

Basic Sensors In Ios Programming The Accelerometer Gyroscope And More Alasdair Allan

If you've got incredible iOS ideas, get this book and bring them to life! iOS 7 represents the most significant update to Apple's mobile operating system since the first iPhone was released, and even the most seasoned app developers are looking for information on how to take advantage of the latest iOS 7 features in their app designs. That's where iOS App Development For Dummies comes in! Whether you're a programming hobbyist wanting to build an app for fun or a professional developer looking to expand into the iOS market, this book will walk you through the fundamentals of building a universal app that stands out in the iOS crowd. Walks you through joining Apple's developer program, downloading the latest SDK, and working with Apple's developer tools Explains the key differences between iPad and iPhone apps and how to use each device's features to your advantage Shows you how to design your app with the end user in mind and create a fantastic user experience Covers using nib files, views, view controllers, interface objects, gesture recognizers, and much more There's no time like now to tap into the power of iOS – start building the next big app today with help from iOS App Development For Dummies!

Provides ready-made code solutions for the iOS 6 development challenges readers are most likely to face, eliminating trial-and-error and helping them build reliable apps from the very beginning. Original.

Build exciting AR applications on mobile and wearable devices with Unity 3D, Vuforia, ARToolkit, Microsoft Mixed Reality HoloLens, Apple ARKit, and Google ARCore About This Book Create unique AR Applications from scratch, from beginning to end, with step-by-step tutorials Use Unity 3D to efficiently create AR apps for Android, iOS, and Windows platforms Use Vuforia, ARToolkit, Windows Mixed Reality, and Apple ARKit to build AR projects for a variety of markets Learn best practices in AR user experience, software design patterns, and 3D graphics Who This Book Is For The ideal target audience for this book is developers who have some experience in mobile development, either Android or iOS. Some broad web development experience would also be beneficial. What You Will Learn Build Augmented Reality applications through a step-by-step, tutorial-style project approach Use the Unity 3D game engine with the Vuforia AR platform, open source ARToolkit, Microsoft's Mixed Reality Toolkit, Apple ARKit, and Google ARCore, via the C# programming language Implement practical demo applications of AR including education, games, business marketing, and industrial training Explore a variety of AR recognition modes, including target images, markers, objects, and spatial mapping Target a variety of AR devices including phones, tablets, and wearable smartglasses, for Android, iOS, and Windows HoloLens Development expertise with Unity 3D graphics, UIs, physics, and event systems Explore and utilize AR best practices and software design patterns In Detail Augmented Reality brings with it a set of challenges that are unseen and unheard of for traditional web and mobile developers. This book is your gateway to Augmented Reality development—not a theoretical showpiece for your bookshelf, but a handbook you will keep by your desk while coding and architecting your first AR app and for years to come. The book opens with an introduction to Augmented Reality, including markets, technologies, and development tools. You will begin by setting up your development machine for Android, iOS, and Windows development, learning the basics of using Unity and the Vuforia AR platform as well as the open source ARToolkit and Microsoft Mixed Reality Toolkit. You will also receive an introduction to Apple's ARKit and Google's ARCore! You will then focus on building AR applications, exploring a variety of recognition targeting methods. You will go through multiple complete projects illustrating key market sectors including business marketing, education, industrial training, and gaming. By the end of the book, you will have gained the necessary knowledge to make quality content appropriate for a range of AR devices, platforms, and intended uses. Style and approach This book adopts a practical, step-by-step, tutorial-style approach. The design principles and methodology will be explained by

creating different modules of the AR app.

