

C Gui Programming With Qt4 2nd Edition

Use Qt 5 to design and build functional, appealing, and user-friendly graphical user interfaces (GUIs) for your applications. Key Features Learn to use Qt 5 to design and customize the look and feel of your application Improve the visual quality of an application by using graphics rendering and animation Understand the balance of presentation and web content that will make an application appealing yet functional Book Description With the growing need to develop GUIs for multiple targets and multiple screens, improving the visual quality of your application becomes important so that it stands out from your competitors. With its cross-platform ability and the latest UI paradigms, Qt makes it possible to build intuitive, interactive, and user-friendly user interfaces for your applications. Qt5 C++ GUI Programming Cookbook, Second Edition teaches you how to develop functional and appealing user interfaces using the latest version of QT5 and C++. This book will help you learn a variety of topics such as GUI customization and animation, graphics rendering, implementing Google Maps, and more. You will also be taken through advanced concepts like asynchronous programming, event handling using signals and slots, network programming, various aspects of optimizing your application. By the end of the book, you will be confident to design and customize GUI applications that meet your clients' expectations and have an understanding of best practice solutions for common problems. What you will learn Animate GUI elements using Qt5's built-in animation system Draw shapes and 2D images using Qt5's powerful rendering system Implement an industry-standard OpenGL library in your project Build a mobile app that supports touch events and exports it onto devices Parse and extract data from an XML file and present it on your GUI Interact with web content by calling JavaScript functions from C++ Access MySQL and SQLite databases to retrieve data and display it on your GUI Who this book is for This intermediate-level book is designed for those who want to develop software using Qt 5. If you want to improve the visual quality and content presentation of your software application, this book is for you. Prior experience of C++ programming is required. Downloading the example code for this book You can download the example code files for all Packt books you have purchased from your account at <http://www.PacktPub.com>. If you purchased this book elsewhere, you can visit <http://www.PacktPub.com> ...

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 run 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.

Master Qt's Most Powerful APIs, Patterns, and Development Practices Qt has evolved into a remarkably powerful solution for cross-platform desktop, Web, and mobile development.

However, even the most experienced Qt programmers only use a fraction of its capabilities.

Moreover, practical information about Qt's newest features has been scarce--until now.

Advanced Qt Programming shows developers exactly how to take full advantage of Qt 4.5's and Qt 4.6's most valuable new APIs, application patterns, and development practices.

Authored by Qt expert Mark Summerfield, this book concentrates on techniques that offer the most power and flexibility with the least added complexity. Summerfield focuses especially on model/view and graphics/view programming, hybrid desktop/Web applications, threading, and applications incorporating media and rich text. Throughout, he presents realistic, downloadable code examples, all tested on Windows, Mac OS X, and Linux using Qt 4.6 (and most tested on Qt 4.5) and designed to anticipate future versions of Qt. The book Walks through using Qt with WebKit to create innovative hybrid desktop/Internet applications Shows how to use the Phonon framework to build powerful multimedia applications Presents state-of-the-art techniques for using model/view table and tree models, QStandardItemModels, delegates, and views, and for creating custom table and tree models, delegates, and views Explains how to write more effective threaded programs with the QtConcurrent module and with the QThread class Includes detailed coverage of creating rich text editors and documents Thoroughly covers graphics/view programming: architecture, windows, widgets, layouts, scenes, and more Introduces Qt 4.6's powerful animation and state machine frameworks

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'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

Explore Qt Creator, Qt Quick, and QML to design and develop applications that work on desktop, mobile, embedded, and IoT platforms Key Features Build a solid foundation in Qt by learning about its core classes, multithreading, File I/O, and networking Learn GUI programming and build custom interfaces using Qt Widgets, Qt Designer, and QML Use the latest features of C++17 for improving the performance of your Qt applications Book

Description Qt is a powerful development framework that serves as a complete toolset 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 learn

- Create programs from scratch using the Qt framework and C++ language
- Compile and debug your Qt Quick and C++ applications using Qt Creator
- Implement map view with your Qt application and display device location on the map
- Understand how to call Android and iOS native functions from Qt C++ code
- Localize your application with Qt Linguist
- Explore various Qt Quick components that provide access to audio and video playbacks
- Develop GUI applications using both Qt and Qt Quick

Who 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++ programmin...

