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KEY=TUTORIAL - MCMAHON CALLAHAN

Mobile Radio Communications and 5G Networks

Proceedings of MRCN 2020

Springer Nature The book features original papers by active researchers presented at the International Conference on Mobile Radio Communications and 5G Networks. It includes recent advances and upcoming technologies in the field of cellular systems, 2G/2.5G/3G/4G/5G and beyond, LTE, WiMAX, WMAN, and other emerging broadband wireless networks, WLAN, WPAN, and various home/personal networking technologies, pervasive and wearable computing and networking, small cells and femtocell networks, wireless mesh networks, vehicular wireless networks, cognitive radio networks and their applications, wireless multimedia networks, green wireless networks, standardization of emerging wireless technologies, power management and energy conservation techniques.

Mobile Computing for Beginners

Arizona Business Alliance This book contains below details for each mobile technologies: 1. Introduction2. Architecture3. Applications4. Handset Support5. Languages Support6. Operating System Support7. Prerequisite Configuration8. Tools require to download with link9. Phone emulator download link10. Tool Download screenshot11. Tool configuration Screenshot12. Sample code 2-3 with screenshot13. Testing tools14. Interview questionsFor top 10 current mobile technologies which are as below: 1. Java ME2. Symbian platform3. Android4. Qt (framework)5. BREW6. Palm OS7. Flash Lite8. Microbrowser9. IOS10. BlackberryAbout the AuthorMrs. Raksha Shende has been associated with IT industry from last 10 years. She is presently working as 'Project Leader' in Stream Global Services She has done BSC-IT. Also she has completed C-DAC from Pune University. She is Microsoft, SCJP and Oracle Certified Professional, she has received various appreciation awards. Her strong skills includes .Net Programming, Database, Estimations etc.

Python Tutorial

Release 3. 6. 6rc1

Createspace Independent Publishing Platform Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms. The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, <https://www.python.org/>, and may be freely distributed. The same site also contains distributions of and pointers to many free third party

Python modules, programs and tools, and additional documentation. The Python interpreter is easily extended with new functions and data types implemented in C or C++ (or other languages callable from C). Python is also suitable as an extension language for customizable applications. This tutorial introduces the reader informally to the basic concepts and features of the python language and system. It helps to have a Python interpreter handy for hands-on experience, but all examples are self contained, so the tutorial can be read off-line as well. For a description of standard objects and modules, see [library-index](#). [reference-index](#) gives a more formal definition of the language. To write extensions in C or C++, read [extending-index](#) and [c-api-index](#). There are also several books covering Python in depth. This tutorial does not attempt to be comprehensive and cover every single feature, or even every commonly used feature. Instead, it introduces many of Python's most noteworthy features, and will give you a good idea of the language's flavor and style. After reading it, you will be able to read and write Python modules and programs, and you will be ready to learn more about the various Python library modules described in [library-index](#). The Glossary is also worth going through.

Proceedings of the International Conference on Information Technology & Systems (ICITS 2018)

Springer This book includes a selection of articles from the 2018 International Conference on Information Technology & Systems (ICITS 18), held on January 10 - 12, 2018, at the Universidad Estatal Península de Santa Elena, Libertad City, Ecuador. ICIST is a global forum for researchers and practitioners to present and discuss recent findings and innovations, current trends, lessons learned and the challenges of modern information technology and systems research, together with their technological development and applications. The main topics covered include information and knowledge management; organizational models and information systems; software and systems modeling; software systems, architectures, applications and tools; multimedia systems and applications; computer networks, mobility and pervasive systems; intelligent and decision support systems; big data analytics and applications; human-computer interaction; ethics, computers & security; health informatics; and information technologies in education.

