience with multithreading and be comfortable using C++ development toolchains on the command line. What You Will Learn Deep dive into the details of the how various operating systems currently implement multithreading Choose the best multithreading APIs when designing a new application Explore the use of mutexes, spin-locks, and other synchronization concepts and see how to safely pass data between threads Understand the level of API support provided by various C++ toolchains Resolve common issues in multithreaded code and recognize common pitfalls using tools such as Memcheck, CacheGrind, DRD, Helgrind, and more Discover the nature of atomic operations and understand how they can be useful in optimizing code Implement a multithreaded application in a distributed computing environment Design a C++-based GPGPU application that employs multithreading In Detail Multithreaded applications execute multiple threads in a single processor environment, allowing developers achieve concurrency. This book will teach you the finer points of multithreading and concurrency concepts and how to apply them efficiently in C++. Divided into three modules, we start with a brief introduction to the fundamentals of multithreading and concurrency concepts. We then take an in-depth look at how these concepts work at the hardware-level as well as how both operating systems and frameworks use these low-level functions. In the next module, you will learn about the native multithreading and concurrency support available in C++ since the 2011 revision, synchronization and communication between threads, debugging concurrent C++ applications, and the best programming practices in C++. In the final module, you will learn about atomic operations before moving on to apply concurrency to distributed and GPGPU-based processing. The comprehensive coverage of essential multithreading concepts means you will be able to efficiently apply multithreading concepts while coding in C++. Style and approach This book is filled with examples that will help you become a master at writing robust concurrent and parallel applications in C++.

Optimize and boost your Linux-based system with Yocto Project and increase its reliability and robustness efficiently and cost-effectively. About This Book Optimize your Yocto Project tools to develop efficient Linux-based projects Practical approach to learning Linux development using Yocto Project Demonstrates concepts in a practical and easy-to-understand way Who This Book Is For If you are an embedded Linux developer with a basic knowledge of Yocto Project and want to broaden your knowledge with examples of embedded development, then this book is for you. This book is also for professionals who want to find new insights into working methodologies for Linux development. What You Will Learn Understand the basic concepts involved in Poky workflows along with configuring and preparing the Poky build environment. Configure a build server and customize images using Toaster. Generate images and fit packages into created images using BitBake. Support the development process by setting up and using Package feeds. Debug Yocto Project by configuring Poky. Build an image for the BeagleBone Black, RaspberryPi 3, and Wandboard, and boot it from an SD card. In Detail Yocto Project is turning out to be the best integration framework for creating reliable embedded Linux projects. It has the edge over other frameworks because of its features such as less development time and improved reliability and robustness. Embedded Linux Development using Yocto Project starts with an in-depth explanation of all Yocto Project tools, to help you perform different Linux-based tasks. The book then moves on to in-depth explanations of Poky and BitBake. It also includes some practical use cases for building a Linux subsystem project using Yocto Project tools available for embedded Linux. The book also covers topics such as SDK, recipetool, and others. By the end of the book, you will have learned how to generate and run an image for real hardware boards and will have gained hands-on experience at building efficient Linux systems using Yocto Project. Style and approach A clear, concise, and straightforward book that will enable you to use and implement the latest features of Yocto Project.

Build and deploy computer vision applications for a long time. However, they now need a more effective tool to get the job done and in a much better and modern way. Qt is one of the major frameworks available for this task at the moment. This book will teach you to develop applications with the combination of OpenCV 3 and Qt5, and how to create cross-platform computer vision applications. We'll begin by introducing Qt, its IDE, and its SDK. Next you'll learn how to use the OpenCV API to integrate both tools, and see how to configure Qt to use OpenCV. You'll go on to build a full-fledged computer vision application throughout the book. Later, you'll create a stunning UI application using the Qt widgets technology, where you'll display the images after they are processed in an efficient way. At the end of the book, you'll learn how to convert OpenCV Mat to QImage. You'll also see how to efficiently process images to filter them, transform them, detect or track objects as well as analyze video. You'll become better at developing OpenCV applications. What you will learn ● Get an introduction to Qt IDE and SDK ● Be introduced to OpenCV and see how to communicate between OpenCV and Qt ● Understand how to create UI using Qt Widgets ● Learn to develop cross-platform applications using OpenCV 3 and Qt 5 ● Explore the multithreaded application development features of Qt5 ● Improve OpenCV 3 application development using Qt5 ● Build, test, and deploy Qt and OpenCV apps, either dynamically or statically ● See Computer Vision technologies such as filtering and transformation of images, detecting and matching objects, template matching, object tracking, video and motion analysis, and much more ● Be introduced to QML and Qt Quick for iOS and Android application development Who this book is for This book is for readers interested in building computer vision applications. Intermediate knowledge of C++ programming is expected. Even though no knowledge of Qt5 and OpenCV 3 is assumed, if you're familiar with these frameworks, you'll benefit.