Wireless MEMS and Applications reviews key emerging applications of MEMS in wireless and mobile networks. This book covers the different types of wireless MEMS devices, also exploring MEMS in smartphones, tablets, and the MEMS used for energy harvesting. The book reviews the range of applications of wireless MEMS networks in manufacturing, infrastructure monitoring, environmental monitoring, space applications, agricultural monitoring for food safety, health applications, and systems for smart cities. Focuses on the use of MEMS in the emerging area of wireless applications Contains comprehensive coverage of the range of applications of MEMS for wireless networks Presents an international range of expert contributors who identify key research in the field

Program the Internet of Things with Swift for iOS

Programming iOS 7

Single Board Computer Development for Raspberry Pi and Mobile Devices

Digital Innovation and Digital Business Transformation

Writing the iPhone and iPad as the Internet of Things

Tools and Techniques for Low-Power Networking

An introduction to the engineering principles of embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.

This book looks at how to integrate iOS devices into distributed sensors network, both to make use of its own on-board sensors in such networks, but also as a hub. Beyond the discussion of basic client-server architectures, and making use of the existing wireless capabilities, this book examines how to connect iOS devices to microcontroller platforms via serial connections.

Provides information on using iOS 6 to create applications for the iPhone, iPad, and iPod Touch.

iOS 7 Development Recipes: A Problem-Solution Approach is your code reference and guide to developing solutions on the iPad, iPhone, and other iOS 7 SDK devices and platforms. This book provides in-depth code samples and discussions for scenarios that developers face every day. You'll find numerous examples of real-world cases that will enable you to build fully functional applications quickly and efficiently. The recipes included in this book are wide in scope and have been geared toward the professional developer. You'll find clear and concise code samples accompanying each recipe, and you will be presented with cutting-edge solutions that bring forth the best that the iOS 7 SDK has to offer. The recipes include: Working with Auto Layout to build flexible user interfaces that adapt to different screen sizes Building applications that incorporate multimedia Building location-aware apps Understanding best practices for application design and development You'll find this book to be an indispensable reference for all your iOS development.

iPhone Open Application Development

Learning iOS Programming, 3rd Edition

A Cyber-Physical Systems Approach

iPhone and iPad Apps with Arduino, Augmented Reality, and Geolocation

iOS App Distribution & Best Practices (First Edition)

Mobile App Development

Turn your iPhone or iPad into the hub of a distributed sensor network with the help of an Arduino microcontroller. With this concise guide, you'll learn how to connect an external sensor to an iOS device and have them talk to each other through Arduino. You'll also build an iOS application that will parse the sensor values it receives and plot the resulting measurements, all in real-time. iOS processes data from its own onboard sensors, and now you can extend its reach with this simple, low-cost project. If you're an Objective-C programmer who likes to experiment, this book explains the basics of Arduino and other hardware components you need—and lets you have fun in the process. Learn how to connect the Arduino platform to any iOS device Build a simple application to control your Arduino directly from an iPad Gather measurements from an ultrasonic range finder and display them on your iPhone Connect an iPhone, iPad, or iPod Touch to an XBee radio network Explore other methods for connecting external sensors to iOS, including Ethernet and the MIDI protocol

Introduces the features of the C programming language, discusses data types, variables, operators, control flow, functions, pointers, arrays, and structures, and looks at the UNIX system interface

Mastering ARM hardware architecture opens a world of programming for nearly all phones and tablets including the iPhone/iPad and most Android phones. It's also the heart of many single board computers like the Raspberry Pi. Gain the skills required to dive into the fundamentals of the ARM hardware architecture with this book and start your own projects while you develop a working knowledge of assembly language for the ARM 64-bit processor. You'll review assembly language programming for the ARM Processor in 64-bit mode and write programs for a number of single board computers, including the Nvidia Jetson Nano and the Raspberry Pi (running 64-bit Linux). The book also discusses how to target assembly language programs for Apple iPhones and iPads along with 64-Bit ARM based Android phones and tablets. It covers all the tools you require, the basics of the ARM architecture, the Objective-C and ARM 64-Bit Assembly instructions, and how data is stored in the computer's memory. In addition, interface apps to hardware such as the Raspberry Pi's GPIO ports. The book covers code optimization, as well as how to inter-operate with C and Python code. Readers will develop enough background to use the official ARM reference documentation for their own projects. With Programming with 64-Bit ARM Assembly Language as your guide you'll study how to read, reverse engineer and hack machine code, then be able to apply these new skills to study code examples and take control of both your ARM devices' hardware and software. What You'll Learn Make operating system calls from assembly language and include other software libraries in your projects Interface apps to hardware devices such as the Raspberry Pi GPIO ports