Build mobile applications for Nokia's S60 phones using the hot Qt GUI tool This vital primer—written by developers involved in the latest release of Qt—is a must for anyone wanting to learn this cutting-edge programming environment. Qt is a multi-platform, C++ GUI toolkit that allows you to develop applications and user interfaces once, then deploy them across many desktop and embedded operating systems, without rewriting the source code. Now being applied to the S60 platform (Nokia's new, uniform UI), Qt promises to save development resources, cut costs, and get you to market faster. This unique guide helps you master this exciting tool with step-by-step instruction from some of the best developers in the S60 field. Find easy-to-access tips, techniques, examples, and much more. Walks you through installation of the Qt developer platform and SDK Explains the basic Qt environment and how it can save you development time Delves into the extension of Qt for the S60, including communication and sensors Provides plenty of examples to help you quickly grasp concepts Help revolutionize the S60 mobile market and stay ahead of the crowd with your own state-of-the-art applications, developed with Qt and the detailed information in this unique guide. Use Qt 5 to design and build functional, appealing, and user-friendly graphical user interfaces (GUIs) for your applications. Key Features

- Learn to use Qt 5 to design and customize the look and feel of your application
- Improve the visual quality of an application by using graphics rendering and animation
- Understand the balance of presentation and web content that will make an application appealing yet functional

Book Description With the growing need to develop GUIs for multiple targets and multiple screens, improving the visual quality of your application becomes important so that it stands out from your competitors. With its cross-platform ability and the latest UI paradigms, Qt makes it possible to build intuitive, interactive, and user-friendly user interfaces for your applications. *Qt5 C++ GUI Programming Cookbook, Second Edition* teaches you how to develop functional and appealing user interfaces using the latest version of QT5 and C++. This book will help you learn a variety of topics such as GUI customization and animation, graphics rendering, implementing Google Maps, and more. You will also be taken through advanced concepts like asynchronous programming, event handling using signals and slots, network programming, various aspects of optimizing your application.

By the end of the book, you will be confident to design and customize GUI applications that meet your clients' expectations and have an understanding of best practice solutions for common problems. What you will learn Animate GUI elements using Qt5's built-in animation system Draw shapes and 2D images using Qt5's powerful rendering system Implement an industry-standard OpenGL library in your project Build a mobile app that supports touch events and exports it onto devices Parse and extract data from an XML file and present it on your GUI Interact with web content by calling JavaScript functions from C++ Access MySQL and SQLite databases to retrieve data and display it on your GUI Who this book is for This intermediate-level book is designed for those who want to develop software using Qt 5. If you want to improve the visual quality and content presentation of your software application, this book is for you. Prior experience of C++ programming is required.

If you're building GUI prototypes or cross-platform GUI applications, then this book is your fastest and most powerful solution. It will address challenges in developing cross-platform applications with the Qt framework. With every chapter you'll take a step closer to mastering Qt. By the end, you'll have an application that is ready to be shipped.

The Insider's Best-Practice Guide to Rapid PyQt 4 GUI Development Whether you're building GUI prototypes or full-fledged cross-platform GUI applications with native look-and-feel, PyQt 4 is your fastest, easiest, most powerful solution. Qt expert Mark Summerfield has written the definitive best-practice guide to PyQt 4 development. With Rapid GUI Programming with Python and Qt you'll learn how to build efficient GUI applications that run on all major operating systems, including Windows, Mac OS X, Linux, and many versions of Unix, using the same source code for all of them. Summerfield systematically introduces every core GUI development technique: from dialogs and windows to data handling; from events to printing; and more. Through the book's realistic examples you'll discover a completely new PyQt 4-based programming approach, as well as coverage of many new topics, from PyQt 4's rich text engine to advanced model/view and graphics/view programming. Every key concept is illuminated with realistic, downloadable examples--all tested on Windows, Mac OS X, and Linux with Python 2.5, Qt 4.2, and PyQt 4.2, and on Windows and Linux with Qt 4.3 and PyQt 4.3. Coverage includes Python basics for every PyQt developer: data types, data structures, control structures, classes, modules, and more Core PyQt GUI programming techniques: dialogs, main windows, and custom file formats Using Qt Designer to design user interfaces, and to implement and test dialogs, events, the Clipboard, and drag-and-drop Building custom widgets: Widget Style Sheets, composite widgets, subclassing, and more Making the most of Qt 4.2's new graphics/view architecture Connecting to databases, executing SQL queries, and using form and table views Advanced model/view programming: custom views, generic delegates, and more Implementing online help, internationalizing applications, and using PyQt's networking and multithreading facilities