Programmer's Journal

The Art of Building Qt Applications

The Book of Qt 4

From Programming to Architecture

DevOps: Continuous Delivery, Integration, and Deployment with DevOps

A Beginner's Guide

Embedded Linux Development using Yocto Projects

This complete tutorial and reference assumes no previous knowledge of C, C++, objects, or patterns. Readers will walk through every core concept, one step at a time, learning through an extensive collection of Qt 4.1-tested examples and exercises.

This book takes a project based approach to implementing your own MythTV setup, from selecting hardware right through to advanced customization. You will learn how to record your favorite television shows, store your DVDs for later playback, create a music library out of your CD collection, and even use your personal video recorder (PVR) to do Voice Over IP. This is a book for hobbyists and technology do-it-yourselfers that wish to create their own PVR or media center. With this book as a guide they will be able to choose the right hardware (or recycle existing hardware) and then install all the necessary software.

In-depth instruction and practical techniques for building with the BeagleBone embedded Linux platform Exploring BeagleBone is a hands-on guide to bringing gadgets, gizmos, and robots to life using the popular BeagleBone embedded Linux platform. Comprehensive content and deep detail provide more than just a BeagleBone instruction manual—you'll also learn the underlying engineering techniques that will allow you to create your own projects. The book begins with a foundational primer on essential skills, and then gradually moves into communication, control, and advanced applications using C/C++, allowing you to learn at your own pace. In addition, the book's companion website features instructional videos, source code, discussion forums, and more, to ensure that you have everything you need. The BeagleBone's small size, high performance, low cost, and extreme adaptability have made it a favorite development platform, and the Linux software base allows for complex yet flexible functionality. The BeagleBone has applications in smart buildings, robot control, environmental sensing, to name a few; and, expansion boards and peripherals dramatically increase the possibilities. Exploring BeagleBone provides a reader-friendly guide to the device, including a crash course in computer engineering. While following step by step, you can: Get up to speed on embedded Linux, electronics, and programming Master interfacing electronic circuits, buses and modules, with practical examples Explore the Internet-connected BeagleBone and the BeagleBone with a display Apply the BeagleBone to sensing applications, including video and sound Explore the BeagleBone's Programmable Real-Time Controllers Hands-On learning helps ensure that your new skills stay with you, allowing you to design with electronics, modules, or peripherals even beyond the BeagleBone. Insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in Exploring BeagleBone, the practical handbook for the popular computing platform.

A complete guide to designing and building fun games with Qt and Qt Quick 2 using associated toolsets About This Book Learn to create simple 2D to complex 3D graphics and games using all possible tools and widgets available for game development in Qt Understand technologies such as QML, Qt Quick, OpenGL, and Qt Creator, and learn the best practices to use them to design games Learn Qt with the help of many sample games introduced step-by-step in each chapter Who This Book Is For If you want to create great graphical user interfaces and astonishing games with Qt, this book is ideal for you. Any previous knowledge of Qt is not required, however knowledge of C++ is mandatory. What You Will Learn Install Qt on your system Understand the basic concepts of every Qt game and application Develop 2D object-oriented graphics using Qt Graphics View Build multiplayer games or add a chat function to your games with Qt's Network module Script your game with Qt Script Program resolution-independent and fluid UI using QML and Qt Quick Control your game flow as per the sensors of a mobile device See how to test and debug your game easily with Qt Creator and Qt Test In Detail Qt is the leading cross-platform toolkit for all significant desktop, mobile, and embedded platforms and is becoming more popular by the day, especially on mobile and embedded devices. Despite its simplicity, it's a powerful tool that perfectly fits game developers' needs. Using Qt and Qt Quick, it is easy to build fun games or shiny user interfaces. You only need to create your game once and deploy it on all major platforms like iOS, Android, and WinRT without changing a single source file. The book begins with a brief introduction to creating an application and preparing a working environment for both desktop and mobile platforms. It then dives deeper into the basics of creating graphical interfaces and Qt core concepts of data processing and display before you try creating a game. As you progress through the chapters, you'll learn to enrich your games by implementing network connectivity and employing scripting. We then delve into Qt Quick, OpenGL, and various other tools to add game logic, design animation, add game physics, and build astonishing UI for the games. Towards the final chapters, you'll learn to exploit mobile device features such as accelerators and sensors to build engaging user experiences. If you are planning to learn about Qt and its associated toolsets to build apps and games, this book is a must have. Style and approach This is an easy-to-follow, example-based, comprehensive introduction to all the major features in Qt. The content of each chapter is explained and organized around one or multiple simple game examples to learn Qt in a fun way.