Intelligent Systems Design and Applications

19th International Conference on Intelligent Systems Design and Applications (ISDA 2019) held December 3-5, 2019

Springer Nature This book highlights recent research on intelligent systems and nature-inspired computing. It presents 62 selected papers from the 19th International Conference on Intelligent Systems Design and Applications (ISDA 2019), which was held online. The ISDA is a premier conference in the field of computational intelligence, and the latest installment brought together researchers, engineers and practitioners whose work involves intelligent systems and their applications in industry. Including contributions by authors from 33 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

Advancing Cloud Database Systems and Capacity Planning With Dynamic Applications

IGI Global Continuous improvements in data analysis and cloud computing have allowed more opportunities to develop systems with user-focused designs. This not only leads to higher success in day-to-day usage, but it increases the overall probability of technology adoption. *Advancing Cloud Database Systems and Capacity Planning With Dynamic Applications* is a key resource on the latest innovations in cloud database systems and their impact on the daily lives of people in modern society. Highlighting multidisciplinary studies on information storage and retrieval, big data architectures, and artificial intelligence, this publication is an ideal reference source for academicians, researchers, scientists, advanced level students, technology developers and IT officials.

Smart Trends in Computing and Communications: Proceedings of SmartCom 2020

Springer Nature This book gathers high-quality papers presented at the International Conference on Smart Trends for Information Technology and Computer Communications (SmartCom 2020), organized by the Global Knowledge Research Foundation (GR Foundation) from 23 to 24 January 2020. It covers the state-of-the-art and emerging topics in information, computer communications, and effective strategies for their use in engineering and managerial applications. It also explores and discusses the latest technological advances in, and future directions for, information and knowledge computing and its applications.

Create GUI Applications with Python & Qt5 (PySide2 Edition)

The hands-on guide to making apps with Python

Martin Fitzpatrick 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

Kubernetes for Full-Stack Developers

DigitalOcean This book is designed to help newcomers and experienced users alike learn about Kubernetes. Its chapters are designed to introduce core Kubernetes concepts and to build on them to a level where running an application on a production cluster is a familiar, repeatable, and automated process. From there, more advanced topics are introduced, like how to manage a Kubernetes cluster itself.

Android Programming Tutorials

"Android Programming Tutorials" show you what you can do with Android, through a series of 28 individual exercises, giving you hands-on instruction in how to build sophisticated Android applications, using many of the technologies outlined in CommonsWare's other Android books. These exercises lead you through the basics of creating Android applications, all the way through many fun Android features like Internet access, location tracking, maps, integrated WebKit browsers, cameras, accelerometers, and much more. Full source code to all the exercise answers is available right on this page, to help you if you get stuck. "Android Programming Tutorials" makes an excellent companion volume to more traditional Android books that merely tell you what is possible. The book has been battle-tested, used in the author's live Android training events, with the exercises put through their paces by hundreds of students.

Zero Trust Networks

Building Secure Systems in Untrusted Networks

"O'Reilly Media, Inc." The perimeter defenses guarding your network perhaps are not as secure as you think. Hosts behind the firewall have no defenses of their own, so when a host in the "trusted" zone is breached, access to your data center is not far behind. That's an all-too-familiar scenario today. With this practical book, you'll learn the principles behind zero trust architecture, along with details necessary to implement it. The Zero Trust Model treats all hosts as if they're internet-facing, and considers the entire network to be compromised and hostile. By taking this approach, you'll focus on building strong authentication, authorization, and encryption throughout, while providing compartmentalized access and better operational agility. Understand how perimeter-based defenses have evolved to become the broken model we use today Explore two case studies of zero trust in production networks on the client side (Google) and on the server side (PagerDuty) Get example configuration for open source tools that you can use to build a zero trust network Learn how to migrate from a perimeter-based network to a zero trust network in production

Multimedia Big Data Computing for IoT Applications

Concepts, Paradigms and Solutions

Springer This book considers all aspects of managing the complexity of Multimedia Big Data Computing (MMBD) for IoT applications and develops a comprehensive taxonomy. It also discusses a process model that addresses a number of research challenges associated with MMBD, such as scalability, accessibility, reliability, heterogeneity, and Quality of Service (QoS) requirements, presenting case studies to demonstrate its application. Further, the book examines the layered architecture of MMBD computing and compares the life cycle of both big data and MMBD. Written by leading experts, it also includes numerous solved examples, technical descriptions, scenarios, procedures, and algorithms.