Reverse engineer and hack code Use the official ARM reference documentation for your own projects Who This Book Is For Software developers who have already learned to program in a higher-level language like Python, Java, C#, or even C and now wish to learn Assembly programming.

With Bluetooth Low Energy (BLE), smart devices are about to become even smarter. This practical guide demonstrates how this exciting wireless technology helps developers build mobile apps that share data with external hardware, and how hardware engineers can gain easy and reliable access to mobile operating systems. This book provides a solid, high-level overview of how devices use BLE to communicate with each other. You'll learn useful low-cost tools for developing and testing BLE-enabled mobile apps and embedded firmware and get examples using various development platforms—including iOS and Android for app developers and embedded platforms for product designers and hardware engineers. Understand how data is organized and transferred by BLE devices Explore BLE's concepts, key limitations, and network topology Dig into the protocol stack to grasp how and why BLE operates Learn how BLE devices discover each other and establish secure connections Set up the tools and infrastructure for BLE application development Get examples for connecting BLE to iPhones, iPads, Android devices, and sensors Develop code for a simple device that transmits heart rate data to a mobile device

Build Location-Based Projects for iOS

Problem-Solution Approach

For iOS and Android Edition 3.0

From Xcode to App Store

Programming the Accelerometer, Gyroscope, and More

Learn How to Program Apps for the Internet of Things

Take advantage of iPhone and iPad sensors and advanced geolocation technologies to build state-of-the-art location applications. In this concise hands-on guide, author Alasdair Allan (Learning iOS Programming) takes you deep inside Apple's Core Location framework, Map Kit, and other iOS tools, using illustrative examples and sample Objective-C code. Learn how to build location-aware apps for both iPhones and iPads, using code that detects hardware features and then adjusts your app's behavior. If you're a programmer with Objective-C, this book helps you get off to a solid start in location-based app development. You'll learn about: Core Location: Understand the significant-change location service and geo-fencing capabilities Map Kit: Embed maps into your application's views Magnetometer: Use the on-board sensor as a digital compass Geocoding capabilities: Translate geographic coordinates into place names, and vice versa Heat maps: Get a code walkthrough for displaying these maps on top of a standard MapKit view Third-party SDKs: Add unique geo-location capabilities to your app from SkyHook Wireless, Mapbox, and other providers

If you're grounded in the basics of Swift, Xcode, and the Cocoa framework, this book provides a structured explanation of all essential real-world iOS app components. Through deep exploration and copious code examples, you'll learn how to create views, manipulate view controllers, and add features from iOS frameworks. Create, arrange, draw, layer, and animate views that respond to touch Use view controllers to manage multiple screens of interface Master interface classes for scroll views, table views, text, popovers, split views, web views, and controls Dive into frameworks for sound, video, maps, and sensors Access user libraries: music, photos, contacts, and calendar Explore additional topics, including files, networking, and threads.

Features hands-on sample projects and exercises designed to help programmers create iOS applications. This book presents selected examples of digitalization in the age of digital change. It is divided into two sections: "Digital Innovation," which features new technologies that stimulate and enable new business opportunities; and "Digital Business Transformation," comprising business and management concepts that employ specific technological solutions for their practical implementation. Combining new insights from research, teaching and management, including digital transformation, e-business, knowledge repositioning, human-computer interaction, and business optimization, the book highlights the breadth of research as well as its meaningful and relevant transfer into practice. It is intended for academics seeking inspiration, as well as for leaders wanting to tap the potential of the latest trends to take society and their business to the next level.

