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## **Programming With Qt Writing Portable Gui Applicat Writing Portable Gui Applications On Unix And Win32 By Matthias Kalle Dalheimer 1999 04 11**

Python 3 is the best version of the language yet: It is more powerful, convenient, consistent, and expressive than ever before. Now, leading Python programmer Mark Summerfield demonstrates how to write code that takes full advantage of Python 3's features and idioms. The first book written from a completely "Python 3" viewpoint, *Programming in Python 3* brings together all the knowledge you need to write any program, use any standard or third-party Python 3 library, and create new library modules of your own. Summerfield draws on his many years of Python experience to share deep insights into Python 3 development you won't find anywhere else. He begins by illuminating Python's "beautiful heart": the eight key elements of Python you need to write robust, high-performance programs. Building on these core elements, he introduces new topics designed to strengthen your practical expertise—one concept and hands-on example at a time. This book's coverage includes Developing in Python using procedural, object-oriented, and functional programming paradigms Creating custom

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packages and modules Writing and reading binary, text, and XML files, including optional compression, random access, and text and XML parsing Leveraging advanced data types, collections, control structures, and functions Spreading program workloads across multiple processes and threads Programming SQL databases and key-value DBM files Utilizing Python's regular expression mini-language and module Building usable, efficient, GUI-based applications Advanced programming techniques, including generators, function and class decorators, context managers, descriptors, abstract base classes, metaclasses, and more Programming in Python 3 serves as both tutorial and language reference, and it is accompanied by extensive downloadable example code—all of it tested with the final version of Python 3 on Windows, Linux, and Mac OS X. Regular expressions are an extremely powerful tool for manipulating text and data. They are now standard features in a wide range of languages and popular tools, including Perl, Python, Ruby, Java, VB.NET and C# (and any language using the .NET Framework), PHP, and MySQL. If you don't use regular expressions yet, you will discover in this book a whole new world of mastery over your data. If you already use them, you'll appreciate this book's unprecedented detail and breadth of coverage. If you think you know all you need to know about regular expressions, this book is a stunning eye-opener. As this book shows, a

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command of regular expressions is an invaluable skill. Regular expressions allow you to code complex and subtle text processing that you never imagined could be automated. Regular expressions can save you time and aggravation. They can be used to craft elegant solutions to a wide range of problems. Once you've mastered regular expressions, they'll become an invaluable part of your toolkit. You will wonder how you ever got by without them. Yet despite their wide availability, flexibility, and unparalleled power, regular expressions are frequently underutilized. Yet what is power in the hands of an expert can be fraught with peril for the unwary. Mastering Regular Expressions will help you navigate the minefield to becoming an expert and help you optimize your use of regular expressions. Mastering Regular Expressions, Third Edition, now includes a full chapter devoted to PHP and its powerful and expressive suite of regular expression functions, in addition to enhanced PHP coverage in the central "core" chapters. Furthermore, this edition has been updated throughout to reflect advances in other languages, including expanded in-depth coverage of Sun's `java.util.regex` package, which has emerged as the standard Java regex implementation. Topics include: A comparison of features among different versions of many languages and tools How the regular expression engine works Optimization (major savings available here!) Matching just what you want, but not

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what you don't want Sections and chapters on individual languages Written in the lucid, entertaining tone that makes a complex, dry topic become crystal-clear to programmers, and sprinkled with solutions to complex real-world problems, Mastering Regular Expressions, Third Edition offers a wealth information that you can put to immediate use. Reviews of this new edition and the second edition: "There isn't a better (or more useful) book available on regular expressions." --Zak Greant, Managing Director, eZ Systems "A real tour-de-force of a book which not only covers the mechanics of regexes in extraordinary detail but also talks about efficiency and the use of regexes in Perl, Java, and .NET...If you use regular expressions as part of your professional work (even if you already have a good book on whatever language you're programming in) I would strongly recommend this book to you." --Dr. Chris Brown, Linux Format "The author does an outstanding job leading the reader from regex novice to master. The book is extremely easy to read and chock full of useful and relevant examples...Regular expressions are valuable tools that every developer should have in their toolbox. Mastering Regular Expressions is the definitive guide to the subject, and an outstanding resource that belongs on every programmer's bookshelf. Ten out of Ten Horseshoes." --Jason Menard, Java Ranch