Instant MinGW Starter

Exploring BeagleBone

End to End GUI Development with Qt5

ODROID-XU4 User Manual

Practical recipes to help you leverage the power of Yocto to build exciting Linux-based systems, 2nd Edition

C++-GUI-Programmierung mit Qt 4

Application Development with Qt Creator

Cross-Platform Development with Qt 6 and Modern C++Design and build applications with modern graphical user interfaces without worrying about platform dependencyPackt Publishing Ltd

If you are a programmer looking for a truly cross-platform GUI framework to help you save your time by side-stepping the incompatibility between different platforms and building applications using Qt 5 for multiple targets, then this book is most certainly intended for you. It is assumed that you have a basic programming experience of C++ and fundamental knowledge about Qt.

The popular open source KDE desktop environment for Unix was built with Qt, a C++ class library for writing GUI applications that run on Unix, Linux, Windows 95/98, Windows 2000, and Windows NT platforms. Qt emulates the look and feel of Motif, but is much easier to use. Best of all, after you have written an application with Qt, all you have to do is recompile it to have a version that works on Windows. Qt also emulates the look and feel of Windows, so your users get native-looking interfaces.Platform independence is not the only benefit. Qt is flexible and highly optimized. You'll find that you need to write very

little, if any, platform-dependent code because Qt already has what you need. And Qt is free for open source and Linux development.Although programming with Qt is straightforward and feels natural once you get the hang of it, the learning curve can be steep. Qt comes with excellent reference documentation, but beginners often find the included tutorial is not enough to really get started with Qt. That's whereProgramming with Qt steps in. You'll learn how to program in Qt as the book guides you through the steps of writing a simple paint application. Exercises with fully worked out answers help you deepen your understanding of the topics. The book presents all of the GUI elements in Qt, along with advice about when and how to use them, so you can make full use of the toolkit. For seasoned Qt programmers, there's also lots of information on advanced 2D transformations, drag-and-drop, writing custom image file filters, networking with the new Qt Network Extension, XML processing, Unicode handling, and more.Programming with Qt helps you get the most out of this powerful, easy-to-use, cross-platform toolkit. It's been completely updated for Qt Version 3.0 and includes entirely new information on rich text, Unicode/double byte characters, internationalization, and network programming.

Create image processing, object detection and face recognition apps by leveraging the power of machine learning and deep learning with OpenCV 4 and Qt 5 Key FeaturesGain practical insights into code for all projects covered in this bookUnderstand modern computer vision concepts such as character recognition, image processing and modificationLearn to use a graphics processing unit (GPU) and its parallel processing power for filtering images quicklyBook Description OpenCV and Qt have proven to be a winning combination for developing cross-platform computer vision applications. By leveraging their power, you can create robust applications with both an intuitive graphical user interface (GUI) and high-performance capabilities. This book will help you learn through a variety of real-world projects on image processing, face and text recognition, object detection, and high-performance computing. You'll be able to progressively build on your skills by working on projects of increasing complexity. You'll begin by creating an image viewer application, building a user interface from scratch by adding menus, performing actions based on key-presses, and applying other functions. As you progress, the book will guide you through using OpenCV image processing and modification functions to edit an image with filters and transformation features. In addition to this, you'll explore the complex motion analysis and facial landmark detection algorithms, which you can use to build security and face detection applications. Finally, you'll learn to use pretrained deep learning models in OpenCV and GPUs to filter images quickly. By the end of this book, you will have learned how to effectively develop full-fledged computer vision applications with OpenCV and Qt. What you will learnCreate an image viewer with all the basic requirementsConstruct an image editor to filter or transform imagesDevelop a security app to detect movement and secure homesBuild an app to detect facial landmarks and apply masks to facesCreate an app to extract text from scanned documents and photosTrain and use cascade classifiers and DL models for object detectionBuild an app to measure the distance between detected objectsImplement high-speed image filters on GPU with Open Graphics Library (OpenGL)Who this book is for This book is for engineers and developers who are familiar with both Qt and OpenCV frameworks and are capable of creating simple projects using them, but want to build their skills to create professional-level projects using them. Familiarity with the C++ language is a must to follow the example source codes in this book.