Empirical Research for Futuristic E-Commerce Systems: Foundations and Applications

Foundations and Applications

IGI Global Recently, there has been an increase in the number of e-commerce users. This has caused online shopping to become a new and challenging market for e-commerce vendors. Security, inventory management, reliability, and performance of e-commerce websites are a few of the challenges associated with the rising popularity of e-commerce. On a daily basis, millions of e-commerce transactions are taking place. This generates a huge amount of data that can be used to solve the various challenges of e-commerce. Further study on how this data can be used to address these issues is required to propel businesses forward. Empirical Research for Futuristic E-Commerce Systems: Foundations and Applications shares experiences and research outcomes on all aspects of intelligent software solutions such as machine learning, nature-inspired computing, and data science for business-to-consumer (B2C) e-commerce. By looking at the exponential growth of the e-commerce market and its popularity, this book also focuses on the current issues, solutions, and future possibilities in the B2C model of e-commerce. Covering a range of critical topics such as online shopping, supply chain management, and blockchain, this reference work is ideal for academic scientists, data scientists, software developers, business experts, researchers, scholars, practitioners, academicians, instructors, and students.

A Complete Guide to Programming in C++

Jones & Bartlett Learning This guide was written for readers interested in learning the C++ programming language from scratch, and for both novice and advanced C++ programmers wishing to enhance their knowledge of C++. The text is organized to guide the reader from elementary language concepts to professional software development, with in depth coverage of all the C++ language elements en route.

The Node Beginner Book

Lulu.com

Android App Development in Android Studio

Java + Android Edition for Beginners

Createspace Independent Publishing Platform This book covers Android app design fundamentals in Android Studio using Java programming language. The author assumes you have no experience in app development. The book starts with the installation of the required development environment and setting up the emulators. Then, the simplest "Hello World" app is developed step by step. In the next chapter, basics of the Java programming language are given with practical examples. Screenshots and code snippets are clearly given in the book to guide the reader. After the Java lecture, 6 complete Android apps are developed again by step by step instructions. Each code line is explained. As the reader follows the development of the example apps, he/she will learn designing user interfaces, connecting interface objects to code, developing efficient Java code and testing the app on emulators and real devices. The sample apps developed in this book are as follows: 1. Headlight app: Learn the basics of app development and use buttons in your code. 2. Body mass index (BMI) calculator app: Using input boxes, performing calculations and displaying the results on the screen. 3. Simple dice roller app: Using random number generator functions, including images in your project, displaying images on the screen and changing the displayed image programmatically. 4. The compass app: Accessing the magnetic field sensor, setting required permissions, extracting the direction angle and animating a compass figure. 5. Show my location app: Creating a map project, setting required permissions, accessing GPS device and showing real time location on the map. 6. S.O.S. sender app: Adding SMS functionality, setting required permissions and sending real time location using SMS. This book includes 146 figures and 114 code snippets that are used to explain app development concepts clearly. Full resolution colour figures and project files can be viewed and downloaded from the the book's website: www.android-java.website.

Compiler Construction

Springer Science & Business Media Compilers and operating systems constitute the basic interfaces between a programmer and the machine for which he is developing software. In this book we are concerned with the construction of the former. Our intent is to provide the reader with a firm theoretical basis for compiler construction and sound engineering principles for selecting alternate methods, implementing them, and integrating them into a reliable, economically viable product. The emphasis is upon a clean decomposition employing modules that can be re-used for many compilers, separation of concerns to facilitate team programming, and flexibility to accommodate hardware and system constraints. A reader should be able to understand the questions he must ask when designing a compiler for language X on machine Y, what tradeoffs are possible, and what performance might be obtained. He should not feel that any part of the design rests on whim; each decision must be based upon specific, identifiable characteristics of the source and target languages or upon design goals of the compiler. The vast majority of computer professionals will never write a compiler. Nevertheless, study of compiler technology provides important benefits for almost everyone in the field. • It focuses attention on the basic relationships between languages and machines. Understanding of these relationships eases the inevitable transitions to new hardware and programming languages and improves a person's ability to make appropriate tradeoffs in design and implementation.

