
Android Ndk Beginner S Guide Packt Publishing

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Android Programming Apress

Master the skills you need to develop portable, highly-functional Android applications using NDK About This Book

Develop portable games using Android NDK and debug them on your desktop Familiarise yourself with different popular C++ libraries on Android and use them in your games Write multi-threaded code with graphics, sound, networking, and resource storage Who This Book Is For If you want to leverage your C++ skills in mobile development and increase the performance of your Android applications, then this is the book for you. Knowledge of C or C++ is assumed, including pointer manipulation, multi-threading, object-oriented programming concepts, and the basics of C++11. It would be an added advantage if you know how to develop applications without any IDE. What You Will Learn What You Will Learn Explore popular C++ libraries and use them on Android Write portable, multithreaded native networking code Create portable audio framework using OpenAL Implement portable rendering framework using OpenGL ES 3 Debug mobile applications on your desktop machine Access resources from APK archives Render text with FreeType In Detail Android NDK is used for multimedia applications that require direct access to system resources. NDK is also the key for portability, which in turn allows a reasonably comfortable development and debugging process using familiar tools such as GCC and Clang toolchains. This is a hands-on guide to extending your game development skills with Android NDK. The book takes you through many clear, step-by-step example applications to help you further explore the features of Android NDK and some popular C++ libraries and boost your productivity by debugging the development process. Through the course of this book, you will learn how to write portable multi-threaded native code, use HTTP networking in C++, play audio files, use OpenGL ES 3, and render high-quality text. Each chapter aims to take you one step closer to building your application. By the end of this book, you will be able to create an engaging, complete gaming application. Style and approach This book adopts a step-by-step approach and each chapter is based on the material

from the previous ones. The book focuses on putting to your knowledge of C++ use while you develop Android applications of your own.

Learning React Native Packt Publishing Ltd

Developers, build mobile Android apps using Android 4 The fast-growing popularity of Android smartphones and tablets creates a huge opportunities for developers. If you're an experienced developer, you can start creating robust mobile Android apps right away with this professional guide to Android 4 application development. Written by one of Google's lead Android developer advocates, this practical book walks you through a series of hands-on projects that illustrate the features of the Android SDK. That includes all the new APIs introduced in Android 3 and 4, including building for tablets, using the Action Bar, Wi-Fi Direct, NFC Beam, and more. Shows experienced developers how to create mobile applications for Android smartphones and tablets Revised and expanded to cover all the Android SDK releases including Android 4.0 (Ice Cream Sandwich), including all updated APIs, and the latest changes to the Android platform. Explains new and enhanced features such as drag and drop, fragments, the action bar, enhanced multitouch support, new environmental sensor support, major improvements to the animation framework, and a range of new communications techniques including NFC and Wi-Fi direct. Provides practical guidance on publishing and marketing your applications, best practices for user experience, and more This book helps you learn to master the design, lifecycle, and UI of an Android app through practical exercises, which you can then use as a basis for developing your own Android apps.

Android Studio 4.1 Development Essentials - Java Edition Packt Publishing Ltd

Android NDK: Beginner's Guide - Second Edition Packt Publishing Ltd
Android Application Development All-in-One For Dummies John Wiley & Sons

Learn Android Studio covers Android Studio and its rich tools ecosystem, including Git and Gradle: this book covers how Android Studio works seamlessly with Git, for source control, and Gradle, a build and test tool. In addition, this book demonstrates how to develop/collaborate with remote Git web-hosting services such as GitHub and Bitbucket. Four complete Android projects accompany this volume and are available for download from a public Git repository. With this book, you learn the latest and most productive tools in the Android tools ecosystem, and the best practices for Android app development. You will be able to take away the labs' code as templates or frameworks to re-use and customize for your own similar apps. Android Studio is an intuitive, feature-rich, and extremely forgiving Integrated Development Environment (IDE). This IDE is more productive and easier to use for your Android app creations than Eclipse. With this book you will quickly master Android Studio and

maximize your Android development time. Source code on the remote web-hosting service is targeted to the latest Android Studio release, version 1.2.