After a classically structured crash-course on the C# language and Mono's own compiler, the authors reach down deeper to subjects like threads, network programming, security, database interaction, XML, and more.

Winner of the 2014 Jolt Award for "Best Book" "Whether you are an experienced

programmer or are starting your career, Python in Practice is full of valuable advice and example to help you improve your craft by thinking about problems from different perspectives, introducing tools, and detailing techniques to create more effective solutions.” —Doug Hellmann, Senior Developer, DreamHost

If you’re an experienced Python programmer, Python in Practice will help you improve the quality, reliability, speed, maintainability, and usability of all your Python programs. Mark Summerfield focuses on four key themes: design patterns for coding elegance, faster processing through concurrency and compiled Python (Cython), high-level networking, and graphics. He identifies well-proven design patterns that are useful in Python, illuminates them with expert-quality code, and explains why some object-oriented design patterns are irrelevant to Python. He also explodes several counterproductive myths about Python programming—showing, for example, how Python can take full advantage of multicore hardware. All examples, including three complete case studies, have been tested with Python 3.3 (and, where possible, Python 3.2 and 3.1) and crafted to maintain compatibility with future Python 3.x versions. All code has been tested on Linux, and most code has also been tested on OS X and Windows. All code may be downloaded at www.qttrac.eu/pipbook.html. Coverage includes Leveraging Python’s most effective creational, structural, and behavioral design patterns Supporting concurrency with Python’s multiprocessing, threading, and concurrent.futures modules Avoiding concurrency problems using thread-safe queues and futures rather than fragile locks Simplifying networking with high-level modules, including xmlrpclib and RPyC Accelerating Python code with Cython, C-based Python modules, profiling, and other techniques Creating modern-looking GUI applications with Tkinter Leveraging today’s powerful graphics hardware via the OpenGL API using pyglet and PyOpenGL

This book constitutes the refereed proceedings of the 4th International Workshop on Ambient Assisted Living, IWAAL 2012, held in Vitoria-Gasteiz, Spain, in December 2012. The 58 research papers were carefully reviewed and selected from various submissions. The papers are organized in topical sections such as intelligent healthcare and home-care environments, AAL environments, sensing and monitoring, human-computer interaction at assistive environments, semantic modeling for realizing AAL, and application domains.

This book constitutes the refereed post-conference proceedings of the Fourth International Conference on IoT as a Service, IoTaaS 2018, which took place in Xi’an, China, in November 2018. The 50 revised full papers were carefully reviewed and selected from 83 submissions. The technical track present IoT-based services in various applications. In addition, there are three workshops: international workshop on edge computing for 5G/IoT, international workshop on green communications for internet of things, and international workshop on space-based internet of things.

New edition of the bestselling Qt4 programming book, the official Qt book

approved by Trolltech.

Enhance your cross-platform programming abilities with the powerful features and capabilities of Qt 6 Key Features Leverage Qt and C++ capabilities to create modern, cross-platform applications that can run on a wide variety of software applications Explore what's new in Qt 6 and understand core concepts in depth Build professional customized GUI applications with the help of Qt Creator Book Description Qt is a cross-platform application development framework widely used for developing 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 learn Write cross-platform code using the Qt framework to create interactive applications Build a desktop application using Qt Widgets Create a touch-friendly user interface with Qt Quick Develop a mobile application using Qt and deploy it on different platforms Get to grips with Model/View programming with Qt Widgets and Qt Quick Discover Qt's graphics framework and add animations to your user interface Write test cases using the Qt Test framework and debug code Build a translation-aware application Follow best practices in Qt to write high-performance code Who 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.

