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Rapid GUI Programming with Python and Qt - Mark Summerfield 2015-09-28
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. Coverge 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

C++ Reactive Programming - Praseed Pai 2018-06-29
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.

C++ GUI Programming with Qt 4 - Jasmin Blanchette 2006
Learn GUI programming using Qt4, the powerful crossplatform framework, with the only official Qt book approved by Trolltech.

The Quick Python Book - Vernon L. Ceder 2010
Introduces the programming language's syntax, control flow, and basic data structures and covers its interaction with applications and mangement of large collections of code.

Python Scripting for Computational Science - Hans Petter Langtangen 2013-03-14
Scripting with Python makes you productive and increases the reliability of your scientific work. Here, the author teaches you how to develop tailored, flexible, and efficient working environments built from small programs (scripts) written in Python. The focus is on examples and applications of relevance to computational science: gluing existing applications and tools, e.g. for automating simulation, data analysis, and visualization; steering simulations and computational experiments; equipping programs with graphical user interfaces; making computational Web services; creating interactive interfaces with a Maple/Matlab-like syntax to numerical applications in C/C++ or Fortran; and building flexible object-oriented programming interfaces to existing C/C++ or Fortran libraries.

Node Cookbook - Bethany Griggs 2020-11-25
Discover practical recipes to get to grips with Node.js concepts and programming models for delivering a scalable server-side for your applications Key FeaturesImplement practical solutions for scaling, securing, and testing your Node.js web apps effectivelyBuild and deploy scalable microservices architecture with the power of Node.js 14Discover techniques for debugging and testing Node.js applicationsBook Description A key technology for building web applications and tooling, Node.js brings JavaScript to the server enabling full-stack development in a common language. This fourth edition of the Node Cookbook is updated with the latest Node.js features and the evolution of the Node.js framework ecosystems. This practical guide will help you to get started with creating, debugging, and deploying your Node.js applications and cover solutions to common problems, along with

tips to avoid pitfalls. You'll become familiar with the Node.js development model by learning how to handle files and build simple web applications and then explore established and emerging Node.js web frameworks such as Express.js and Fastify. As you advance, you'll discover techniques for detecting problems in your applications, handling security concerns, and deploying your applications to the cloud. This recipe-based guide will help you to easily navigate through various core topics of server-side web application development with Node.js. By the end of this Node book, you'll be well-versed with core Node.js concepts and have gained the knowledge to start building performant and scalable Node.js applications. What you will learnUnderstand the Node.js asynchronous programming modelCreate simple Node.js applications using modules and web frameworksDevelop simple web applications using web frameworks such as Fastify and ExpressDiscover tips for testing, optimizing, and securing your web applicationsCreate and deploy Node.js microservicesDebug and diagnose issues in your Node.js applicationsWho this book is for The book is for web developers who have knowledge of JavaScript and want to gain a broad understanding of Node.js concepts for server-side development.

Python Programming for Arduino - Pratik Desai 2015-02-27
This is the book for you if you are a student, hobbyist, developer, or designer with little or no programming and hardware prototyping experience, and you want to develop IoT applications. If you are a software developer or a hardware designer and want to create connected devices applications, then this book will help you get started.

Tkinter GUI Application Development Cookbook - Alejandro Rodas de Paz 2018-03-30
Discover solutions to all your Tkinter and Python GUI development problems Key Features Integrate efficient Python GUI programming techniques with Tkinter Efficiently implement advanced MVC architectures in your Python GUI apps Solve all your problems related to Tkinter and Python GUI development Book Description As one of the more versatile programming languages, Python is well-known for its batteries-included philosophy, which includes a rich set of modules in its standard library; Tkinter is the library included for building desktop applications. Due to this, Tkinter is a common choice for rapid GUI development, and more complex applications can benefit from the full capabilities of this library. This book covers all of your Tkinter and Python GUI development problems and solutions. Tkinter GUI Application Development Cookbook starts with an overview of Tkinter classes and at the same time provides recipes for basic topics, such as layout patterns and event handling. Next, we cover how to develop common GUI patterns, such as entering and saving data, navigating through menus and dialogs, and performing long-running actions in the background.You can then make your apps leverage network resources effectively and perform graphical operations on a canvas and related tasks such as detecting collisions between items. Finally, this book covers using themed widgets, an extension of Tk widgets that have a more native look and feel. Finally, this book covers using the canvas and themed widgets. By the end of the book, you will have an in-depth knowledge of Tkinter classes, and will know how to use them to build efficient and rich GUI applications. What you will learn Add widgets and handle user events Lay out widgets within windows using frames and the different geometry managers Configure widgets so that they have a customized appearance and behavior Improve the navigation of your apps with menus and dialogs Apply object-oriented programming techniques in Tkinter applications Use threads to achieve responsiveness and update the GUI Explore the capabilities of the canvas widget and the types of items that can be added to it Extend Tkinter applications with the TTK (themed Tkinter) module Who this book is for This book is for Python developers who are familiar with the basics of the language syntax, data structures, and OOP. You do not need previous experience with Tkinter or other GUI development libraries.