Make: Book 10

Simple Solutions for Game Development Problems

Beginning Machine Learning For Apple and iOS

New Trends in Business Information Systems and Technology

Basic Sensors in iOS

Learning iOS Programming

Looks at the native environment of the iPhone and describes how to build software for the device.

Ready to make amazing games for the iPhone and iPad? With Apple's Swift programming language, it's never been easier. This updated cookbook provides detailed recipes for managing a wide range of common iOS game-development issues, ranging from 2D and 3D math, SpriteKit, and OpenGL to augmented reality with ARKit. You get simple, direct solutions to common problems found in iOS game programming. Need to figure out how to give objects physical motion, or want a refresher on gaming-related math problems? This book provides sample projects and straightforward answers. All you need to get started is some familiarity with iOS development in Swift.

Sharing Apple Apps With Your Team, Testers & the World You'll learn how to sign up for Apple Developer Program, generate the various certificates needed, configure your app and submit an app to the App Store for approval, both manually and through automated processes through automated pipelines. You'll learn how to use Apple TestFlight to add internal and external testers and receive feedback and conduct common workflow to release an app to the App store, as well as limiting frustration by troubleshooting and debugging common issues and problems associated with distributing apps. Topics Covered in iOS App Distribution & Best Practices App Store quick start: Your quickest way from no account to the App Store. Provisioning, code signing & entitlements: In-depth explanation of what they are, why you need them, and how they work. Distribution channels & TestFlight: Learn different ways of distributing your app, within an enterprise, with internal or external testers. App Store Connect: Learn about the Apple review process, what are the guidelines, what can go wrong and how to dispute them. Build customizations: Learn the ins and outs of configuring Xcode and build configurations. Build automation: Automate builds, build servers, and learn about tools such as fastlane. Continuous integration: Build your own CI pipeline to code, build, test, release, and repeat! After reading this book, you'll take your app build process and distribution to the next level, automate most of its tedious processes, and have an easier time debugging obscure app submission problem

Take your Android applications to the next level of interactivity by exploring the wide variety of Android sensors About This Book Get a thorough understanding of the fundamentals and framework of Android sensors. Acquire knowledge of advance sensor programming, and learn how to connect and use sensors in external devices such as the Android Watch, Polar heart rate monitors, Adidas speed cells, and so on. Learn from real-world sensor-based applications such as the Pedometer app to detect daily steps, the Driving app to detect driving events, and the Professional Fitness tracker app to track heart rate, weight, daily steps, calories burned, and so on. Who This Book Is For This book is targeted at Android developers who want to get a good understanding of sensors and write sensor-based applications, or who want to enhance their existing applications with additional sensor functionality. A basic knowledge of Android development is required What You Will Learn Learn about sensor fundamentals, different types of sensors, and the sensor co-ordinate system Understand the various classes, callbacks, and APIs of the Android Sensor framework Check all the available sensors on an Android device and know their individual capabilities—for example, their range of values, power consumption, and so on. Implement sensor fusion using two or more sensors together and learn to compensate for the weakness of one sensor by using the strength of another Build a variety of sensor based, real-world applications such as Weather, Pedometer, Compass, Driving Events Detection, Fitness Tracker, and so on. Get to know about wake up and non-wake up sensors, wake locks, and how to use sensor batch processing along with the sensor hardware FIFO queue Develop efficient battery and processor algorithms used to solve real-world problems Connect to a variety of remote sensors such as body weight measurement and body fat percentage measurement using the Google Fit platform from your Android app In Detail