Cross-Platform Development in C++ is the definitive guide to developing portable

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C/C++ application code that will run natively on Windows, Macintosh, and Linux/Unix platforms without compromising functionality, usability, or quality. Long-time Mozilla and Netscape developer Syd Logan systematically addresses all the technical and management challenges associated with software portability from planning and design through coding, testing, and deployment. Drawing on his extensive experience with cross-platform development, Logan thoroughly covers issues ranging from the use of native APIs to the latest strategies for portable GUI development. Along the way, he demonstrates how to achieve feature parity while avoiding the problems inherent to traditional cross-platform development approaches. This book will be an indispensable resource for every software professional and technical manager who is building new cross-platform software, porting existing C/C++ software, or planning software that may someday require cross-platform support. Build Cross-Platform Applications without Compromise Throughout the book, Logan illuminates his techniques with realistic scenarios and extensive, downloadable code examples, including a complete cross-platform GUI toolkit based on Mozilla's XUL that you can download, modify, and learn from. Coverage includes Policies and procedures used by Netscape, enabling them to ship Web browsers to millions of users on Windows, Mac OS, and Linux Delivering functionality and interfaces that are

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consistent on all platforms Understanding key similarities and differences among leading platform-specific GUI APIs, including Win32/.NET, Cocoa, and Gtk+ Determining when and when not to use native IDEs and how to limit their impact on portability Leveraging standards-based APIs, including POSIX and STL Avoiding hidden portability pitfalls associated with floating point, char types, data serialization, and types in C++ Utilizing platform abstraction libraries such as the Netscape Portable Runtime (NSPR) Establishing an effective cross-platform bug reporting and tracking system Creating builds for multiple platforms and detecting build failures across platforms when they occur Understanding the native runtime environment and its impact on installation Utilizing wxWidgets to create multi-platform GUI applications from a single code base Thoroughly testing application portability Understanding cross-platform GUI toolkit design with Trixul

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. Advanced Linux Programming is divided into two parts. The first covers generic UNIX system services, but with a particular eye towards Linux specific information. This portion of the book will be of use even to advanced programmers who have worked with other Linux systems since it will cover Linux specific details and differences. For programmers without UNIX experience, it will be even more valuable. The

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second section covers material that is entirely Linux specific. These are truly advanced topics, and are the techniques that the gurus use to build great applications. While this book will focus mostly on the Application Programming Interface (API) provided by the Linux kernel and the C library, a preliminary introduction to the development tools available will allow all who purchase the book to make immediate use of Linux.

The open source nature of Linux has always intrigued embedded engineers, and the latest kernel releases have provided new features enabling more robust functionality for embedded applications. Enhanced real-time performance, easier porting to new architectures, support for microcontrollers and an improved I/O system give embedded engineers even more reasons to love Linux! However, the rapid evolution of the Linux world can result in an eternal search for new information sources that will help embedded programmers to keep up! This completely updated second edition of noted author Doug Abbott's respected introduction to embedded Linux brings readers up-to-speed on all the latest developments. This practical, hands-on guide covers the many issues of special concern to Linux users in the embedded space, taking into account their specific needs and constraints. You'll find updated information on:

- The GNU toolchain
- Configuring and building the kernel
- BlueCat Linux
- Debugging on the target

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• Kernel Modules • Devices Drivers • Embedded Networking • Real-time programming tips and techniques • The RTAI environment • And much more The accompanying CD-ROM contains all the source code from the book's examples, helpful software and other resources to help you get up to speed quickly. This is still the reference you'll reach for again and again! \* 100+ pages of new material adds depth and breadth to the 2003 embedded bestseller. \* Covers new Linux kernel 2.6 and the recent major OS release, Fedora. \* Gives the engineer a guide to working with popular and cost-efficient open-source code.

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

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.

• The Goal• The Form• The Behavior• The Interaction• The Cast• The Gizmos Introduces the features of the C programming language, discusses data types, variables, operators, control flow, functions, pointers, arrays, and structures, and looks at the UNIX system interface

Blend the power of Qt with OpenCV to build cross-platform computer vision applications Key Features ? Start creating robust applications with the power of OpenCV and Qt combined ?

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Learn from scratch how to develop cross-platform computer vision applications ? Accentuate your OpenCV applications by developing them with Qt Book Description Developers have been using OpenCV library to develop 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 Qt 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

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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.

Complete and comprehensive reference with in-depth coverage of the core topics. Learn how to program core systems and find out about such topics as interprocess communications, user interfaces, device drives and X Windows system. Written by top Linux programming consultants Kurt Wall and Mark Watson and reviewed by Linux Journal writer and freelance developer, Michael Hamilton. Practical, tested examples of how to apply the best programming practices in the Linux environment.

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

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Qt 4.3 and PyQt 4.3.

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.