Building a DVR and Media Center PC

Get up to speed with cross-platform computer vision app development by building seven practical projects

Practical C++ Design

Design and build applications with modern graphical user interfaces without worrying about platform dependency

An Introduction to Design Patterns in C++ with Qt 4

Porting to the Symbian Platform

Software Tools for the Professional Programmer

Congratulations on purchasing the ODRROID-C1+! It is one of the most powerful low-cost Single Board computers available, as well as being an extremely versatile device. Featuring a quad-core AmLogic processor, advanced Mali GPU, and Gigabit ethernet, it can function as a home theater set-top box, a general purpose computer for web browsing, gaming and socializing, a compact tool for college or office work, a prototyping device for hardware tinkering, a controller for home automation, a workstation for software development, and much more. Some of the modern operating systems that run on the ODRROID-C1+ are Ubuntu, Android, Fedora, ARCHLinux, Debian, and OpenELEC, with thousands of free open-source software packages available. The ODRROID-C1+ is an ARM device, which is the most widely used architecture for mobile devices and embedded 32-bit computing.

Multicore and GPU Programming: An Integrated Approach, Second Edition offers broad coverage of key parallel computing tools, essential for multi-core CPU programming and many-core "massively parallel" computing. Using threads, OpenMP, MPI, CUDA and other state-of-the-art tools, the book teaches the design and development of software capable of taking advantage of modern computing platforms that incorporate CPUs, GPUs and other accelerators. Presenting material refined over more than two decades of teaching parallel computing, author Gerassimos Barlas minimizes the challenge of transitioning from sequential programming to mastering parallel platforms with multiple examples, extensive case studies, and full source code. By using this book, readers will better understand how to develop programs that run over distributed memory machines using MPI, create multi-threaded applications with either libraries or directives, write optimized applications that balance the workload between available computing resources, and profile and debug programs targeting parallel machines. Includes comprehensive coverage of all major multi-core and many-core programming tools and platforms, including threads, OpenMP, MPI, CUDA, OpenCL and Thrust. Covers the most recent versions of the above at the time of publication. Demonstrates parallel programming design patterns and examples of how different tools and paradigms can be integrated for superior performance. Updates in the second edition include the use of the C++17 standard for all sample code, a new chapter on concurrent data structures, a new chapter on OpenCL, and the latest research on load balancing. Includes downloadable source code, examples and instructor support materials on the book's companion website.

A complete guide to designing and building fun games with Qt and Qt Quick using associated toolsets Key Features A step by step guide to learn Qt by building simple yet entertaining games Get acquainted with a small yet powerful addition–Qt Gamepad Module, that enables Qt applications to support the use of gamepad hardware Understand technologies such as QML, OpenGL, and Qt Creator to design intuitive games Book Description Qt is the leading cross-platform toolkit for all significant desktop, mobile, and embedded platforms and is becoming popular by the day, especially on mobile and embedded devices. It's a powerful tool that perfectly fits the needs of game developers. This book will help you learn the basics of Qt and will equip you with the necessary toolsets to build apps and games. The book begins by how to create an application and prepare a working environment for both desktop and mobile platforms. You will learn how to use built-in Qt widgets and Form Editor to create a GUI application and then learn the basics of creating graphical interfaces and Qt's core concepts. Further, you'll learn to enrich your games by implementing network connectivity and employing scripting. You will learn about Qt's capabilities for handling strings and files, data storage, and serialization. Moving on, you will learn about the new Qt Gamepad module and how to add it in your game and then delve into OpenGL and Vulkan, and how it can be used in Qt applications to implement hardware-accelerated 2D and 3D graphics. You will then explore various facets of Qt Quick: how it can be used in games to add game logic, add game physics, and build astonishing UIs for your games. By the end of this book, you will have developed the skillset to develop interesting games with Qt. What you will learn Install the latest version of Qt on your system Understand the basic concepts of every Qt game and application Develop 2D object-oriented graphics using Qt Graphics View Build multiplayer games or add a chat function to your games with Qt Network module Script your game with Qt QML Explore the Qt Gamepad module in order to integrate gamepad support in C++ and QML applications Program resolution-independent and fluid UIs using QML and Qt Quick Control your game flow in line with mobile device sensors Test and debug your game easily with Qt Creator and Qt Test Who this book is for If you want to create great graphical user interfaces and astonishing games with Qt, this book is ideal for you. No previous knowledge of Qt is required; however knowledge of C++ is mandatory.