Python Projects - Laura Cassell 2014-12-04
A guide to completing Python projects for those ready to take their skills to the next level Python Projects is the ultimate resource for the Python programmer with basic skills who is ready to move beyond tutorials and start building projects. The preeminent guide to bridge the gap between

learning and doing, this book walks readers through the "where" and "how" of real-world Python programming with practical, actionable instruction. With a focus on real-world functionality, Python Projects details the ways that Python can be used to complete daily tasks and bring efficiency to businesses and individuals alike. Python Projects is written specifically for those who know the Python syntax and lay of the land, but may still be intimidated by larger, more complex projects. The book provides a walk-through of the basic set-up for an application and the building and packaging for a library, and explains in detail the functionalities related to the projects. Topics include: *How to maximize the power of the standard library modules *Where to get third party libraries, and the best practices for utilization *Creating, packaging, and reusing libraries within and across projects *Building multi-layered functionality including networks, data, and user interfaces *Setting up development environments and using virtualenv, pip, and more Written by veteran Python trainers, the book is structured for easy navigation and logical progression that makes it ideal for individual, classroom, or corporate training. For Python developers looking to apply their skills to real-world challenges, Python Projects is a goldmine of information and expert insight.

Introduction to Design Patterns in C++ with Qt - Alan Ezust 2011-08-29

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 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 QXmlStreamReader. 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.

Gui Programming With Python - Boudewijn Rempt 2001

The Definitive Guide to the Xen Hypervisor - David Chisnall 2008

"The Xen hypervisor has become an incredibly strategic resource for the industry, as the focal point of innovation in cross-platform virtualization technology. David's book will play a key role in helping the Xen community and ecosystem to grow." – Simon Crosby, CTO, XenSource An Under-the-Hood Guide to the Power of Xen Hypervisor Internals The Definitive Guide to the Xen Hypervisor is a comprehensive handbook on the inner workings of XenSource's powerful open source paravirtualization solution. From architecture to kernel internals, author David Chisnall exposes key code components and shows you how the

technology works, providing the essential information you need to fully harness and exploit the Xen hypervisor to develop cost-effective, highperformance Linux and Windows virtual environments. Granted exclusive access to the XenSource team, Chisnall lays down a solid framework with overviews of virtualization and the design philosophy behind the Xen hypervisor. Next, Chisnall takes you on an in-depth exploration of the hypervisor's architecture, interfaces, device support, management tools, and internals—including key information for developers who want to optimize applications for virtual environments. He reveals the power and pitfalls of Xen in real-world examples and includes hands-on exercises, so you gain valuable experience as you learn. This insightful resource gives you a detailed picture of how all the pieces of the Xen hypervisor fit and work together, setting you on the path to building and implementing a streamlined, cost-efficient virtual enterprise. Coverage includes Understanding the Xen virtual architecture Using shared info pages, grant tables, and the memory management subsystem Interpreting Xen's abstract device interfaces Configuring and managing device support, including event channels, monitoring with XenStore, supporting core devices, and adding new device types Navigating the inner workings of the Xen API and userspace tools Coordinating virtual machines with the Scheduler Interface and API, and adding a new scheduler Securing near-native speed on guest machines using HVM Planning for future needs, including porting, power management, new devices, and unusual architectures

Create GUI Applications with Python & Qt5 (PySide2 Edition) - Martin Fitzpatrick 2020-06-26
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 PySide you can use to build real-life applications. Learn the fundamental building blocks of PySide applications — Widgets, Layouts & Signals and learn how PySide 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-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 - Includes 4 example apps - Compatible with Python 3.4+ - Code free to reuse in your own projects

Foundations of Qt Development - Johan Thelin 2007-10-18
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.