Android NDK Game Development Cookbook John Wiley & Sons
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

Android Native Development Kit Cookbook Createspace
Independent Publishing Platform

Unleash the power of the Android OS and build the kinds of brilliant, innovative apps users love to use If you already know your way around the Android OS and can build a simple Android app in under an hour, this book is for you. If you're itching to see just how far you can push it and discover what Android is really capable of, it's for you. And if you're ready to learn how to build advanced, intuitive, innovative apps that are a blast to use, this book is definitely for you. From custom views and advanced multi-touch gestures, to integrating online web services and exploiting the latest geofencing and activity recognition features, ace Android developer, Erik Hellman, delivers expert tips, tricks and little-known techniques for pushing the Android envelope so you can: Optimize your components for the smoothest user experience possible Create your own custom Views Push the boundaries of the Android SDK Master Android Studio and Gradle Make optimal use of the Android audio, video and graphics APIs Program in Text-To-Speech and Speech Recognition Make the most of the new Android maps and location API Use Android connectivity technologies to communicate with remote devices Perform background processing Use Android cryptography APIs Find and safely use hidden Android APIs Cloud-enable your applications with Google Play Services Distribute and sell your applications on Google Play Store Learn how to unleash the power of Android and transform your apps from good to great in *Android Programming: Pushing the Limits*.

Developing Android 9 Apps Using Android Studio 3.3, Kotlin and Android Jetpack Apress

Beginning Android C++ Game Development introduces general and Android game developers like you to Android's powerful Native Development Kit (NDK). The Android NDK platform allows you to build the most sophisticated, complex and best performing game apps that leverage C++. In short, you learn to build professional looking and performing game apps like the book's case study, Droid Runner. In this book, you'll learn all the major aspects of game design and programming using the Android NDK and be ready to submit your first professional video game app to Google Play and Amazon Appstore for today's Android smartphones and tablet users to download and play. The techniques contained in this book include building a game engine,

writing a renderer, and building a full game app with entities, game levels and collisions. As part of the tutorial you'll also learn about inserting perspectives using cameras and including audio in your game app.

Java + Android Edition for Beginners John Wiley & Sons

Want to create sophisticated games and graphics-intensive apps? Learn OpenGL ES gets you started immediately with OpenGL ES. After mastering the basics of OpenGL ES itself, you will quickly find yourself writing and building game apps, without having to learn about object oriented programming techniques. This book demonstrates the use of a powerful open-source modeling tool, Blender. You will be guided, step by step, through the development of Tank Fence, a dynamic, interactive 3D game. Along the way you'll gain skills in building apps with Eclipse and the Android SDK or NDK, rendering graphics using hardware acceleration, and multithreading for performance and responsiveness. iOS developers will also find this book's information invaluable when writing their apps. You'll learn everything you need to know about: Creating simple, efficient game UIs Designing the basic building blocks of an exciting, interactive 3D game Pulling all the elements together with Blender, a powerful open-source tool for modeling, animation, rendering, compositing, video editing, and game creation Taking the next big step using custom and inbuilt functions, texturing, shading, light sources, and more Refining your mobile game app through collision detection, player-room-obstacle classes, and storage classes Doing all this efficiently on mobile devices with limited resources and processing

Pro Android C++ with the NDK Packt Publishing Ltd

A systematic guide consisting of over 70 recipes which focus on helping you build portable mobile games and aims to enhance your game development skills with clear instructions. If you are a C++ developer who wants to jump into the world of Android game development and who wants to use the power of existing C++ libraries in your existing Android Java applications, then this book is for you. You need to have basic knowledge of C or C++ including pointer manipulation, multithreading, and object-oriented programming concepts as well as some experience developing applications without using an IDE.

OpenGL ES 2 for Android Apress

Create engaging user experiences and awesome user interfaces using this guide About This Book Move beyond default UI templates, create and customize amazing UIs with Android Custom View Enable smooth data flow and create futuristic UIs by creating flexible custom views Scale your apps with responsive and data intensive views Who This Book Is For This book is for Android developers who want to create great user interfaces and move beyond the basics of the standard UI elements. They must have basic Android development knowledge along with basic Java programming. What You Will Learn Extend the standard UI widget framework by creating Custom views Add complex rendering, animations, and interactions to your views Optimize performance and decrease battery usage Implement custom views to share between multiple projects, or share it publicly Create 3D custom views using OpenGL ES In Detail To build great user interfaces for your Android apps that go beyond the standard UI elements, you need to use custom Android views. With these, you can give your app a distinctive look and ensure that it functions properly across multiple devices. This book will help you construct a great UI for your apps by teaching you how to create custom Android views. You will start by creating your first Android custom view and go through the design considerations. You will then see how the right choices will enable your custom view to perform seamlessly across multiple platforms and Android versions. You will create custom styleable attributes that work with Android XML layouts, learn to process touch events, define custom attributes, and add properties and events to them. By the end of this book, you will be able to create apps with custom views that are responsive and adaptable to make your app distinctive and an instant hit with its users. Style and approach The approach will be that of a step by step practical tutorial. The book will take you through a complete journey, right from creating your first Android view to