Android phones available in today's market have a wide variety of powerful and highly precise sensors. Interesting applications can be built with them such as a local weather app using weather sensors, analyzing risky driving behavior using motion sensors, a fitness tracker using step-counter sensors, and so on. Sensors in external devices such as Android Watch, Body Analyzer & Weight Machine, Running Stick, and Smart Scale are also available. This book will provide the skills required to use sensors in your Android applications. It will walk you through all the fundamentals of sensors and will provide a thorough understanding of the Android Sensor Framework. You will also get to learn how to write code for the supportive infrastructure such as background services, scheduled and long running background threads, and databases for saving sensor data. Additionally, you will learn how to connect and use sensors in external devices from your Android app using the Google Fit platform. By the end of the book, you will be well versed in the use of Android sensors and programming to build interactive applications. Style and approach A step-by-step and easy-to-follow guide that focuses on utilizing sensors to perform certain tasks. After covering the fundamentals in the first chapter, the book develops the concepts by building a real-world, sensor-based application in subsequent chapters.

iOS Sensor Apps with Arduino

Build practical augmented reality applications with Unity, ARCore, ARKit, and Vuforia

Learning iOS Development

Programming iOS 6

iOS Sensor Programming

iOS 15 Programming Fundamentals with Swift

If you're grounded in the basics of Objective-C and Xcode, this practical guide takes you through the components you need for building your own iOS apps. With examples from real apps and programming situations, you'll learn how to create views, manipulate view controllers, and use iOS frameworks for adding features such as audio and video. Learn how to create, arrange, draw, layer, and animate views—and make them respond to touch Use view controllers to manage multiple screens of material in a way that's understandable to users Explore UIKit interface widgets in-depth, such as scroll views, table views, text, web views, and controls Dive into Cocoa frameworks for sensors, maps, location, sound, and video Access user libraries: music, photos, address book, and calendar Examine additional topics including files, threading, and networking New iOS 7 topics covered include asset catalogs, snapshots, template images, keyframe and spring view animation, motion effects, tint color, fullscreen views and bar underlayment, background downloading and app refresh, Text Kit, Dynamic Type, speech synthesis, and many others. Example projects are available on GitHub. Want to brush up on the basics? Pick up iOS 7 Programming Fundamentals to learn about Objective-C, Xcode, and Cocoa language features such as notifications, delegation, memory management, and key-value coding. Together with Programming iOS 7, you'll gain a solid, rigorous, and practical understanding of iOS 7 development.

Move into iOS development by getting a firm grasp of its fundamentals, including the Xcode 13 IDE, Cocoa Touch, and the latest version of Apple's acclaimed programming language, Swift 5.5. With this thoroughly updated guide, you'll learn the Swift language, understand Apple's Xcode development tools, and discover the new and improved features of the Objective-C programming language. Moving further, this book will provide the skills required to use sensors in your Android applications. It will walk you through all the fundamentals of sensors and will provide a thorough understanding of the Android Sensor Framework. You will also get to learn how to write code for the supportive infrastructure such as background services, scheduled and long running background threads, and databases for saving sensor data. Additionally, you will learn how to connect and use sensors in external devices from your Android app using the Google Fit platform. By the end of the book, you will be well versed in the use of Android sensors and programming to build interactive applications. Style and approach A step-by-step and easy-to-follow guide that focuses on utilizing sensors to perform certain tasks. After covering the fundamentals in the first chapter, the book develops the concepts by building a real-world, sensor-based application in subsequent chapters.

Info.plist build settings Improvements in Git integration, localization, unit testing, documentation, and distribution And more!

And ConclusionChapter 2. Functions; Function Parameters and Return Value; Void Return Type and Parameters; Function Signature; External Parameter Names; Overloading; Default Parameter Values; Variadic Parameters; Ignored Parameters; Modifiable Parameters; Function In Function; Recursion; Function As Value; Anonymous Functions; Define-and-Call; Closures; How Closures Improve Code; Function Returning Function; Closure Setting a Captured Variable; Closure Preserving Its Captured Environment; Curried Functions; Chapter 3. Variables and Simple Types; Variable Scope and Lifetime.