Starting Struts 2

Lulu.com Struts2 is the latest manifestation of the popular Struts Java web application framework. Like its predecessor, its goals are to make web application development faster, easier and more productive than ever before. Despite new languages and new techniques, the action-base MVC framework is still a viable and effective option for modern web application development. Within this book you will find everything you need to get up and running using Struts2 - from the architecture and configuration, to implementing actions and the supporting infrastructure such as validation and internationalization. Above all else, it focuses on the practical - with plenty of code and productivity tips to get you started

using Struts2 today.

Industrial Internet of Things and Cyber-Physical Systems: Transforming the Conventional to Digital

Transforming the Conventional to Digital

IGI Global With the help of artificial intelligence, machine learning, and big data analytics, the internet of things (IoT) is creating partnerships within industry where machines, processes, and humans communicate with one another. As this radically changes traditional industrial operations, this results in the rapid design, cheap manufacture, and effective customization of products. Answering the growing demand of customers and their preferences has become a challenge for such partnerships. **Industrial Internet of Things and Cyber-Physical Systems: Transforming the Conventional to Digital** is a collection of innovative research that discusses development, implementation, and business impacts of IoT technologies on sustainable societal development and improved life quality. Highlighting a wide range of topics such as green technologies, wireless networks, and IoT policy, this book is ideally designed for technology developers, entrepreneurs, industrialists, programmers, engineers, technicians, researchers, academicians, and students.

IPython Interactive Computing and Visualization Cookbook

Packt Publishing Ltd Intended to anyone interested in numerical computing and data science: students, researchers, teachers, engineers, analysts, hobbyists... Basic knowledge of Python/NumPy is recommended. Some skills in mathematics will help you understand the theory behind the computational methods.

Flutter in Action

Simon and Schuster Summary In 2017, consumers downloaded 178 billion apps, and analysts predict growth to 258 billion by 2022. Mobile customers are demanding more—and better—apps, and it's up to developers like you to write them! Flutter, a revolutionary new cross-platform software development kit created by Google, makes it easier than ever to write secure, high-performance native apps for iOS and Android. Flutter apps are blazingly fast because this open source solution compiles your Dart code to platform-specific programs with no JavaScript bridge! Flutter also supports hot reloading to update changes instantly. And thanks to its built-in widgets and rich motion APIs, Flutter's apps are not just highly responsive, they're stunning! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology With Flutter, you can build mobile applications using a single, feature-rich SDK that includes everything from a rendering engine to a testing environment. Flutter compiles programs written in Google's intuitive Dart language to platform-specific code so your iOS and Android games, utilities, and shopping platforms all run like native Java or Swift apps. About the book Flutter in Action teaches you to build professional-quality mobile applications using the Flutter SDK and the Dart programming language. You'll begin with a quick tour of Dart essentials and then dive into engaging, well-described techniques for building beautiful user interfaces using Flutter's huge collection of built-in widgets. The combination of diagrams, code examples, and annotations makes learning a snap. As you go, you'll appreciate how the author makes easy reading of complex topics like routing, state management, and async programming. What's inside Understanding the Flutter approach to the UI All the Dart you need to get started Creating custom animations Testing and debugging About the reader You'll need basic web or mobile app development skills. About the author Eric Windmill is a professional Dart developer and a contributor to open-source Flutter projects. His work is featured on the Flutter Showcase page. Table of Contents: PART 1 - MEET FLUTTER 1 | Meet Flutter 2 | A brief intro to Dart 3 | Breaking into Flutter PART 2 - FLUTTER USER INTERACTION, STYLES, AND ANIMATIONS 4 | Flutter UI: Important widgets, themes, and layout 5 | User interaction: Forms and gestures 6 | Pushing pixels: Flutter animations and using the canvas PART 3 - STATE MANAGEMENT AND ASYNCHRONOUS DART 7 | Flutter routing in depth 8 | Flutter state management 9 | Async Dart and Flutter and infinite scrolling PART 4 - BEYOND FOUNDATIONS 10 | Working with data: HTTP, Firestore, and JSON 11 | Testing Flutter apps

App Inventor

"O'Reilly Media, Inc." A guide to using App Inventor to create Android applications presents step-by-step instructions for a variety of projects, including creating location-aware apps, data storage, and decision-making apps.

Android Cookbook

"O'Reilly Media, Inc." Provides instruction on building Android apps, including solutions to working with web services, multitouch gestures, location awareness, and device features.