Create visually appealing and feature-rich applications by using Qt 5 and the C++ language Key Features Explore Qt 5's powerful features to easily design your GUI application Leverage Qt 5 to build attractive cross-platform applications Work with Qt modules for multimedia, networking, and location, to customize your Qt applications Book Description Qt 5, the latest version of Qt, enables you to develop applications with complex user interfaces for multiple targets. It

provides you with faster and smarter ways to create modern UIs and applications for multiple platforms. This book will teach you to design and build graphical user interfaces that are functional, appealing, and user-friendly. In the initial part of the book, you will learn what Qt 5 is and what you can do with it. You will explore the Qt Designer, discover the different types of widgets generally used in Qt 5, and then connect your application to the database to perform dynamic operations. Next, you will be introduced to Qt 5 chart which allows you to easily render different types of graphs and charts and incorporate List View Widgets in your application. You will also work with various Qt modules, like QtLocation, QtWebEngine, and the networking module through the course of the book. Finally, we will focus on cross-platform development with QT 5 that enables you to code once and run it everywhere, including mobile platforms. By the end of this book, you will have successfully learned about high-end GUI applications and will be capable of building many more powerful, cross-platform applications. What you will learn

- Implement tools provided by Qt 5 to design a beautiful GUI
- Understand different types of graphs and charts supported by Qt 5
- Create a web browser using the Qt 5 WebEngine module and web view widget
- Connect to the MySQL database and display data obtained from it onto the Qt 5 GUI
- Incorporate the Qt 5 multimedia and networking module in your application
- Develop Google Map-like applications using Qt 5's location module
- Discover cross-platform development by exporting the Qt 5 application to different platforms
- Uncover the secrets behind debugging Qt 5 and C++ applications

Who this book is for This book will appeal to developers and programmers who would like to build GUI-based applications. Basic knowledge of C++ is necessary and the basics of Qt would be helpful.

This is a computer programming book using Python that is focused on effective learning. Intentionally designed for various levels of interest and ability of learners, this book is suitable for students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skill are needed. The step-by-step guide in this book is expected to help the reader's confidence to become a programmer who can solve database programming problems. A progressive project is provided to demonstrate how to apply the concepts of MariaDB using Python. In second chapter, you will learn PyQt that consists of a number of Python bindings for cross-platform applications that combine all the strengths of Qt and Python. By using PyQt, you can include all Qt libraries in Python code, so you can write GUI applications in Python. In other words, you can use PyQt to access all the features provided by Qt through Python code. Because PyQt depends on the Qt libraries at run time, you need to install PyQt. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In the last chapter, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables.

Use Qt5 to design and build a graphical user interface that is functional, appealing, and user-

friendly for your software application About This Book Learn to make use of Qt5 to design and customize the look-and-feel of your application Improve the visual quality of your application by utilizing the graphic rendering system and animation system provided by Qt5 A good balance of visual presentation and its contents will make an application appealing yet functional Who This Book Is For This book intended for those who want to develop software using Qt5. If you want to improve the visual quality and content presentation of your software application, this book is best suited to you. What You Will Learn Customize the look and feel of your application using the widget editor provided by Qt5 Change the states of the GUI elements to make them appear in a different form Animating the GUI elements using the built-in animation system provided by Qt5 Draw shapes and 2D images in your application using Qt5's powerful rendering system Draw 3D graphics in your application by implementing OpenGL, an industry-standard graphical library to your project Build a mobile app that supports touch events and export it to your device Parse and extract data from an XML file, then present it on your software's GUI Display web content on your program and interact with it by calling JavaScript functions from C++, or calling C++ functions from the web content Access to MySQL and SQLite databases to retrieve data and display it on your software's GUI In Detail With the advancement of computer technology, the software market is exploding with tons of software choices for the user, making their expectations higher in terms of functionality and the look and feel of the application. Therefore, improving the visual quality of your application is vital in order to overcome the market competition and stand out from the crowd. This book will teach you how to develop functional and appealing software using Qt5 through multiple projects that are interesting and fun. This book covers a variety of topics such as look-and-feel customization, GUI animation, graphics rendering, implementing Google Maps, and more. You will learn tons of useful information, and enjoy the process of working on the creative projects provided in this book. Style and approach This book focuses on customizing the look and feel and utilizing the graphical features provided by Qt5. It takes a step-by-step approach, providing tons of screenshots and sample code for you to follow and learn. Each topic is explained sequentially and placed in context.