Python 3 Object-oriented Programming - Dusty Phillips 2015-08-20
Unleash the power of Python 3 objects About This Book Stop writing scripts and start architecting programs Learn the latest Python syntax and libraries A practical, hands-on tutorial that teaches you all about abstract design patterns and how to implement them in Python 3 Who This Book Is For If you're new to object-oriented programming techniques, or if you have basic Python skills and wish to learn in depth how and when to correctly apply object-oriented programming in Python to design software, this is the book for you. What You Will Learn

Implement objects in Python by creating classes and defining methods Separate related objects into a taxonomy of classes and describe the properties and behaviors of those objects via the class interface Extend class functionality using inheritance Understand when to use object-oriented features, and more importantly when not to use them Discover what design patterns are and why they are different in Python Uncover the simplicity of unit testing and why it's so important in Python Grasp common concurrency techniques and pitfalls in Python 3 Exploit object-oriented programming in key Python technologies such as Kivy and Django. Object-oriented programming concurrently with asyncio In Detail Python 3 is more versatile and easier to use than ever. It runs on all major platforms in a huge array of use cases. Coding in Python minimizes development time and increases productivity in comparison to other languages. Clean, maintainable code is easy to both read and write using Python's clear, concise syntax. Object-oriented programming is a popular design paradigm in which data and behaviors are encapsulated in such a way that they can be manipulated together. Many modern programming languages utilize the powerful concepts behind object-oriented programming and Python is no exception. Starting with a detailed analysis of object-oriented analysis and design, you will use the Python programming language to clearly grasp key concepts from the object-oriented paradigm. This book fully explains classes, data encapsulation, inheritance, polymorphism, abstraction, and exceptions with an emphasis on when you can use each principle to develop well-designed software. You'll get an in-depth analysis of many common object-oriented design patterns that are more suitable to Python's unique style. This book will not just teach Python syntax, but will also build your confidence in how to program. You will also learn how to create maintainable applications by studying higher level design patterns. Following this, you'll learn the complexities of string and file manipulation, and how Python distinguishes between binary and textual data. Not one, but two very powerful automated testing systems will be introduced in the book. After you discover the joy of unit testing and just how easy it can be, you'll study higher level libraries such as database connectors and GUI toolkits and learn how they uniquely apply object-oriented principles. You'll learn how these principles will allow you to make greater use of key members of the Python eco-system such as Django and Kivy. This new edition includes all the topics that made Python 3 Object-oriented Programming an instant Packt classic. It's also packed with updated content to reflect recent changes in the core Python library and covers modern third-party packages that were not available on the Python 3 platform when the book was first published. Style and approach Throughout the book you will learn key object-oriented programming techniques demonstrated by comprehensive case studies in the context of a larger project.

Python for Finance - Yves Hilpisch 2014-12-11
The financial industry has adopted Python at a tremendous rate recently, with some of the largest investment banks and hedge funds using it to build core trading and risk management systems. This hands-on guide helps both developers and quantitative analysts get started with Python, and guides you through the most important aspects of using Python for quantitative finance. Using practical examples through the book, author Yves Hilpisch also shows you how to develop a full-fledged framework for Monte Carlo simulation-based derivatives and risk analytics, based on a large, realistic case study. Much of the book uses interactive IPython Notebooks, with topics that include: Fundamentals: Python data structures, NumPy array handling, time series analysis with pandas, visualization with matplotlib, high performance I/O operations with PyTables, date/time information handling, and selected best practices Financial topics: mathematical techniques with NumPy, SciPy and SymPy such as regression and optimization; stochastics for Monte Carlo simulation, Value-at-Risk, and Credit-Value-at-Risk calculations; statistics for normality tests, mean-variance portfolio optimization, principal component analysis (PCA), and Bayesian regression Special topics: performance Python for financial algorithms, such as vectorization and parallelization, integrating Python with Excel, and building financial applications based on Web technologies
Programming in Python 3 - Mark Summerfield 2009-11-12