Learn how to build apps using Apple's native APIs for the Internet of Things, including the Apple Watch, HomeKit, and Apple Pay. You'll also see how to interface with popular third-party hardware such as the Raspberry Pi, Arduino, and the FitBit family of devices.Program the Internet of Things with Swift and iOS is the most up-to-date and comprehensive guide to building apps that interact with the physical world. You can easily access iPhone's sensors, but interpreting the data you get back from them is tricky. Harder still is combining the input from several sensors with outside data sets. This book shows you how to put it all together. It's ideal for experienced iPhone programmers, game programmers, augmented reality programmers, and geo hackers. Get an introduction to the hot topic of programming iPhone's built-in sensors Learn how to create sensor-aware apps that respond to a user's location Understand the basics of augmented reality programming Build apps that combine data from the accelerometer, GPS, digital compass, and camera This book is based on a collection of books that was published earlier, along with additional material not available elsewhere. The books in this collection are Augmented Reality in iOS, Geolocation in iOS, iOS Sensor Apps with Arduino, and Basic Sensors in iOS.

Internet-of-Things (IoT) Analytics are an integral element of most IoT applications, as it provides the means to extract knowledge, drive actuation services and optimize decision making. IoT analytics will be a major contributor to IoT business value in the coming years, as it will enable organizations to process and fully leverage large amounts of IoT data, which are nowadays largely underutilized. The Building Blocks of IoT Analytics is devoted to the presentation the main technology building blocks that comprise advanced IoT analytics systems. It introduces IoT analytics as a special case of BigData analytics and accordingly presents leading edge technologies that can be deployed in order to successfully confront the main challenges of IoT analytics applications. Special emphasis is paid in the presentation of technologies for IoT streaming and semantic interoperability across diverse IoT streams. Furthermore, the role of cloud computing and BigData technologies in IoT analytics are presented, along with practical tools for implementing, deploying and operating non-trivial IoT applications. Along with the main building blocks of IoT analytics systems and applications, the book presents a series of practical applications, which illustrate the use of these technologies in the scope of pragmatic applications. Technical topics discussed in the book include: Cloud Computing and BigData for IoT analyticsSearching the Internet of ThingsDevelopment Tools for IoT Analytics ApplicationsIoT Analytics-as-a-ServiceSemantic Modelling and Reasoning for IoT AnalyticsIoT analytics for Smart BuildingsIoT analytics for Smart CitiesOperationalization of IoT analyticsEthical aspects of IoT analytics

This book contains both research oriented and applied articles on IoT analytics, including several articles reflecting work undertaken in the scope of recent European Commission funded projects in the scope of the FP7 and H2020 programmes. These articles present results of these projects on IoT analytics platforms and applications. Even though certain articles have been contributed by different authors, they are structured in a well thought order that facilitates the reader either to follow the evolution of the book or to focus on specific topics depending on his/her background and interest in IoT and IoT analytics technologies. The compilation of these articles in this edited volume has been largely motivated by the close collaboration of the co-authors in the scope of working groups and IoT events organized by the Internet-of-Things Research Cluster (IERC), which is currently a part of EU's Alliance for Internet of Things Innovation (AIOTI).

The Advanced iOS 6 Developer's Cookbook

iOS App Development For Dummies

Professional Android Sensor Programming

Machine Learning by Tutorials (Second Edition)

Learn to Share Apps With Teams, Testers & the World

iOS Sensor Apps with Arduino

A Hands-On Course in Sensors using the Arduino and Raspberry Pi is the first book to give a practical and wide-ranging account of how to interface sensors and actuators with micro-controllers, Raspberry Pi and other control systems. The author describes the progression of raw signals through conditioning stages, digitization, data storage and presentation. The collection, processing, and understanding of sensor data plays a central role in industrial and scientific activities. This book builds simplified models of large industrial or scientific installations that contain hardware and other building blocks, including services for databases, web servers, control systems, and messaging brokers. A range of case studies are included within the book, including a weather station, geophones, a water-colour monitor, capacitance measurement, the profile of laser beam, and a remote-controlled and fire-seeking robot This book is suitable for advanced undergraduate and graduate students taking hands-on laboratory courses in physics and engineering. Hobbyists in robotics clubs and other enthusiasts will also find this book of interest.