Practical Python 3 for experienced developers: use the right idioms, techniques, and features to write great code * *Written from a completely 'Python 3' point of view: teaches best practices for making the most of today's newest version of Python. *Designed to help developers get productive fast... then learn how to write any program, use any library, create any library module. *Includes expert guidance on migrating Python 2 code to Python 3. Around the world, programmers appreciate Python for its simplicity, power, expressiveness, and the sheer pleasure of writing Python code. Python 3.1 is the newest and best version of the language yet: more convenient, more consistent, and easier to use. Mark Summerfield demonstrates how to write code that takes full advantage of the latest Python 3 features and idioms.

Programming in Python 3, 2/e, brings together all the knowledge needed to write programs, use any library, and even create new library modules. The book teaches every aspect of the Python 3 language. It covers all the built-in functionality, as well as key components of Python's standard library. Structured so readers can write Python programs from chapter 1, each subsequent chapter provides further depth and broader coverage. Two new chapters have been added to this edition increasing the coverage to include parsing, debugging, testing, and profiling. Readers will master Python procedural and object-oriented techniques; creation of custom modules and packages; writing and reading files; multithreading; networking; database programming; GUIs; regular expressions; application debugging, testing, and profiling; and more. Detailed appendices include coverage of migrating applications from Python 2 to Python 3, plus a complete language reference. All sample code has been tested with the final version of Python 3 on Windows, Linux, and Mac OS X.

July 15 – August 12, Bogazici University Campus eNTERFACE'07 took place in Istanbul, at the

and support supplements are available from the author's website.

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

C++ GUI Qt 4 Bian cheng C++ GUI Programming with Qt 4 Prentice Hall Professional

This short cut is taken from Programming in Python 3: A Complete Introduction to the Python Language (Addison-Wesley, 2009) and provides self-contained coverage of Python's advanced features. Most of the techniques covered are not needed every day, but in the right circumstances they can make a crucial difference, allowing us to write clean and straightforward code rather than having to resort to hacks and workarounds to achieve what we need. The shortcut explains a range of procedural, object-oriented, and functional-style techniques, and the information provided will be a considerable addition to most Python programmers' toolboxes.

Learn how to implement the reactive programming paradigm with C++ and build asynchronous and concurrent applications
Key Features
Efficiently exploit concurrency and parallelism in your programs
Use the Functional Reactive programming model to structure programs
Understand reactive GUI programming to make your own applications using Qt
Book Description
Reactive programming is an effective way to build highly responsive applications with an easy-to-maintain code base. This book covers the essential functional reactive concepts that will help you build highly concurrent, event-driven, and asynchronous applications in a simpler and less error-prone way. C++ Reactive Programming begins with a discussion on how event processing was undertaken by different programming systems earlier. After a brisk introduction to modern C++ (C++17), you'll be taken through language-level concurrency and the lock-free programming model to set the stage for our foray into the Functional Programming model. Following this, you'll be introduced to RxCpp and its programming model. You'll be able to gain deep insights into the RxCpp library, which facilitates reactive programming. You'll learn how to deal with reactive programming using Qt/C++ (for the desktop) and C++ microservices for the Web. By the end of the book, you will be well versed with advanced reactive programming concepts in modern C++ (C++17).
What you will learn
Understand language-level concurrency in C++
Explore advanced C++ programming for the FRP
Uncover the RxCpp library and its programming model
Mix the FP and OOP constructs in C++ 17 to write well-structured programs
Master reactive microservices in C++
Create custom operators for RxCpp
Learn advanced stream processing and error handling
Who this book is for
If you're a C++ developer interested in using reactive programming to build asynchronous and concurrent applications, you'll find this book extremely useful. This book doesn't assume any previous knowledge of reactive programming.