A Fully Revised Edition Featuring New Material on Coroutines, Debugging, Testing, Parsing, String Formatting, and More 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. Programming in Python 3, Second Edition, 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. Coverage includes Developing in Python using procedural, objectoriented, and functional programming paradigms Creating custom 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 Debugging techniques–and using Test Driven Development to avoid bugs in the first place Utilizing Python's regular expression mini-language and module Parsing techniques, including how to use the third-party PyParsing and PLY modules Building usable, efficient, GUI-based applications Advanced programming techniques, including generators, function and class decorators, context managers, descriptors, abstract base classes, metaclasses, coroutines, and more Programming in Python 3, Second Edition, serves as both tutorial and language reference. It assumes some prior programming experience, and it is accompanied by extensive downloadable example code–all of it tested with Python 3 on Windows, Linux, and Mac OS X.
Cross-Platform GUI Programming with wxWidgets - Julian Smart

2005-07-26
"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 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
Programming in Python 3 - Mark Summerfield 2008-12-16
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 new coverage includes Developing in Python using procedural, object-oriented, and functional programming paradigms Creating custom 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.

Application Development with Qt Creator, 2nd Edition - Ray Rischpater 2014-11-27
This book is great for developers who are new to Qt and Qt Creator and who are interested in harnessing the power of Qt for cross-platform development. If you have basic experience programming in C++, you have what it takes to create engaging cross-platform applications using Qt and Qt Creator!

Mastering Python for Finance - James Ma Weiming 2015-04-29
If you are an undergraduate or graduate student, a beginner to algorithmic development and research, or a software developer in the financial industry who is interested in using Python for quantitative methods in finance, this is the book for you. It would be helpful to have a bit of familiarity with basic Python usage, but no prior experience is required.

PySide GUI Application Development - Venkateshwaran Loganathan 2013-10
An accessible and practical guide to developing GUI's for Python applications.This book is written for Python programmers who want to learn about GUI programming. It is also suitable for those who are new to Python but are familiar with object-oriented programming.

Maya Python for Games and Film - Adam Mechtley 2011-09-28
Maya Python for Games and Film is the first book to focus exclusively on how to implement Python with Maya. Written by trusted authorities in the field, this in-depth guide will help you master Maya Python, whether you're a seasoned technical artist looking to make the transition from MEL to Python or an aspiring artist not wanting to scramble for information.

Beginning PyQt - Joshua M. Willman 2020-05-28
Learn GUI application development from the ground up, taking a practical approach by building simple projects that teach the fundamentals of using PyQt. Each chapter gradually moves on to teach more advanced and diverse concepts to aid you in designing interesting applications using the latest version of PyQt. You'll start by reviewing the beginning steps of GUI development from, using different projects in every chapter to teach new widgets or concepts that will help you to build better UIs. As you follow along, you will construct more elaborate GUIs, covering topics that include storing data using the clipboard, graphics and animation, support for SQL databases, and multithreading applications. Using this knowledge, you'll be able to build a photo editor, games, a text editor, a working web browser and an assortment of other GUIs. Beginning PyQt will guide you through the process of creating UIs to help you bring your own ideas to life. Learn what is necessary to begin making your own applications and more with PyQt! What You'll Learn Create your own cross-platform GUIs with PyQt and PythonUse PyQt's many widgets and apply them to building real applicationsBuild larger applications and break the steps into smaller parts for deeper

understandingWork with complex applications in PyQt, from animation to databases and more Who This Book Is For Individuals who already have a fundamental understanding of the Python programming language and are looking to either expand their skills in Python or have a project where they need to create a UI, but may have no prior experience or no idea how to begin.

The Definitive ANTLR 4 Reference - Terence Parr 2013-01-15
Programmers run into parsing problems all the time. Whether it's a data format like JSON, a network protocol like SMTP, a server configuration file for Apache, a PostScript/PDF file, or a simple spreadsheet macro language--ANTLR v4 and this book will demystify the process. ANTLR v4 has been rewritten from scratch to make it easier than ever to build parsers and the language applications built on top. This completely rewritten new edition of the bestselling Definitive ANTLR Reference shows you how to take advantage of these new features. Build your own languages with ANTLR v4, using ANTLR's new advanced parsing technology. In this book, you'll learn how ANTLR automatically builds a data structure representing the input (parse tree) and generates code that can walk the tree (visitor). You can use that combination to implement data readers, language interpreters, and translators. You'll start by learning how to identify grammar patterns in language reference manuals and then slowly start building increasingly complex grammars. Next, you'll build applications based upon those grammars by walking the automatically generated parse trees. Then you'll tackle some nasty language problems by parsing files containing more than one language (such as XML, Java, and Javadoc). You'll also see how to take absolute control over parsing by embedding Java actions into the grammar. You'll learn directly from well-known parsing expert Terence Parr, the ANTLR creator and project lead. You'll master ANTLR grammar construction and learn how to build language tools using the built-in parse tree visitor mechanism. The book teaches using real-world examples and shows you how to use ANTLR to build such things as a data file reader, a JSON to XML translator, an R parser, and a Java class->interface extractor. This book is your ticket to becoming a parsing guru! What You Need: ANTLR 4.0 and above. Java development tools. Ant build system optional(needed for building ANTLR from source)