Dart in Action

Simon and Schuster Summary Dart in Action introduces Google's Dart language and provides techniques and examples showing how to use it as a viable replacement for Java and JavaScript in browser-based desktop and mobile applications. It begins with a rapid overview of Dart language and tools, including features like interacting with the browser, optional typing, classes, libraries, and concurrency with isolates. After you master the core concepts, you'll move on to running Dart on the server and creating single page HTML5 web applications. About the Technology Dart is a web programming language developed by Google. It has modern OO features, just like Java or C#, while keeping JavaScript's dynamic and functional characteristics. Dart applications are "transpiled" to JavaScript, and they run natively in Dart-enabled browsers. With production-quality libraries and tools, Dart operates on both the client and the server for a consistent development process. About this Book Dart in Action introduces the Dart language and teaches you to use it in browser-based, desktop, and mobile applications. Not just a language tutorial, this book gets quickly into the nitty-gritty of using Dart. Most questions that pop up while you're reading are answered on the spot! OO newbies will appreciate the gentle pace in the early chapters. Later chapters take a test-first approach and encourage you to try Dart hands-on. To benefit from this book you'll need experience with HTML and JavaScript? a Java or C# background is helpful but not required. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Dart from the ground up Numerous code samples and diagrams Creating single-page web apps Transitioning from Java, C#, or JavaScript Running Dart in the browser and on the server About the Author Chris Buckett builds enterprise-scale web applications. He runs Dartwatch.com and is an active contributor to the dartlang list. "Includes numerous examples of core language features as well as more advanced HTML5 features."-;From the Foreword by Seth Ladd, Developer Advocate, Google Table of Contents PART 1 INTRODUCING DART Hello Dart "Hello World" with Dart tools Building and testing your own Dart app PART 2 CORE DART Functional first-class functions and closures Understanding libraries and privacy Constructing classes and interfaces Extending classes and interfaces Collections of richer classes Asynchronous programming with callbacks and futures PART 3 CLIENT-SIDE DART APPS Building a Dart web app Navigating offline data Communicating with other systems and languages PART 4 SERVER-SIDE DART Server interaction with files and HTTP Sending, syncing, and storing data Concurrency with isolates

Design Patterns by Tutorials (Third Edition): Learning Design Patterns in Swift

Learn iOS Design Patterns! Design patterns are reusable solutions to common development problems. They aren't project specific, so you can adapt and use them in countless apps. By learning design patterns, you'll become a better developer, save time and work less. Design Patterns by Tutorials is here to help! This book is the easiest and fastest way to get hands-on experience with the iOS design patterns you need to know. Who This Book Is For Whether you're a beginner, intermediate or advanced iOS developer, this book is for you. You can either read this book from cover to cover, or skip around to just the patterns you want to learn. Topics Covered in Design Patterns by Tutorials Getting Started: You'll first learn about how design patterns work and how they can help you build better, cleaner apps. Fundamental Patterns: You'll progress onto fundamental design patterns, such as MVC, Delegation, and Strategy, which you're likely to use on every iOS app. Intermediate Patterns: You'll then learn about intermediate design patterns, such as MVVM, Factory, and Adapter, which are less common than fundamental patterns but still very useful for most apps. You'll finish off by learning about advanced design patterns, including Flyweight, Mediator and Command. You likely won't use these on every app, but they may be just what you need to solve a difficult problem. One thing you can count on: after reading this book, you'll be well-prepared to use design patterns in your own apps!

System Engineering Analysis, Design, and Development

Concepts, Principles, and Practices

John Wiley & Sons Praise for the first edition: “This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL relevant SE material and does so in a very clear, methodical fashion. The breadth and depth of the author's presentation of SE principles and practices is outstanding.” -Philip Allen This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for “bridging the gap” between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services Each chapter provides definitions of key terms, guiding principles, examples, author's notes, real-world examples, and exercises, which highlight and reinforce key SE&D concepts and practices Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UML) / Systems Modeling Language (SysML), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface definition & control; system integration & test; and Verification & Validation (V&V) Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D) paradigm that is easy to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strategy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al. Thoroughly illustrated, with end-of-chapter exercises and numerous case studies and examples, Systems Engineering Analysis, Design, and Development, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.