Qt has evolved into a remarkably powerful solution for cross-platform desktop, Web, and mobile development. However, even the most experienced Qt

programmers only use a fraction of its capabilities. Moreover, practical information about Qt's newest features has been scarce until now. *Advanced Qt Programming* shows developers exactly how to take full advantage of Qt 4.5's and Qt 4.6's most valuable new APIs, application patterns, and development practices. Authored by Qt expert Mark Summerfield, this book concentrates on techniques that offer the most power and flexibility with the least added complexity. Summerfield focuses especially on model/view and graphics/view programming, hybrid desktop/Web applications, threading, and applications incorporating media and rich text. Throughout, he presents realistic, downloadable code examples, all tested on Windows, Mac OS X, and Linux using Qt 4.6 (and most tested on Qt 4.5) and designed to anticipate future versions of Qt. The book walks through using Qt with WebKit to create innovative hybrid desktop/Internet applications. Shows how to use the Phonon framework to build powerful multimedia applications. Presents state-of-the-art techniques for using model/view table and tree models, QStandardItemModels, delegates, and views, and for creating custom table and tree models, delegates, and views. Explains how to write more effective threaded programs with the QtConcurrent module and with the QThread class. Includes detailed coverage of creating rich text editors and documents. Thoroughly covers graphics/view programming: architecture, windows, widgets, layouts, scenes, and more. Introduces Qt 4.6's powerful animation and state machine frameworks. "A good book on advanced Qt programming has been missing in the arsenal of Qt programmers. I'm very happy that Mark has written one. He is a fantastic technical writer with all the necessary background to write authoritatively about Qt programming... In other words: You are in for a treat! You are holding in your hands an excellent opportunity to expand on your knowledge of all the cool stuff you can do with Qt." -Eirik Chambe-Eng, cocreator of Qt

Explore Qt Creator, Qt Quick, and QML to design and develop applications that work on desktop, mobile, embedded, and IoT platforms. Key Features: Build a solid foundation in Qt by learning about its core classes, multithreading, File I/O, and networking. Learn GUI programming and build custom interfaces using Qt Widgets, Qt Designer, and QML. Use the latest features of C++17 for improving the performance of your Qt applications.

Book Description Qt is a powerful development framework that serves as a complete toolset 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 learn

- Create programs from scratch using the Qt framework and C++ language
- Compile and debug your Qt Quick and C++ applications using Qt Creator
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- Explore various Qt Quick components that provide access to audio and video playbacks
- Develop GUI applications using both Qt and Qt Quick

Who 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. Take your C++ coding to the next level by leveraging the latest features and advanced techniques to building high performing, reliable applications. About This Book Get acquainted with the latest features in C++ 17 Take advantage of the myriad of features and possibilities that C++ offers to build real-world applications Write clear and expressive code in C++, and get insights into how to keep your code error-free Who This Book Is For This book is for experienced C++ developers. If you are a novice C++ developer, then it's highly recommended that you get a solid understanding of the C++ language before reading this book What You Will Learn Write modular C++ applications in terms of the existing and newly introduced features Identify code-smells, clean up, and refactor legacy C++ applications Leverage the possibilities provided by Cucumber and Google Test/Mock to automate test cases Test frameworks with C++ Get acquainted with the new C++17 features Develop GUI applications in C++ Build portable cross-platform applications using standard C++ features In Detail C++ has come a long way and has now been adopted in several contexts. Its key strengths are its software infrastructure and resource-constrained applications. The C++ 17 release will change the way developers write code, and this book will help you master your developing skills with C++. With real-world, practical examples explaining each concept, the book will begin by introducing you to the latest features in C++ 17. It encourages clean code practices in C++ in general, and demonstrates the GUI app-development options in C++. You'll get tips on avoiding memory leaks using smart-pointers. Next, you'll see how multi-threaded programming can help you achieve concurrency in your applications. Moving on, you'll get an in-depth understanding of the C++ Standard Template Library. We show you the concepts of implementing TDD and BDD in your C++ programs, and explore template-based generic programming, giving you the

expertise to build powerful applications. Finally, we'll round up with debugging techniques and best practices. By the end of the book, you'll have an in-depth understanding of the language and its various facets. Style and approach This straightforward guide will help you level up your skills in C++ programming, be it for enterprise software or for low-latency applications like games. Filled with real-world, practical examples, this book will take you gradually up the steep learning curve that is C++.