Create GUI Applications with Python & Qt6 (PySide6 Edition) - Martin Fitzpatrick 2021-03-01
Building desktop applications doesn't have to be difficult. Using Python & Qt5 you can create fully functional desktop apps in minutes. This is the 5th Edition of Create GUI Applications, updated for 2021 & PySide6 Starting from the very basics, this book takes you on a tour of the key features of PySide6 you can use to build real-life applications. Learn the fundamental building blocks of PySide6 applications — Widgets, Layouts & Signals and learn how PySide 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-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 PySide6 applications from the start. - 665 pages of hands-on PySide6 exercises - 211 code examples to experiment with - Includes 4 example apps - Compatible with Python 3.6+ - Code free to reuse in your own projects

Learning Python - Mark Lutz 2009-10-06
Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly -- whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lutz's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test

Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find lots of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python modules: packages of statements, functions, and other tools, organized into larger components Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model, and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

Qt5 Python GUI Programming Cookbook - B.M. Harwani 2018-07-30
Over 60 recipes to help you design interactive, smart, and cross-platform GUI applications Key Features Get succinct QT solutions to pressing GUI programming problems in Python Learn how to effectively implement reactive programming Build customized applications that are robust and reliable Book Description PyQt is one of the best cross-platform interface toolkits currently available; it's stable, mature, and completely native. If you want control over all aspects of UI elements, PyQt is what you need. This book will guide you through every concept necessary to create fully functional GUI applications using PyQt, with only a few lines of code. As you expand your GUI using more widgets, you will cover networks, databases, and graphical libraries that greatly enhance its functionality. Next, the book guides you in using Qt Designer to design user interfaces and implementing and testing dialogs, events, the clipboard, and drag and drop functionality to customize your GUI. You will learn a variety of topics, such as look and feel customization, GUI animation, graphics rendering, implementing Google Maps, and more. Lastly, the book takes you through how Qt5 can help you to create cross-platform apps that are compatible with Android and iOS. You will be able to develop functional and appealing software using PyQt through interesting and fun recipes that will expand your knowledge of GUIs What you will learn Use basic Qt components, such as a radio button, combo box, and sliders Use QSpinBox and sliders to handle different signals generated on mouse clicks Work with different Qt layouts to meet user interface requirements Create custom widgets and set up customizations in your GUI Perform asynchronous I/O operations and thread handling in the Python GUI Employ network concepts, internet browsing, and Google Maps in UI Use graphics rendering and implement animation in your GUI Make your GUI application compatible with Android and iOS devices Who this book is for If you're an intermediate Python programmer wishing to enhance your coding skills by writing powerful GUIs in Python using PyQT, this is the book for you.

The Hitchhiker's Guide to Python - Kenneth Reitz 2016-08-30
The Hitchhiker's Guide to Python takes the journeyman Pythonista to true expertise. More than any other language, Python was created with the philosophy of simplicity and parsimony. Now 25 years old, Python has become the primary or secondary language (after SQL) for many business users. With popularity comes diversity—and possibly dilution. This guide, collaboratively written by over a hundred members of the Python community, describes best practices currently used by package and application developers. Unlike other books for this audience, The Hitchhiker's Guide is light on reusable code and heavier on design philosophy, directing the reader to excellent sources that already exist.