Master C++ "The Qt Way" with Modern Design Patterns and Efficient Reuse This fully updated, classroom-tested book teaches C++ "The Qt Way," emphasizing design patterns and efficient reuse. Readers will master both the C++ language and Qt libraries, as they learn to develop maintainable software with well-defined code layers and simple, reusable classes and functions. Every chapter of this edition has been improved with new content, better organization, or both. Readers will find extensively revised coverage of QObjects, Reflection, Widgets, Main Windows, Models and Views, Databases, Multi-Threaded Programming, and Reflection. This edition introduces the powerful new Qt Creator IDE; presents new multimedia APIs; and offers extended coverage of Qt Designer and C++ Integration. It has been restructured to help readers start writing software immediately and write robust, effective software sooner. The authors introduce several new design patterns, add many quiz questions and labs, and present more efficient solutions relying on new Qt features and best practices. They also provide an up-to-date C++ reference section and a complete application case study. Master C++ keywords, literals, identifiers, declarations, types, and type conversions. Understand classes and objects, organize them, and describe their interrelationships. Learn consistent programming style and naming rules. Use lists, functions, and other essential techniques. Define inheritance relationships to share code and promote reuse. Learn how code

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libraries are designed, built, and reused. Work with QObject, the base class underlying much of Qt. Build graphical user interfaces with Qt widgets. Use templates to write generic functions and classes. Master advanced reflective programming techniques. Use the Model-View framework to cleanly separate data and GUI classes. Validate input using regular expressions and other techniques. Parse XML data with SAX, DOM, and QDomStreamReader. Master today's most valuable creational and structural design patterns. Create, use, monitor, and debug processes and threads. Access databases with Qt's SQL classes. Manage memory reliably and efficiently. Understand how to effectively manage QThreads and use QtConcurrent algorithms. [Click here to obtain supplementary materials for this book.](#)

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

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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.

The Art of UNIX Programming poses the belief that understanding the unwritten UNIX engineering tradition and mastering its design patterns will help programmers of all stripes to become better programmers. This book attempts to capture the engineering wisdom and design philosophy of the UNIX, Linux, and Open Source software development community as it has evolved over the past three decades, and as it is applied today by the most experienced programmers. Eric Raymond offers the next generation of "hackers" the unique opportunity to learn the connection between UNIX philosophy and practice through careful case studies of the very best UNIX/Linux programs.

Learn the fundamentals of QT 5 framework to develop interactive cross-platform applications Key Features A practical guide on the fundamentals of application

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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 themselves to and from

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JSON · Manage data persistence 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.

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

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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

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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.

"This book is the best way for beginning developers to learn wxWidgets programming in C++. It is a must-have for programmers thinking of using wxWidgets and those already using it." –Mitch Kapor, founder of Lotus Software and the Open Source Applications Foundation Build advanced cross-platform applications that support native look-and-feel on Windows, Linux, Unix, Mac OS X, and even Pocket PC Master wxWidgets from start to finish—even if you've never built GUI applications before Leverage advanced wxWidgets capabilities: networking, multithreading, streaming, and more Foreword by Mitch Kapor, founder, Lotus Development and Open Source Application Foundation

wxWidgets is an easy-to-use, open source C++ API for writing GUI applications that run on Windows, Linux, Unix, Mac OS X, and even Pocket PC—supporting each platform's native look and feel with virtually no additional coding. Now, its creator and two leading developers teach you all you need to know to write robust cross-platform software with wxWidgets. This book covers everything from

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dialog boxes to drag-and-drop, from networking to multithreading. It includes all the tools and code you need to get great results, fast. From AMD to AOL, Lockheed Martin to Xerox, world-class developers are using wxWidgets to save money, increase efficiency, and reach new markets. With this book, you can, too. wxWidgets quickstart: event/input handling, window layouts, drawing, printing, dialogs, and more Working with window classes, from simple to advanced Memory management, debugging, error checking, internationalization, and other advanced topics Includes extensive code samples for Windows, Linux (GTK+), and Mac OS X

Building desktop applications doesn't have to be difficult. Using Python & Qt5 you can create fully functional desktop apps in minutes. This is the 4th Edition of Create GUI Applications, updated for 2020 & PySide2 Starting from the very basics, this book takes you on a tour of the key features of PySide2 you can use to build real-life applications. Learn the fundamental building blocks of Qt applications — Widgets, Layouts & Signals and learn how Qt uses the event loop to handle and respond to user input. Design beautiful UIs with Qt Designer and customize the look and feel of your applications with Qt Style Sheets and custom widgets. Use Qt's MVC-like ModelViews framework to connect data sources to your widgets, including SQL databases, numpy and pandas data tables, to build-

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data driven application. Visualize data using matplotlib & PyQtGraph and connect with external data sources to build live dashboards. Learn how to use threads and processes to manage long-running tasks and communicate with external services. Parse data and visualize the output in logs and progress bars. The book includes usability and architectural tips to help you build maintainable and usable PySide2 applications from the start. Finally, once your application is ready to be released, discover how to package it up into professional-quality installers, ready to ship. The book includes - 665 pages of hands-on PySide2 exercises - 211 code examples to experiment with - Support forum for all readers - Includes 4 example apps - Compatible with Python 3.4+ - Code free to reuse in your own projects

Literate programming is a programming methodology that combines a programming language with a documentation language, making programs more easily maintained than programs written only in a high-level language. A literate programmer is an essayist who writes programs for humans to understand. When programs are written in the recommended style they can be transformed into documents by a document compiler and into efficient code by an algebraic compiler. This anthology of essays includes Knuth's early papers on related topics such as structured programming as well as the Computer Journal article

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that launched literate programming. Many examples are given, including excerpts from the programs for TeX and METAFONT. The final essay is an example of CWEB, a system for literate programming in C and related languages. Index included.