Linux for Embedded and Real-Time Applications, Fourth Edition, provides a practical introduction to the basics, covering the latest developments in this rapidly evolving technology. Ideal for those new to the use of Linux in an embedded environment, the book takes a hands-on approach that covers key concepts of building applications in a cross-development environment. Hands-on exercises focus on the popular open source BeagleBone Black board. New content includes graphical programming with QT as well as expanded and updated material on projects such as Eclipse, BusyBox – configuring and building, the U-Boot bootloader – what it is, how it works, configuring and building, and new coverage of the Root file system and the latest updates on the Linux kernel.. Provides a hands-on introduction for engineers and software developers who need to get up to speed quickly on embedded Linux, its operation and capabilities Covers the popular open source target boards, the BeagleBone and BeagleBone Black Includes new and updated material that focuses on BusyBox, U-Boot bootloader and graphical programming with QT

C++ GUI Programming with Qt4

ODROID-C2 User Manual

Develop high performance applications for embedded systems with C++ and Qt 5

Mastering C++ Multithreading

Qt 5 and OpenCV 4 Computer Vision Projects

Computer Vision with OpenCV 3 and Qt5

Foundations of Qt Development

Congratulations on purchasing the ODRROID-XU4! It is one of the most powerful low-cost Single Board computers available, as well as being an extremely versatile device. Featuring an octa-core Exynos 5422 big.LITTLE processor, advanced Mali GPU, and Gigabit ethernet, it can function as a home theater set-top box, a general purpose computer for web browsing, gaming and socializing, a compact tool for college or office work, a prototyping device for hardware tinkering, a controller for home automation, a workstation for software development, and much more. Some of the modern operating systems that run on the ODRROID-XU4 are Ubuntu, Android, Fedora, ARCHLinux, Debian, and OpenELEC, with thousands of free open-source software packages available. The ODRROID-XU4 is an ARM device, which is the most widely used architecture for mobile devices and embedded 32-bit computing.

Learn GUI programming using Qt4, the powerful crossplatform framework, with the only official Qt book approved by Trolltech.

Learn the complete Qt ecosystem and its tools and build UIs for mobile and desktop applications Key FeaturesUnleash the power of the latest Qt 5.9 with C++14Easily compile, run, and debug your applications from the powerful Qt Creator IDEBuild multi-platform projects that target Android, iOS, Windows, MacOS, Linux, and moreBook Description Qt 5.9 is an application development framework that provides a great user experience and develops full-capability applications with Qt Widgets, QML, and even Qt 3D. This learning path demonstrates the power and flexibility of the Qt framework for desktop application development and shows how you can write an application once and deploy it to multiple operating systems. It will address all the challenges while developing cross-platform applications with the Qt framework. This course will give you a better understanding of the Qt framework and tools to resolve serious issues such as linking, debugging, and multithreading. It will also upskill you by explaining how to create a to-do-style app and taking you through all the stages in building a successful project. You will build a suite of apps; while developing these apps, you'll deepen your knowledge of Qt Quick's layout systems, and see Qt 3D and widgets in action. The next project will be in the industrial and agricultural sectors: making sense of sensor data via a monitoring system. Your apps should run seamlessly across devices and operating systems such as Android, iOS, Windows, or Mac, and be cost-effective by integrating with existing web technologies. You take the role of lead developer and prototype a monitoring system. In doing so, you'll get to know Qt's Bluetooth and HTTP APIs, as well as the Charts and Web Engine UI modules. These projects will help you gain a holistic view of the Qt framework. What you will learnInstall and configure the Qt Framework and Qt Creator IDEImplement a rich user interface with QMLLearn the fundamentals of QtTest and how to integrate unit testingCreate stunning UIs with Qt Widget and Qt QuickDevelop powerful, cross-platform applications with the Qt frameworkDesign GUIs with Qt Designer and build a library in it for UI previewsBuild a desktop UI with widgets and DesignerGet familiar with multimedia components to handle visual input and outputWho this book is for This book will appeal to developers and programmers who would like to build GUI-based applications. Knowledge of C++ is necessary and a basic familiarity with Qt would be helpful.