Python in Practice - Mark Summerfield 2013-08-20
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.qtrac.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

The Productive Programmer - Neal Ford 2008-07-03
Anyone who develops software for a living needs a proven way to produce it better, faster, and cheaper. The Productive Programmer offers critical timesaving and productivity tools that you can adopt right away, no matter what platform you use. Master developer Neal Ford not only offers advice on the mechanics of productivity-how to work smarter, spurn interruptions, get the most out your computer, and avoid repetition-he also details valuable practices that will help you elude common traps, improve your code, and become more valuable to your team. You'll learn to: Write the test before you write the code Manage the lifecycle of your objects fastidiously Build only what you need now, not what you might need later Apply ancient philosophies to software development Question authority, rather than blindly adhere to standards Make hard things easier and impossible things possible through meta-programming Be sure all code within a method is at the same level of abstraction Pick the right editor and assemble the best tools for the job This isn't theory, but the fruits of Ford's real-world experience as an Application Architect at the global IT consultancy ThoughtWorks. Whether you're a beginner or a pro with years of experience, you'll improve your work and your career with the simple and straightforward principles in The Productive Programmer.

Building Cross-Platform GUI Applications with Fyne - Andrew Williams 2021-01-25
Understand how to use the Fyne toolkit to build exciting apps for a range of devices and deploy them effectively Key FeaturesLearn how to use standard widgets, dialogs, and layouts as well as how to build your ownUnderstand how to develop an app and package and distribute it to different operating systems and app storesExplore the design principles and vision of the Fyne toolkit and how that may align with your projectBook Description The history of graphical application development is long and complicated, with various development challenges that persist to this day. The mix of technologies involved and the need to use different programming languages led to a very steep learning curve for developers looking to build applications across multiple platforms. In Building Cross-Platform GUI Applications with Fyne, you'll understand how the Go language, when paired with a modern graphical toolkit such as Fyne, can overcome these issues and make application development much easier. To provide an easy-to-use framework for cross-platform app development, the Fyne project offers many graphical concepts and design principles that are outlined throughout this book. By working through five example projects, you'll learn how to build apps effectively, focusing on each of the main areas, including the canvas, layouts, file handling, widgets, data binding, and themes. The book will also show you how the completed applications can then be run on your desktop computer, laptop, and smartphone. After completing these projects, you will discover how to prepare applications for release and distribute them to platform marketplaces and app stores. By the end of this book, you'll be able to create cross-platform graphical applications with visually appealing user interfaces and concise code.

What you will learnBecome well-versed with the history of GUI development and how Fyne and the Golang programming language make it easierExplore how the Fyne toolkit is architected and the various modules are providedDiscover how Fyne apps can be tested and constructed using best practicesConstruct five complete applications and deploy them to your devicesCustomize the design of your apps by extending widgets and themesUnderstand the separation and presentation of data and how to test and build applications that present dynamic dataWho this book is for This Fyne-Golang GUI book is for developers from any background who are looking to build cross-platform applications with a modern toolkit. It will also be useful for Go developers who are looking to explore graphical apps and GUI developers looking for a new toolkit for cross-platform development. Basic knowledge of Graphical User Interface (GUI) development is assumed (although a brief history is also included in the book). The book also features a short introduction to the Go language as a quick refresher.

Programming in Go - Mark Summerfield 2012-05-01
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

Intellectual Property and Open Source - Van Lindberg 2008-07-15
"Clear, correct, and deep, this is a welcome addition to discussions of law and computing for anyone -- even lawyers!"-- Lawrence Lessig, Professor of Law at Stanford Law School and founder of the Stanford Center for Internet and Society If you work in information technology, intellectual property is central to your job -- but dealing with the complexities of the legal system can be mind-boggling. This book is for anyone who wants to understand how the legal system deals with intellectual property rights for code and other content. You'll get a clear look at intellectual property issues from a developer's point of view, including practical advice about situations you're likely to encounter. Written by an intellectual property attorney who is also a programmer, Intellectual Property and Open Source helps you understand patents, copyrights, trademarks, trade secrets, and licenses, with special focus on the issues surrounding open source development and the GPL. This book answers questions such as: How do open source and intellectual property work together? What are the most important intellectual property-related issues when starting a business or open source project? How should you handle copyright, licensing and other issues when accepting a patch from another developer? How can you pursue your own ideas while working for

someone else? What parts of a patent should be reviewed to see if it applies to your work? When is your idea a trade secret? How can you reverse engineer a product without getting into trouble? What should you think about when choosing an open source license for your project? Most legal sources are too scattered, too arcane, and too hard to read. Intellectual Property and Open Source is a friendly, easy-to-follow overview of the law that programmers, system administrators, graphic designers, and many others will find essential.