Inhaltsangabe:Abstract: The increasing interest in the Internet of the recent years results in a growing number of users as well as improved network infrastructure, quality and performance. This is the basis for a new kind of software, which is running via the Internet. That means the software is installed on a server connected to the Internet and accessed and executed by a remote client. Such Internet based software provides several benefits. Once distributed by a server, Internet based software is available world-wide and depending on its implementation it can be executed without previous installation on the client machine. Further software updates and patches are not distributed to the users any more. Only the server has to be updated and the new version is available to all users immediately. For commercial use it is not necessary that customers buy the software any more, they download and pay only the module they need or they pay just for every access with the server application. It is also possible to place a high-performance or application specific computer at the server side and provide computation time for special tasks to the users. Inhaltsverzeichnis:Table of Contents: Abstract1 Chapter 1: Introduction1 Chapter 2: Project Objective1 Chapter 3: Methodology2 3.1An Overview of TCP/IP Protocols and the Internet2 3.1.1Definition of Internet2 3.1.2What is TCP/IP?2 3.1.3The TCP/IP Protocol Architecture2 3.1.4The Network Interface Layer2 3.1.5The Internet Layer2 3.1.6The Transport Layer Protocol (TCP)3 3.1.7The TCP/IP Application Layer3 3.1.8TCP/IP Paket3 3.1.9TCP/IP Transport Diagram4 3.2What are Ports?4 3.3What is a Socket?4 3.4Programming Languages5 3.4.1Advantages of Java5 3.4.1.1Java is Distributed6 3.4.1.2Java is Interpreted6 3.4.1.3Java is Architecture Neutral and Portable6 3.4.2Advantages of C++6 3.4.2.1C++ is High Performanced6 3.4.2.2C++ is Platform independent with QT7 3.4.2.3C++ is a popular Language7 3.4.2.4C++ is a powerful Language7 3.4.3Solution of our Task7 Chapter 4: Detail Description of the Program8 4.1Class Overview of the Program8 4.1.1UML Illustration of the Java Client8 4.1.2Detail Description of the Java Client8 4.1.2.1AppletClient Class8 4.1.2.2NetClient Class10 4.1.2.3SocketOpener Class10 4.1.2.4ClientInputStream Class10 4.1.2.5ClientOutputStream Class11 4.1.3UML Illustration of the QT Server11 4.1.4Detail Description of the QT Server12 4.1.4.1Main [...]

An definitive overview of Qt explains how to use this powerful, cross-platform GUI toolkit to create applications for the UNIX and Win32 environments, detailing the GUI elements in Qt and how to use them, and includes information on 2D transformations, drag-and-drop, and custom image file filters. Original.

(Advanced).

Achieving efficient code through performance tuning is one of the key challenges faced by many programmers. You will master general computer performance best practices, tools which can help you find the reasons for low performance, and the most common performance pitfalls when using the QT platform.

