Implementing Augmented Reality Into Immersive Virtual Learning Environments New Perspectives on Virtual and Augmented Reality


Apple Augmented Reality by Tutorials (First Edition)

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Learn how to do more with the Android SDK. This advanced Android Application guide which shows you how to make even better Android apps that users will love About This Book Learn how to design and build better Apple apps to reach new users Explore the latest features and tools in the Android SDK that will help you become a better developer From concurrency to testing – through to adding adverts and billing, this book ties together every element to help you deliver a high-quality Android application on Google Play. This book is for mastering Android Application Development. It is intended for Android developers that want insight on and guidance through the steps they need to take to give their creations the edge in a competitive market. What You Will Learn Create an Android project with Android M features Design the basic navigation for your app Use Android Studio to build your app Use Android Studio to test your app

New Perspectives on Virtual and Augmented Reality

An easy-to-understand primer on Virtual Reality and Augmented Reality Virtual Reality (VR) and Augmented Reality (AR) are driving the next technological revolution. If you want to get in on the action, this book helps you understand what these technologies are, their history, how they've been used, and how they'll affect consumers both personally and professionally in the very near future. With VR and AR poised to become mainstream within the next few years, an accessible book to bring users up to speed on the subject is sorely needed—and that's where this handy reference comes in! Rather than focusing on a specific piece of hardware (HTC Vive, Oculus Rift, iOS ARKit) or software (Unity, Unreal Engine), Virtual & Augmented Reality For Dummies offers a broad look at both VR and AR, giving you a bird's eye view of what you can expect as they continue to take the world by storm. "Keeps you up-to-date on the pulse of this fast-changing technology." Explores the many ways AR/VR are being used in fields such as healthcare, education, and entertainment Includes interviews with designers, developers, and technologists currently working in the fields of VR and AR Perfect for both potential content creators and content consumers, this book will change the way you approach and contribute to these emerging technologies.

Augmented Reality for Developers

Learn how to design and build better Android apps that users will love. About This Book Learn how to design and build better Android apps to reach new users. Explore the latest features and tools in the Android SDK that will help you become a better developer. From concurrency to testing – through to adding adverts and billing, this book ties together every element to help you deliver a high-quality Android application on Google Play. This book is for mastering Android Application Development. It is intended for Android developers that want insight on and guidance through the steps they need to take to give their creations the edge in a competitive market. What You Will Learn Create an Android project with Android M features Design the basic navigation for your app Use Android Studio to build your app Use Android Studio to test your app

Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications

Augmented reality (AR) offers a live direct or indirect view of a physical, real-world environment, where the elements and surroundings are augmented by computer-generated sensory input such as graphics and GPS data. It makes a game more real. Your social media app puts you where you want to be or go. Pro Android Augmented Reality walks you through the foundations of building an augmented reality application. From using various software and Android hardware sensors, such as an accelerometer or a magnetometer (compass), you'll learn the building blocks of augmented reality for both marker-based and location-based apps. Case studies are included in this one-of-a-kind book, which pairs nicely with other Android development books. After reading Pro Android Augmented Reality, you'll be able to build augmented reality rich media apps or integrate all the best augmented reality into your favorite Android smartphone and/or tablet.
Beginning Android 4 Games Development

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. Employ 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. Develop expertise with Unity 3D graphics, Uls, 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.

Prototyping Augmented Reality

This is the first comprehensive research monograph devoted to the use of augmented reality in education. It is written by a team of 58 world-leading researchers, practitioners and artists from 15 countries, pioneering in employing augmented reality as a new teaching and learning technology and tool. The authors explore the state of the art in educational augmented reality and its usage in a large variety of particular areas, such as medical education and training, English language education, chemistry learning, environmental and special education, dental training, mining engineering teaching, historical and fine art education. Augmented Reality in Education: A New Technology for Teaching and Learning is essential reading not only for educators of all types and levels, educational researchers and technology developers, but also for students (both graduates and undergraduates) and anyone who is interested in the educational use of emerging augmented reality technology.

Virtual and Augmented Reality for Automobile Industry: Innovation Vision and Applications

The potential to integrate augmented reality into educational settings has led to the development of myriad programs for implementing these transformative technologies into education. However, the transformative learning processes possible for learners can best be developed through integration in immersive virtual learning environments. The integration of augmented reality (AR) technologies into education involves matching the potential of AR with the most effective instructional model for immersing learners in the learning process. With current research focused heavily on blended or online learning, augmented reality fits right into the new technologies and trends that are being developed and utilized on a consistent basis. There is a need for research that provides detailed curriculum guidelines, templates for designing virtual worlds, evaluation processes, and immersive learning procedures that can be utilized to provide the best educational environment for student success. Implementing Augmented Reality Into Immersive Virtual Learning Environments provides current research for the integration of transformative new technologies into multiple educational settings. Examining the why, what, and how of integrating augmented reality into immersive virtual learning technologies, this book covers various educational settings, such as nursing education, sports coaching, language education, and more. While highlighting the benefits for virtual reality, its role in remote learning, the logistics of simulation, and branches of it such as gamification, this book is ideally intended for teachers, school administrators, teacher educators, practitioners, IT specialists, educational software developers, researchers, academicians, and students interested in integrating augmented reality in educational programs.