customizing it to enable it to support any complex app.

The Busy Coder's Guide to Advanced Android Development eBookFrenzy

In just 24 sessions of one hour or less, Sams Teach Yourself Android Game Programming in 24 Hours will help you master mobile game development for Android 4. Using a straightforward, step-by-step approach, you'll gain hands-on expertise with the entire process: from getting access to the hardware via the Android SDK to finishing a complete example game. You'll learn to use the Android SDK and open source software to design and build fast, highly playable games for the newest Android smartphones and tablets. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success! Step-by-step instructions carefully walk you through the most common Android game programming tasks. Quizzes and exercises at the end of each chapter help you test your knowledge. By the Way notes present interesting information related to the discussion. Did You Know? tips offer advice or show you easier ways to perform tasks. Watch Out! cautions alert you to possible problems and give you advice on how to avoid them. Jonathan Harbour is a writer and instructor whose love for computers and video games dates back to the Commodore PET and Atari 2600 era. He has a Master's in Information Systems Management. His portfolio site at <http://www.jharbour.com> includes a discussion forum. He also authored Sams Teach Yourself Windows Phone 7 Game Programming in 24 Hours. His love of science fiction led to the remake of a beloved classic video game with some friends, resulting in Starflight—The Lost Colony (<http://www.starflightgame.com>). Learn how to... Install and configure the free development tools, including the Android 4 SDK, Java Development Kit, and Eclipse (or NetBeans) Use the Android graphics system to bring your game characters to life Load and manage bitmaps, and use double buffering for better performance Incorporate timing and animation with threaded game loops Tap into the touch screen for user input Learn to use Android sensors such as the accelerometer, gyroscope, compass, light detector, and thermometer Integrate audio into your games using the media player Build your own game engine library to simplify gameplay code in your projects Animate games with sprites using atlas images and fast matrix transforms Employ object-oriented programming techniques using inheritance and data hiding Create an advanced animation system to add interesting behaviors to game objects Detect collisions and simulate realistic movement with trigonometry Experiment with an evolving engine coding technique that more naturally reflects how games are written

Professional Android 4 Application Development Payload Media, Inc.

The first comprehensive guide to discovering and preventing attacks on the Android OS As the Android operating system continues to increase its share of the smartphone market, smartphone hacking remains a growing threat. Written by experts who rank among the world's foremost Android security researchers, this book presents vulnerability discovery, analysis, and exploitation tools for the good guys. Following a detailed explanation of how the Android OS works and its overall security architecture, the authors examine how vulnerabilities can be discovered and exploits developed for various system components, preparing you to defend against them. If you are a mobile device administrator, security researcher, Android app developer, or consultant responsible for evaluating Android security, you will find this guide is essential to your toolbox. A crack team of leading Android security researchers explain Android security risks, security design and architecture, rooting, fuzz testing, and vulnerability analysis Covers Android application building blocks and security as well as debugging and auditing Android apps Prepares mobile device administrators, security researchers, Android app developers, and security consultants to defend Android systems against attack Android

Hacker's Handbook is the first comprehensive resource for IT professionals charged with smartphone security.

Beginning Android 4 Games Development "O'Reilly Media, Inc."