Describes the concepts of programming with Linux, covering such topics as shell programming, file structure, managing memory, using MySQL, debugging, processes and signals, and GNOME.

Programming with QtWriting Portable GUI applications on Unix and Win32"O'Reilly Media, Inc."

Multicore and GPU Programming offers broad coverage of the key parallel computing skillsets: multicore CPU programming and manycore "massively parallel" computing. Using threads, OpenMP, MPI, and CUDA, it teaches the design and development of software capable of taking advantage of today's computing platforms incorporating CPU and GPU hardware and explains how to transition from sequential programming to a parallel computing paradigm.

Presenting material refined over more than a decade of teaching parallel computing, author Gerassimos Barlas minimizes the challenge with multiple examples, extensive case studies, and full source code. Using this book, you can develop programs that run over distributed memory machines using MPI, create

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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 multicore machines. Comprehensive coverage of all major multicore programming tools, including threads, OpenMP, MPI, and CUDA Demonstrates parallel programming design patterns and examples of how different tools and paradigms can be integrated for superior performance Particular focus on the emerging area of divisible load theory and its impact on load balancing and distributed systems Download source code, examples, and instructor support materials on the book's companion website 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.

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

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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

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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 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).

Straight from Trolltech, this book covers all one needs to build industrial-strength applications with Qt 3.2.x and C++-applications that run natively on Windows, Linux/UNIX, Mac OS X, and embedded Linux with no source code changes. Includes a CD with the Qt 3.2 toolset and Borland C++ compilers--including a noncommercial Qt 3.2 for Windows available nowhere else.

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.

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

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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

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more Introduces Qt 4.6's powerful animation and state machine frameworks  
Software -- Operating Systems.

Contains lessons on cross-platform software development, covering such topics as portability techniques, source control, compilers, user interfaces, and scripting languages.

This book provides a complete overview of novel and state of art sensing technologies and geotechnologies relevant to support management and conservation of CH sites, monuments and works of art. The book is organized in an introduction stating the motivations and presenting the overall content of the volume and four parts. The first part focuses on remote sensing and geophysics for the study of human past and cultural heritage at site scale and as element of the surrounding territory. The second part presents an overview of non invasive technologies for investigating monuments and works of art. The third part presents the new opportunities of ICT for an improved and safe cultural heritage fruition, from the virtual and augmented reality of historical context to artifact tracking. Finally, the forth part presents a significant worldwide set of success cases of the exploitation of the integration of geotechnologies in archeology and architectural heritage management. This book is of interest to researchers, experts of heritage science, archaeologists, students, conservators and other professionals of cultural heritage.

Take your C++ coding to the next level by leveraging the latest features and advanced

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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 application 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

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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++.

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,

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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 where *Programming 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.

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

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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.

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An Introduction to Programming by the Inventor of C++ Preparation for Programming in the Real World The book assumes that you aim eventually to write non-trivial programs, whether for work in software development or in some other technical field. Focus on Fundamental Concepts and Techniques The book explains fundamental concepts and techniques in greater depth than traditional introductions. This approach will give you a solid foundation for writing useful, correct, maintainable, and efficient code.

Programming with Today's C++ (C++11 and C++14) The book is an introduction to programming in general, including object-oriented programming and generic programming. It is also a solid introduction to the C++ programming language, one of the most widely used languages for real-world software. The book presents modern C++ programming techniques from the start, introducing the C++ standard library and C++11 and C++14 features to simplify programming tasks. For Beginners--And Anyone Who Wants to Learn Something New The book is primarily designed for people who have never programmed before, and it has been tested with many thousands of first-year university students. It has also been extensively used for self-study. Also, practitioners and advanced students have gained new insight and guidance by seeing how a master approaches the elements of his art. Provides a Broad View The first half of the book covers a wide range of essential concepts, design and programming techniques, language features, and libraries. Those will enable you to write programs involving input, output, computation, and simple graphics. The second half explores

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more specialized topics (such as text processing, testing, and the C programming language) and provides abundant reference material. Source code and support supplements are available from the author's website.

Offers the syntax for keywords, operators, functions, and classes; covers the Standard Template Library and I/O system; provides programming tips; and discusses problem-solving in C/C++ environments.

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

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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.

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