Programming the accelerometer, gyroscope, camera, and magnetometer—Cover.*

If you're grounded in the basics of Swift, Xcode, and the Cocoa framework, this book provides a structured explanation of all essential real-world iOS app components. Through deep exploration and copious code examples, you'll learn how to create views, manipulate view controllers, and add features from iOS frameworks. Create, arrange, draw, layer, and animate views that respond to touch Use view controllers to manage multiple screens of interface Master interface classes for scroll views, table views, collection views, text, popovers, split views, web views, and controls Dive into frameworks for sound, video, maps, and sensors Access user libraries: music, photos, contacts, and calendar Explore additional topics, including files, networking, and threads Stay up-to-date on iOS 14 innovations, such as: Control action closures and menus Table view cell configuration objects Collection view lists and outlines New split view controller architecture Pointer customization on iPad New photo picker and limited photos authorization Reduced accuracy location Color picker, new page control behavior, revised date pickers, and more! Want to brush up on the basics? Pick up iOS 14 Programming Fundamentals with Swift to learn about Swift, Xcode, and Cocoa.

Together with Programming iOS 14, you'll gain a solid, rigorous, and practical understanding of iOS 14 development.

Although developers have covered a lot of topics and activities with nearly 200,000 apps for the iPhone, they have yet to tap the riches of location-based and augmented reality applications. This book shows you how to use iPhone's sensors -- the three-axis accelerometer, GPS, digital compass, and camera -- to build cutting-edge location-aware apps that interact with the physical world. You can easily access iPhone's sensors, but interpreting the data you get back from them is tricky. Harder still is combining the input from several sensors with outside data sets. This book shows you how to put it all together. It's ideal for experienced iPhone programmers, game programmers, augmented reality programmers, and geo hackers. Get an introduction to the hot topic of programming iPhone's built-in sensors Learn how to create sensor-aware apps that respond to a user's location Understand the basics of augmented reality programming Build apps that combine data from the accelerometer, GPS, digital compass, and camera This book is based on a collection of books that was published earlier, along with additional material not available elsewhere. The books in this collection are Augmented Reality in iOS, Geolocation in iOS, iOS Sensor Apps with Arduino, and Basic Sensors in iOS.

Android Sensor Programming by Example

Bluetooth LE Projects with Arduino, Raspberry Pi, and Smartphones

Write Native Objective-C Applications for the iPhone

Introduction to Embedded Systems

iOS Swift Game Development Cookbook

Augmented Reality and Location Enabled iPhone and iPad Apps

Get a rapid introduction to iPhone, iPad, and iPod touch programming. With this easy-to-follow guide, you' ll learn how to develop your first marketable iOS application, from opening Xcode to submitting your product to the App Store. Whether you' re a developer new to Mac programming or an experienced Mac developer ready to tackle iOS, this is your book. You' ll learn about Objective-C and the core framework hands-on by writing several sample iOS applications, giving you the basic skills for building your own applications independently. Packed with code samples, this book is refreshed and updated for iOS 6 and Xcode 4. Discover the advantages of building native iOS apps Get started with Objective-C and the Cocoa Touch frameworks Dive deep into the table view classes for building user interfaces Handle data input, parse XML and JSON documents, and store data on SQLite Use iOS sensors, including the accelerometer, magnetometer, camera, and GPS Build apps that use the Core Location and MapKit frameworks Integrate Apple' s iCloud service into your applications