Android Application Development For Dummies All-In-One, 3rd Edition gathers six Android For Dummies mini-books into one friendly guide. You'll go from Android newbie all the way to confident programmer and learn to develop apps for the world's largest smart phone market. Kotlin experts Barry Burd and John Paul Mueller introduce you to Android programming from start to finish! Like all For Dummies books, this guide is written with clear explanations and careful organization, so non-technical readers and experienced programmers alike can get up to speed quickly. This new edition covers the latest features and enhancements to the Android platform. Learn how to develop apps for all sorts of devices including: your smartphone, tablet, wearables, TV, auto, and Internet of Things (IoTs) like your refrigerator Discover the new Kotlin programming language, which makes development easier Create apps even faster than before using the new techniques found in this book Develop apps for the largest smartphone market to reach the biggest possible audience This book focuses on Android 10, the newest and most flexible Android platform. Get started turning your app development dreams into reality today!

Learn Android Studio Prentice Hall

Get a practical introduction to React Native, the JavaScript framework for writing and deploying fully featured mobile apps that render natively. The second edition of this hands-on guide shows you how to build applications that target iOS, Android, and other mobile platforms instead of browsers—apps that can access platform features such as the camera, user location, and local storage. Through code examples and step-by-step instructions, web developers and frontend engineers familiar with React will learn how to build and style interfaces, use mobile components, and debug and deploy apps. You'll learn how to extend React Native using third-party libraries or your own Java and Objective-C libraries. Understand how React Native works under the hood with native UI components Examine how React Native's mobile-based components compare to basic HTML elements Create and style your own React Native components and applications Take advantage of platform-specific APIs, as well as modules from the framework's community Incorporate platform-specific components into cross-platform apps Learn common pitfalls of React Native development, and tools for dealing with them Combine a large application's many screens into a cohesive UX Handle state management in a large app with the Redux library *Embedded Android* Sams Publishing

Android is one of the major players in the mobile phone market.

Android is a mobile platform that is built on the top of Linux operating system. The native-code support on Android offers endless opportunities to application developers, not limited the functionality that is provided by Android framework. Pro Android C++ with the NDK is an advanced tutorial and professional reference for today's more sophisticated app developers now porting, developing or employing C++ and other native code to integrate into the Android platform to run sophisticated native apps and better performing apps in general. Using a game app case study, this book explores tools for troubleshooting, debugging, analyzing memory issues, unit testing, unit test code coverage, performance measurement, on native applications, as well as integrating the Android NDK toolchain into existing Autoconf, Makefile, CMake, or JAM based build systems. Pro Android C++ with the NDK also covers the following: · The Android platform, and getting up to speed with the Android NDK, and exploring the APIs that are provided in native space. An overview of Java Native Interface (JNI), and auto-generating JNI code through Simplified Wrapper and Interface Generator (SWIG). An introduction to Bionic API, native networking, native multithreading, and the C++ Standard Template Library (STL) support. Native graphics and sound using JNI Graphics, OpenGL ES, and OpenSL ES. Debugging and troubleshooting native applications using Logging, GNU Debugger (GDB), Eclipse Debugger, Valgrind, strace, and other tools. Profiling native code using GProf to

identify performance bottlenecks, and NEON/SIMD optimization from an advanced perspective, with tips and recommendations.

Learning Java by Building Android Games Apress

Fully updated for Android Studio 4.1, Android 11 (R), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor 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. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. 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, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 4.1 and Android 11 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains, MotionLayout animation, barriers, direct reply notifications, view bindings and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some 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.

Learn OpenGL ES Packt Publishing Ltd

Fully updated for Android Studio 3.0 and Android 8, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE), the Android 8 Software Development Kit (SDK) and the Java programming language. 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 Layout Editor 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, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3 and Android 8 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration. 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.

Asynchronous Android Programming Payload Media

Unlock the power of multi-core mobile devices to build responsive and reactive Android applications About This Book Construct scalable and performant applications to take advantage of multi-thread