Begin writing graphical user interface(GUI) applications for building human machine interfaces with a clear understanding of key concepts of the Qt framework Key Features Learn how to write, assemble, and build Qt application from the command line Understand key concepts like Signals and Slots in Qt Best practices and effective techniques for designing graphical user interfaces using Qt 5 Book Description Qt is a cross-platform application framework and widget toolkit that is used to create GUI applications that can run on different hardware and operating systems. The main aim of this book is to introduce Qt to the reader. Through the use of simple examples, we will walk you through building blocks without focusing too much on theory. Qt is a popular tool that can be used for building a variety of applications, such as web browsers, media players such as VLC, and Adobe Photoshop. Following Qt installation and setup, the book dives straight into helping you create your first application. You will be introduced to Widgets, Qt's interface building block, and the many varieties that are available for creating GUIs. Next, Qt's core concept of signals and slots are well illustrated with sufficient examples. The book further teaches you how to create custom widgets, signals and slots, and how to communicate useful information via dialog boxes. To cap everything off, you will be taken through writing applications that can connect to databases in order to persist data. By the end of the book, you should be well equipped to start creating your own Qt applications and confident enough to pick up more advanced Qt techniques and materials to hone your skills. What you will learn Set up and configure your machine to begin developing Qt applications Discover different widgets and layouts for constructing UIs Understand the key concept of signals and slots Understand how signals and slots help animate a GUI Explore how to create customized widgets along with signals and slots Understand how to subclass and create a custom windows application Understand how to write applications that can talk to databases. Who this book is for Anyone trying to start development of graphical user interface application will find this book useful. One does not need prior exposure to other toolkits to understand this book. In order to learn from this book you should have basic knowledge of C++ and a good grasp of Object Oriented Programming. Familiarity with GNU/Linux will be very useful though it's not a mandatory skill.

Your Hands-On Guide to Go, the Revolutionary New Language Designed for Concurrency, Multicore Hardware, and Programmer Convenience Today's most exciting new programming language, Go, is designed from the ground up to help you easily leverage all the power of today's multicore hardware. With this guide, pioneering Go programmer Mark Summerfield shows how to write code that

takes full advantage of Go's breakthrough features and idioms. Both a tutorial and a language reference, Programming in Go brings together all the knowledge you need to evaluate Go, think in Go, and write high-performance software with Go. Summerfield presents multiple idiom comparisons showing exactly how Go improves upon older languages, calling special attention to Go's key innovations. Along the way, he explains everything from the absolute basics through Go's lock-free channel-based concurrency and its flexible and unusual duck-typing type-safe approach to object-orientation. Throughout, Summerfield's approach is thoroughly practical. Each chapter offers multiple live code examples designed to encourage experimentation and help you quickly develop mastery. Wherever possible, complete programs and packages are presented to provide realistic use cases, as well as exercises. Coverage includes Quickly getting and installing Go, and building and running Go programs Exploring Go's syntax, features, and extensive standard library Programming Boolean values, expressions, and numeric types Creating, comparing, indexing, slicing, and formatting strings Understanding Go's highly efficient built-in collection types: slices and maps Using Go as a procedural programming language Discovering Go's unusual and flexible approach to object orientation Mastering Go's unique, simple, and natural approach to fine-grained concurrency Reading and writing binary, text, JSON, and XML files Importing and using standard library packages, custom packages, and third-party packages Creating, documenting, unit testing, and benchmarking custom packages

You may be contemplating your first Linux installation. Or you may have been using Linux for years and need to know more about adding a network printer or setting up an FTP server. Running Linux, now in its fifth edition, is the book you'll want on hand in either case. Widely recognized in the Linux community as the ultimate getting-started and problem-solving book, it answers the questions and tackles the configuration issues that frequently plague users, but are seldom addressed in other books. This fifth edition of Running Linux is greatly expanded, reflecting the maturity of the operating system and the teeming wealth of software available for it. Hot consumer topics such as audio and video playback applications, groupware functionality, and spam filtering are covered, along with the basics in configuration and management that always have made the book popular. Running Linux covers basic communications such as mail, web surfing, and instant messaging, but also delves into the subtleties of network configuration--including dial-up, ADSL, and cable modems--in case you need to set up your network manually. The book can make you proficient on office suites and personal productivity applications--and also tells you what programming tools are available if you're interested in contributing to these applications. Other new topics in the fifth edition include encrypted email and filesystems, advanced shell techniques, and remote login applications. Classic discussions on booting, package management, kernel recompilation, and X configuration have also been updated. The authors of Running Linux have anticipated problem areas, selected

stable and popular solutions, and provided clear instructions to ensure that you'll have a satisfying experience using Linux. The discussion is direct and complete enough to guide novice users, while still providing the additional information experienced users will need to progress in their mastery of Linux. Whether you're using Linux on a home workstation or maintaining a network server, *Running Linux* will provide expert advice just when you need it.

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