Programming and Interfacing with Arduino provides an in-depth understanding of the Arduino UNO board. It covers programming concepts, working and interfacing of sensors, input/output devices, communication modules, and actuators with Arduino UNO board. This book contains a large number of programming examples along with the description and interfacing details of hardware with Arduino UNO board. It discusses important topics, including SPI communication protocol, I2C communication protocol, light-emitting diode, potentiometer, analog-to-digital converter, pulse width modulation, temperature sensor LM35, humidity and temperature sensor DHT11, motor driver L293D, LED interfacing and programming, and push-button interfacing and programming. Aimed at senior undergraduate students and professionals in areas such as electrical engineering, electronics, and communication engineering, this text: Discusses construction and working of sensors, including ultrasonic sensor, temperature sensor, and optical sensor. Covers construction, working, programming, and interfacing of IO devices. Discusses programming, interfacing construction, and working of relay with the Arduino board for controlling high-voltage devices. Covers interfacing diagram of devices with the Arduino board. Provides videos demonstrating the implementation of programs on the Arduino board. What really sets the iPhone apart from laptops and PCs is its use of onboard sensors, including those that are location-enabled. This concise book takes experienced iPhone and Mac developers on a detailed tour of iPhone and iPad hardware by explaining how these sensors work, and what they're capable of doing. With this book, you'll build sample applications for each sensor, and learn hands-on how to take advantage of the data each sensor produces. You'll gain valuable experience that you can immediately put to work inside your own iOS applications for the iPhone, iPod touch, and iPad. This book helps you focus on: Camera: learn how to take pictures and video, create video thumbnails, customize video, and save media to the photo album Audio: use the media picker controller and access the iPod music library in your own application, and enable your app to record and play sampled audio Accelerometer: write an application that uses this sensor to determine device orientation Magnetometer: learn how this sensor verifies compass headings Core Motion: use this framework to receive motion data from both the accelerometer and the vibrational gyroscope This short book is part of a collection that will, along with new material, be compiled into a larger book, iOS Sensor Programming. The other books in this collection are Augmented Reality in iOS, Geolocation in iOS, and iOS Sensor Apps with Arduino.

This book is where your adventures with Bluetooth LE begin. You'll start your journey by getting familiar with your hardware options: Arduino, BLE modules, computers (including Raspberry Pi!), and mobile phones. From there, you'll write code and wire circuits to connect off-the-shelf sensors, and even go all the way to writing your own Bluetooth Services. Along the way you'll look at lightbulbs, locks, and Apple's iBeacon technology, as well as get an understanding of Bluetooth security-- both how to beat other people's security, and how to make your hardware secure.

Swift, Xcode, and Cocoa Basics

Programming iOS 13

The C Programming Language

Programming iOS 14

Wireless MEMS Networks and Applications

Although developers have covered a lot of topics and activities with more than 725,000 apps for iOS devices, they have yet to tap the riches of location-based and augmented reality applications. This book shows you how to use iPhone's sensors -- the three-axis accelerometer, GPS, digital compass, and camera -- to build cutting-edge location-aware apps that interact with the physical world. You can easily access iPhone's sensors, but interpreting the data you get back from them is tricky. Harder still is combining the input from several sensors with outside data sets. This book shows you how to put it all together. It's ideal for experienced iPhone programmers, game programmers, augmented reality programmers, and geo hackers. Get an introduction to the hot topic of programming iPhone's built-in sensors Learn how to create sensor-aware apps that respond to a user's location Understand the basics of augmented reality programming Build apps that combine data from the accelerometer, GPS, digital compass, and camera Connect iOS devices to Arduino and connect to external sensors This book is based on a collection of books that was published earlier, along with additional material not available elsewhere. The books in this collection are Augmented Reality in iOS, Geolocation in iOS, iOS Sensor Apps with Arduino, and Basic Sensors in iOS.

Geolocation in iOS

A Hands-On Course in Sensors Using the Arduino and Raspberry Pi

Wiring the iPhone and iPad Into the Internet of Things
Basic Sensors in iOS
Building Blocks for IoT Analytics
Learning iPhone Programming