This book constitutes the refereed proceedings of the 14th IFIP WG 2.13 International Conference on Open Source Systems, OSS 2018, held in Athens, Greece, in June 2018. The 14 revised full papers and 2 short papers presented were carefully reviewed and selected from 38 submissions. The papers cover a wide range of topics in the field of free/libre open source software (FLOSS) and are organized in the following thematic sections: organizational aspects of OSS projects, OSS projects validity, mining OSS data, OSS in public administration, OSS governance, and OSS reusability.

Yocto for Raspberry Pi

Beginning Linux Programming

Develop cross-platform applications with modern UIs using the powerful Qt framework

Writing Portable GUI applications on Unix and Win32

Cross-Platform Development with Qt 6 and Modern C++

Programming with Qt

Dive into the core DevOps strategies

Presenting hints on developing user-friendly applications, Molkentin explores tools needed to create dialog boxes, steps to follow when developing a GUI-based application, and how to visualize data using Qt's "model-view concept.

Over 79 hands-on recipes for professional embedded Linux developers to optimize and boost their Yocto Project know-how Key Features Optimize your Yocto setup to speed up development and debug build issues Use what is quickly becoming the standard embedded Linux product builder framework—the Yocto Project Recipe-based implementation of best practices to optimize your Linux system Book

Description The Yocto Project has become the de facto distribution build framework for reliable and robust embedded systems with a reduced time to market.You'll get started by working on a build system where you set up Yocto, create a build directory, and learn how to debug it. Then, you'll explore everything about the BSP layer, from creating a custom layer to debugging device tree issues. In addition to this, you'll learn how to add a new software layer, packages, data, scripts, and configuration files to your system. You will then cover topics based on application development, such as using the Software Development Kit and how to use the Yocto project in various development environments. Toward the end, you will learn how to debug, trace, and profile a running system. This second edition has been updated to include new content based on the latest Yocto release. What you will learn Optimize your Yocto Project setup to speed up development and debug build issues Use Docker containers to build Yocto Project-based systems Take advantage of the user-friendly Toaster web interface to the Yocto Project build system Build and debug the Linux kernel and its device trees Customize your root filesystem with already-supported and new Yocto packages Optimize your production systems by reducing the size of both the Linux kernel and root filesystems Explore the mechanisms to increase the root filesystem security Understand the open source licensing requirements and how to comply with them when cohabiting with proprietary programs Create recipes, and build and run applications in C, C++, Python, Node.js, and Java Who this book is for If you are an embedded Linux developer with the basic knowledge of Yocto Project, this book is an ideal way to broaden your knowledge with recipes for embedded development.

Congratulations on purchasing the ODRROID-C2! It is one of the most powerful low-cost 64-bit Single Board Computers available, as well as being an extremely versatile device. Featuring a fast, quad-core AmLogic processor, advanced Mali GPU, and Gigabit Ethernet, it can function as a home theater set-top box, a general purpose computer for web browsing, gaming and socializing, a compact tool for college or office work, a prototyping device for hardware tinkering, a controller for home automation, a workstation for software development, and much more. Some of the modern operating systems that run on the ODRROID-C2 are Ubuntu, Android, and ARCH Linux, with thousands of free open-source software packages available. The ODRROID-C2 is an ARM device, which is the most widely used architecture for mobile devices and embedded computing. The ARM processor's small size, reduced complexity and low power consumption makes it very suitable for miniaturized devices such as wearables and embedded controllers.

Embedded Linux Development Using Yocto Project Cookbook

Game Programming using Qt 5 Beginner's Guide

Exploring Raspberry Pi

C++ GUI Programming with Qt 4

Practical MythTV

Dr. Dobb's Journal of Software Tools for the Professional Programmer

Tools and Techniques for Building with Embedded Linux