Modern PyQt - Joshua Willman 2020-12-29
Dive into GUI application development and create useful applications for practical and relevant topics in the fields of business, computer science, and research. This book uses a realistic approach to help get you started designing and building the applications you need while learning new tools along the way. PyQt has a vast collection of tools that you can use to create GUIs, many of which seem to go unexplored. In Modern PyQt, you will go beyond some of the fundamental topics of GUI development in order to begin building useful desktop applications. Through extensive examples and hands-on projects, you will explore how to make applications for data analysis and visualization using graphs, computer vision with OpenCV and PyQt, the basics of networking, handling databases with SQL, and more! Whether you are looking for new ideas to practice your skills as a programmer or you have a specific goal in mind and need some help to get your ideas off the ground, there is something in Modern PyQt for you! What You Will Learn Create cross-platform GUIs with Python and PyQt. Understand the important PyQt classes, widgets, and concepts needed for building interactive and practical applications. Find out how to embed useful Python modules into your applications to create more advanced GUIs. Build useful applications that you can improve or make into something completely new with Python and PyQt. Who This Book Is For Intermediate level programmers or above in Python. GUI developers with some experience designing GUIs. Even if they have never used PyQt before, the concepts learned from other toolkits, such as Tkinter or wxPython, can be carried over for developing applications with using PyQt.

C++ GUI Programming with Qt4 - Jasmin Blanchette 2008-02-04
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

Rapid GUI Programming with Python and Qt - Mark Summerfield 2008
Write good-looking user interface programs that run on Windows, Mac OS X, and Linux rapidly and easily with PyQT. Covering all the fundamentals, this new volume provides a short conversion course for those not yet familiar with Python and then devotes the majority of its pages to PyQt4 programming.

C++ GUI Programming with Qt3 - Jasmin Blanchette 2004
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.

Rapid GUI Programming with Python and Qt - Mark Summerfield 2007-10-18
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.

Modern Tkinter for Busy Python Developers - Mark Roseman 2020-10-08
Third Edition: thoroughly revised and expanded! Over 20% new material. Updated for Python 3.9. Quickly learn the right way to build attractive and modern graphical user interfaces with Python and Tkinter. You know some Python. You want to create a user interface for your application. You don't want to waste time messing around with things you don't need. Enter Tkinter. It's built right into Python. Everything you need is included in the standard Python distributions. No extra downloads. Your Python and Tkinter scripts will work on Windows, Mac and Linux. Tkinter has a simple, clean, Pythonic API and takes care of much of the housekeeping needed in GUI programming. You can focus on what's unique in your application. One HUGE Problem. Tkinter has been around for a very long time. There's a lot of documentation, much of it created years ago. Nearly everything you'd find in that documentation still works today. But it's all wrong. Tkinter has a reputation for ugly and outdated user interfaces that don't fit in with modern systems. And if you follow the old documentation, that's exactly what you'll get. Because Tkinter has taken a quantum leap forward since all that documentation was written. There are new and better ways to build your user interface. Your program needs to be written differently to take advantage of that. Modern Tkinter shows you the right way to do it. You'll learn all the modern best practices. You'll build your user interface the right way the first time, without having to learn anything extra or irrelevant. It starts at the beginning, shows you what you need to know, and covers all the essential elements of building your modern user interface. This includes: all the standard GUI widgets attractively laying out your user interface managing menus, windows, and standard dialogs organizing more complex user interfaces Tkinter's powerhouse widgets: canvas and text customizing the look of your user interface making it all work on Mac, Windows, and Linux You may have been using older documentation, or are trying to update a Tkinter program written years ago. If so, you'll find warnings of what to avoid using, and how to replace it with a modern solution. There's even a full case study of modernizing the user interface of a seriously out-of-date Tkinter application you may be familiar with. Who this book is for This book is for everyday Python programmers looking to quickly create desktop user interfaces. You may be new to Tkinter, or want to bring your knowledge up to date. You don't need to be an expert on OOP, MVC architecture, multithreading or any other advanced topics. In fact, you're not going to see any of those things in this book. This book uses Python 3.9, but everything you learn will apply (with small tweaks) to any Python 3.x version. It won't help you if you're using Python 2.x. Let veteran software developer Mark Roseman

show you the right way to build user interfaces with Python and Tkinter. He's been using and Tk (the technology behind Tkinter) since its early days and has shipped dozens of open source tools and commercial applications based on it. He's also the author of the multi-lingual TkDocs website, the de facto reference for building modern Tk user interfaces. This book brings together Python-specific information from that site and supports its further development.