asynchronous techniques Explore the high-level Android asynchronous constructs available on the Android SDK Choose the most appropriate asynchronous technique to implement your next outstanding feature Who This Book Is For This book is for Android developers who want to learn how to build multithreaded and reliable Android applications using high-level and advanced asynchronous techniques and concepts. No prior knowledge of concurrent and asynchronous programming is required. This book will also be great for Java experts who are new to Android. Whether you are a beginner at Android development or a seasoned Android programmer, this book will guide you through the most basic and advanced asynchronous constructs used in Android programming. What You Will Learn Get familiar with the android process model and low-level concurrent constructs delivered by the Android SDK Use AsyncTask and loader framework to load data in the background, delivering progress results in the meantime Create services that interact with your activity without compromising the UI rendering Learn the working of Android concurrency on the Native Layer Interact with nearby devices over Bluetooth and WiFi communications channels Create and compose tasks with RxJava to execute complex asynchronous work in a predictable way Get accustomed to the use of the Android Loader construct to deliver up-to-date results In Detail Asynchronous programming has acquired immense importance in Android programming, especially when we want to make use of the number of independent processing units (cores) available on the most recent Android devices. With this guide in your hands you'll be able to bring the power of Asynchronous programming to your own projects, and make your Android apps more powerful than ever before! To start with, we will discuss the details of the Android Process model and the Java Low Level Concurrent Framework, delivered by Android SDK. We will also guide you through the high-level Android-specific constructs available on the SDK: Handler, AsyncTask, and Loader. Next, we will discuss the creation of IntentServices, Bound Services and External Services, which can run in the background even when the user is not interacting with it. You will also discover AlarmManager and JobScheduler APIs, which are used to schedule and defer work without sacrificing the battery life. In a more advanced phase, you will create background tasks that are able to execute CPU-intensive tasks in a native code-making use of the Android NDK. You will be then guided through the process of interacting with remote services asynchronously using the HTTP protocol or Google GCM Platform. Using the EventBus library, we will also show how to use the Publish-Subscribe software pattern to simplify communication between the different Android application components by decoupling the event producer from event consumer. Finally, we will introduce RxJava, a popular asynchronous Java framework used to compose work in a concise and reactive way. Asynchronous Android will help you to build well-behaved applications with smooth responsive user interfaces that delight the users with speedy results and data that's always fresh. Style and approach This easy-to-follow guide is full of code examples of real-world use cases. Each asynchronous topic is explained sequentially, from the most basic and low-level to the more advanced, using concise and effective language. Some lifecycle flows and concepts feature illustrations to help you understand the complex interactions between Android entities.

Building Native Mobile Apps with JavaScript Packt Publishing Ltd

Develop vision-aware and intelligent Android applications with the robust OpenCV library About This Book This is the most up-to-date book on OpenCV Android programming on the market at the moment. There is no direct competition for our title. Based on a technology that is increasing in popularity, proven by activity in forums related to this topic. This book uniquely covers applications such as the Panoramic viewer and Automatic Selfie, among others. Who This Book Is For If you are an Android developer and want to know how to implement vision-aware applications using OpenCV, then this book is definitely for you. It

would be very helpful if you understand the basics of image processing and computer vision, but no prior experience is required

What You Will Learn Identify and install all the elements needed to start building vision-aware Android applications

Explore image representation, colored and gray scale Recognize and apply convolution operations and filtering to deal with noisy data Use different shape analysis techniques Extract and identify interest points in an image Understand and perform object detection Run native computer vision algorithms and gain performance boosts

In Detail Starting from the basics of computer vision and OpenCV, we'll take you all the way to creating exciting applications. You will discover that, though computer vision is a challenging subject, the ideas and algorithms used are simple and intuitive, and you will appreciate the abstraction layer that OpenCV uses to do the heavy lifting for you. Packed with many examples, the book will help you understand the main data structures used within OpenCV, and how you can use them to gain performance boosts. Next we will discuss and use several image processing algorithms such as histogram equalization, filters, and color space conversion. You then will learn about image gradients and how they are used in many shape analysis techniques such as edge detection, Hough Line Transform, and Hough Circle Transform. In addition to using shape analysis to find things in images, you will learn how to describe objects in images in a more robust way using different feature detectors and descriptors. By the end of this book, you will be able to make intelligent decisions using the famous Adaboost learning algorithm.

Style and approach An easy-to-follow tutorial packed with hands-on examples. Each topic is explained and placed in context, and the book supplies full details of the concepts used for added proficiency.

Building Android UIs with Custom Views Packt Publishing Ltd

Appcelerator Titanium Application Development by Example Beginner's Guide is an example-driven tour of the language that guides you through all the stages of app design. The style is relaxed and friendly whilst remaining concise and structured. If you are new to this technology or curious about the possibilities of Appcelerator Titanium then this book is for you. If you are a web developer who is looking for a way to craft cross-platform apps, then this book and the Titanium language is the choice for you.