Principles of Cyber-Physical Systems

MIT Press A foundational text that offers a rigorous introduction to the principles of design, specification, modeling, and analysis of cyber-physical systems. A cyber-physical system consists of a collection of computing devices communicating with one another and interacting with the physical world via sensors and actuators in a feedback loop. Increasingly, such systems are everywhere, from smart buildings to medical devices to automobiles. This textbook offers a rigorous and comprehensive introduction to the principles of design, specification, modeling, and analysis of cyber-physical systems. The book draws on a diverse set of subdisciplines, including model-based design, concurrency theory, distributed algorithms, formal methods of specification and verification, control theory, real-time systems, and hybrid systems, explaining the core ideas from each that are relevant to system design and analysis. The book explains how formal models provide mathematical abstractions to manage the complexity of a system design. It covers both synchronous and asynchronous models for concurrent computation, continuous-time models for dynamical systems, and hybrid systems for integrating discrete and continuous evolution. The role of correctness requirements in the design of reliable systems is illustrated with a range of specification formalisms and the associated techniques for formal verification. The topics include safety and liveness requirements, temporal logic, model checking, deductive verification, stability analysis of linear systems, and real-time scheduling algorithms. Principles of modeling, specification, and analysis are illustrated by constructing solutions to representative design problems from distributed algorithms, network protocols, control design, and robotics. This book provides the rapidly expanding field of cyber-physical systems with a long-needed foundational text by an established authority. It is suitable for classroom use or as a reference for professionals.

Distributed Computing

Principles, Algorithms, and Systems

Cambridge University Press Designing distributed computing systems is a complex process requiring a solid understanding of the design problems and the theoretical and practical aspects of their solutions. This comprehensive textbook covers the fundamental principles and models underlying the theory, algorithms and systems aspects of distributed computing. Broad and detailed coverage of the theory is balanced with practical systems-related issues such as mutual exclusion, deadlock detection, authentication, and failure recovery. Algorithms are carefully selected, lucidly presented, and described without complex proofs. Simple explanations and illustrations are used to elucidate the algorithms. Important emerging topics such as peer-to-peer networks and network security are also considered. With vital algorithms, numerous illustrations, examples and homework problems, this textbook is suitable for advanced undergraduate and graduate students of electrical and computer engineering and computer science. Practitioners in data networking and sensor networks will also find this a valuable resource. Additional resources are available online at www.cambridge.org/9780521876346.

Robot Operating System (ROS) for Absolute Beginners

Robotics Programming Made Easy

Apress Learn how to get started with robotics programming using Robot Operation System (ROS). Targeted for absolute beginners in ROS, Linux, and Python, this short guide shows you how to build your own robotics projects. ROS is an open-source and flexible framework for writing robotics software. With a hands-on approach and sample projects, Robot Operating System for Absolute Beginners will enable you to begin your first robot project. You will learn the basic concepts of working with ROS and begin coding with ROS APIs in both C++ and Python. What You'll Learn Install ROS Review fundamental ROS concepts Work with frequently used commands in ROS Build a mobile robot from scratch using ROS Who This Book Is For Absolute beginners with little to no programming experience looking to learn robotics programming.

Flutter for Beginners

An introductory guide to building cross-platform mobile applications with Flutter and Dart 2

Packt Publishing Ltd A step-by-step guide to learning Flutter and Dart 2 for creating Android and iOS mobile applications Key FeaturesGet up to speed with the basics of Dart programming and delve into Flutter developmentUnderstand native SDK and third-party libraries for building Android and iOS applications using FlutterPackage and deploy your Flutter apps to achieve native-like performanceBook Description Google Flutter is a cross-platform mobile framework that makes it easy to write high-performance apps for Android and iOS. This book will help you get to grips with the basics of the Flutter framework and the Dart programming language. Starting from setting up your development environment, you'll learn to design the UI and add user input functions. You'll explore the navigator widget to manage app routes and learn to add transitions between screens. The book will even guide you through developing your own plugin and later, you'll discover how to structure good plugin code. Using the Google Places API, you'll also understand how to display a map in the app and add markers and interactions to it. You'll then learn to improve the user experience with features such as map integrations, platform-specific code with native languages, and personalized animation options for designing intuitive UIs. The book follows a practical approach and gives you access to all relevant code files hosted at github.com/PacktPublishing/Flutter-for-Beginners. This will help you access a variety of examples and prepare your own bug-free apps, ready to deploy on the App Store and Google Play Store. By the end of this book, you'll be well-versed with Dart programming and have the skills to develop your own mobile apps or build a career as a Dart and Flutter app

developer. What you will learn Understand the fundamentals of the Dart programming language Explore the core concepts of the Flutter UI and how it compiles for multiple platforms Develop Flutter plugins and widgets and understand how to structure plugin code appropriately Style your Android and iOS apps with widgets and learn the difference between stateful and stateless widgets Add animation to your UI using Flutter's `AnimatedBuilder` component Integrate your native code into your Flutter codebase for native app performance Who this book is for This book is for developers looking to learn Google's revolutionary framework Flutter from scratch. No prior knowledge of Flutter or Dart is required; however, basic knowledge of any programming language will be helpful.

Introducing Microsoft Power BI

Microsoft Press This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Introducing Microsoft Power BI enables you to evaluate when and how to use Power BI. Get inspired to improve business processes in your company by leveraging the available analytical and collaborative features of this environment. Be sure to watch for the publication of Alberto Ferrari and Marco Russo's upcoming retail book, *Analyzing Data with Power BI and Power Pivot for Excel* (ISBN 9781509302765). Go to the book's page at the Microsoft Press Store here for more details: <http://aka.ms/analyzingdata/details>. Learn more about Power BI at <https://powerbi.microsoft.com/>.

Android Studio 2 Development Essentials

eBookFrenzy Fully updated for Android Studio 2, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE) and the Android 6 Software Development Kit (SDK). Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Designer tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, in-app billing and submitting apps to the Google Play Developer Console. The key new features of Android Studio 2, Instant Run and the new AVD emulator environment, are also covered in detail. Chapters also cover advanced features of Android Studio such as Gradle build configuration and the implementation of build variants to target multiple Android device types from a single project code base. Assuming you already have some Java programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

App Inventor 2

Create Your Own Android Apps

"O'Reilly Media, Inc." Yes, you can create your own apps for Android devices—and it's easy to do. This extraordinary book introduces you to App Inventor 2, a powerful visual tool that lets anyone build apps. Learn App Inventor basics hands-on with step-by-step instructions for building more than a dozen fun projects, including a text answering machine app, a quiz app, and an app for finding your parked car! The second half of the book features an Inventor's Manual to help you understand the fundamentals of app building and computer science. App Inventor 2 makes an excellent textbook for beginners and experienced developers alike. Use programming blocks to build apps—like working on a puzzle Create custom multi-media quizzes and study guides Design games and other apps with 2D graphics and animation Make a custom tour of your city, school, or workplace Control a LEGO® MINDSTORMS® NXT robot with your phone Build location-aware apps by working with your phone's sensors Explore apps that incorporate information from the Web

Enterprise Integration Patterns

Designing, Building, and Deploying Messaging Solutions

Addison-Wesley Enterprise Integration Patterns provides an invaluable catalog of sixty-five patterns, with real-world solutions that demonstrate the formidable of messaging and help you to design effective messaging solutions for your enterprise. The authors also include examples covering a variety of different integration technologies, such as JMS, MSMQ, TIBCO ActiveEnterprise, Microsoft BizTalk, SOAP, and XSL. A case study describing a bond trading system illustrates the patterns in practice, and the book offers a look at emerging standards, as well as insights into what the future of enterprise integration might hold. This book provides a consistent vocabulary and visual notation framework to describe large-scale integration solutions across many technologies. It also explores in detail the advantages and limitations of asynchronous messaging architectures. The authors present practical advice on designing code that connects an application to a messaging system, and provide extensive information to help you determine when to send a message, how to route it to the proper destination, and how to monitor the health of a messaging system. If you want to know how to manage, monitor, and maintain a messaging system once it is in use, get this book.

Learning Android

Develop Mobile Apps Using Java and Eclipse

"O'Reilly Media, Inc." Want to build apps for Android devices? This book is the perfect way to master the fundamentals. Written by experts who have taught this mobile platform to hundreds of developers in large organizations and startups alike, this gentle introduction shows experienced object-oriented programmers how to use Android's basic building blocks to create user interfaces, store data, connect to the network, and more. Throughout the book, you'll build a Twitter-like application, adding new features with each chapter. You'll also create your own toolbox of code patterns to help you program any type of Android application with ease. Become familiar with the Android platform and how it fits into the mobile ecosystem Dive into the Android stack, including its application framework and the APK application package Learn Android's building blocks: Activities, Intents, Services, Content Providers, and Broadcast Receivers Create basic Android user interfaces and organize UI elements in Views and Layouts Build a service that uses a background process to update data in your application

Mastering Azure Serverless Computing

A practical guide to building and deploying enterprise-grade serverless applications using Azure Functions

Packt Publishing Ltd Become an expert in implementing Azure Functions to work seamlessly with your serverless applications Key Features Develop scalable, robust multi-tier apps without worrying about infrastructure needs Deploy and manage cost-effective and highly available serverless apps using Azure Functions Accelerate enterprise-level application development by seamlessly integrating different cloud services with Azure Functions Book Description Application development has evolved from traditional monolithic app development to using serverless options and microservices. This book is designed to guide you through using Microsoft's Azure Functions to process data, integrate systems, and build simple APIs and microservices. You will discover how to apply serverless computing to speed up deployment and reduce downtime. You'll also explore Azure Functions, including its core functionalities and essential tools, along with understanding how to debug and even customize Azure Functions. In addition to this, the book will take you through how you can effectively implement DevOps and automation in your working environment. Toward the concluding chapters, you'll cover some quick tips, troubleshooting techniques,

and real-world serverless use cases that will help you make the most of serverless computing. By the end of this book, you will have gained the skills you need to develop and deliver cost-effective Azure serverless solutions. What you will learn Create and deploy advanced Azure Functions Learn to extend the runtime of Azure Functions Orchestrate your logic through code or a visual workflow Add caching, security, routing, and filtering to your APIs Use serverless technologies in real-world scenarios Understand how to apply DevOps and automation to your working environment Who this book is for This book is designed for cloud administrators, architects, and developers interested in building scalable systems and deploying serverless applications with Azure Functions. Prior knowledge of core Microsoft Azure services and Azure Functions is necessary to understand the topics covered in this book.

Design Patterns

Elements of Reusable Object-Oriented Software

Pearson Deutschland GmbH Software -- Software Engineering.

The Social Design of Technical Systems

Building Technologies for Communities. 2nd Edition

Hundreds of millions of people use social technologies like Wikipedia, Facebook and YouTube every day, but what makes them work? And what is the next step? The Social Design of Technical Systems explores the path from computing revolution to social evolution. Based on the assumption that it is essential to consider social as well as technological requirements, as we move to create the systems of the future, this book explores the ways in which technology fits, or fails to fit, into the social reality of the modern world. Important performance criteria for social systems, such as fairness, synergy, transparency, order and freedom, are clearly explained for the first time from within a comprehensive systems framework, making this book invaluable for anyone interested in socio-technical systems, especially those planning to build social software. This book reveals the social dilemmas that destroy communities, exposes the myth that computers are smart, analyses social errors like the credit meltdown, proposes online rights standards and suggests community-based business models. If you believe that our future depends on merging social virtue and technology power, you should read this book.

An Elementary Introduction to the Wolfram Language

Wolfram Media The Wolfram Language represents a major advance in programming languages that makes leading-edge computation accessible to everyone. Unique in its approach of building in vast knowledge and automation, the Wolfram Language scales from a single line of easy-to-understand interactive code to million-line production systems. This book provides an elementary introduction to the Wolfram Language and modern computational thinking. It assumes no prior knowledge of programming, and is suitable for both technical and non-technical college and high-school students, as well as anyone with an interest in the latest technology and its practical application.

Learning Java

"O'Reilly Media, Inc." A tutorial introducing Java basics covers programming principles, integrating applets with Web applications, and using threads, arrays, and sockets.