Learn ARCore - Fundamentals of Google ARCore

Augmented reality (AR) offers a live direct or indirect view of a physical, real-world environment, where the elements and surroundings are augmented by computer-generated sensory input such as graphics and GPS data. It makes a game more real. Your social media app puts you where want to be or go. Pro Android Augmented Reality walks you through the foundations of building an augmented reality application. From using various software and Android hardware sensors, such as an accelerometer or a magnetometer (compass), you’ll learn the building blocks of augmented reality for both marker- and location-based apps. Case studies are included in this one-of-a-kind book, which pairs nicely with other Android development books. After reading Pro Android Augmented Reality, you’ll be able to build augmented reality rich media apps or integrate all the best augmented reality into your favorite Android smartphone and/or tablet.

Innovating with Augmented Reality

Beginning Android 4 Games Development offers you need to join the ranks of successful Android game developers. You’ll start with game design fundamentals and programming basics, and then progress toward creating your own basic game engine and playable game that works on Android 4.0 and earlier devices. This will give you everything you need to branch out and write your own Android games. The potential user base and the wide array of available high-performance devices makes Android an attractive target for aspiring game developers. Do you have an awesome idea for the next break-through mobile gaming title? Beginning Android 4 Games Development will help you kick-start your project. The book will guide you through the process of making several example games for the Android platform, and involves a wide range of topics: The fundamentals of Android game development targeting Android 1.5-4.0+ devices The Android platform basics to apply those fundamentals in the context of making a game The design of 2D and 3D games and their successful implementation on the Android platform.

Professional Augmented Reality Browsers for Smartphones
Augmented Reality for Android Application Development

Learn how to use the Processing programming language and environment to create Android applications with ease. This book covers the basics of the Processing language, allowing users to effectively program interactive graphics in 2D and 3D. It also details the application of these techniques to different types of Android devices (smartphones, tablets, wearables and smartwatches). Processing for Android walks you through the steps of taking an initial idea to a final app. With this book, you will be able to write engaging apps with interactive visuals driven by motion and location information obtained from the device's sensors; including health data from the wearer, like step count and heart rate. An advantage of Processing for Android over more complex programming environments is the ability for users to focus on the interactions and visual output of their code rather than in the implementation details of the Android platform. This book goes through a comprehensive series of hand-on projects, ranging from simple sketches to more complex projects involving sensors and integration with larger apps. It also covers important aspects such as exporting your Processing projects as signed apps are ready to upload to the Google Play store and be share with the world! What You'll Learn Write apps and live wallpapers for smartphones and tablets Design and implement interactive watch faces Create Virtual Reality experiences for Cardboard devices Integrate Processing sketches into larger apps and Android Studio Export projects as completed apps ready to distribute through Google Play Store Who This Book Is For Artists, designers, students, researchers, and hobbyists who are not necessarily Android experts, but are looking to write mobile apps that make creative use of interactive graphics, sensor data, and virtual reality.

Trends in Wireless Communication and Information Security

AR applications allow people to interact with the real world through digitally enhanced content. This AR Unity 3D book helps you demystify AR technology using your existing knowledge of Unity, enables you to build multiple AR projects with real-world utility and a professional workflow, and shows you how to use AR Foundation for building apps.

Mobile Technologies and Augmented Reality in Open Education

Discover the possibilities of immersive technology to deepen student engagement; activate learning through hunts, breakouts and labs; and explore global collaboration. Our classrooms are full of individuals who learn in diverse ways, and educators need creative teaching approaches to enrich learning for struggling students. When applied effectively, immersive technology in teaching can target students' interests, provide flexibility for a range of skill levels and empower students' choice in their learning. The Immersive Classroom highlights the possibilities of immersive technology to make a greater impact and reach all student populations. The book: Provides step-by-step instructions for how to mix individual tools to create an ecosystem of immersive technology. Offers examples from leading educators who have implemented the tools and techniques discussed, giving readers a list of takeaways they can incorporate in their classrooms right away. Features robust case studies from leaders in the field as well as student examples of immersive technology to support the topics discussed. With this book, readers gain insights into customizing tools through app hacking and app smashing, and discover how pushing the use of augmented reality (AR) and virtual reality (VR) tools beyond their intended purpose can maximize their benefits, helping meet the needs of all students.

The Immersive Classroom

Sustainable Communication Networks and Application

Get to grips with a new technology, understand what it is and what it can do for you, and then get to work with the most important features and tasks. It's a quick start tutorial to help you get started with creating Augmented Reality applications and acquainting yourself with essential aspects of creating AR applications using the Appcelerator Titanium Framework. The instructions are clear with easy to follow examples. This book is for anybody who wishes to understand how to build an Augmented Reality Application. It uses the Appcelerator Titanium mobile development framework, but the techniques and practices can be applied to other frameworks and native code. You will need to have a good working knowledge of development and JavaScript, it is not aimed at the beginner.

Augmented Reality Android App-R8AR

Create amazing mobile augmented reality apps with junaio, Layar, and Wikitude! Professional Augmented Reality Browsers for Smartphones guides you through creating your own augmented reality apps for the iPhone, Android, Symbian, and bada platforms, featuring fully workable and downloadable source code. You will learn important techniques through hands-on applications, and you will build on those skills as the book progresses. Professional Augmented Reality Browsers for Smartphones: Describes how to use the latitude/longitude coordinate system to build location-aware solutions and tells where to get POIs for your own augmented reality applications Details the leading augmented reality platforms and highlights the best applications Covers development for the leading augmented reality browser platforms: Wikitude, Layar, and junaio Shows how to build cross-platform location-aware content (Android, iPhone, Symbian, and bada) to display POIs directly in camera view Includes tutorials for building 2D and 3D content, storing content in databases, and triggering actions when users reach specific locations wrox.com Programmer Forums Join our Programmer to Programmer forums to ask and answer programming questions about this book, join discussions on the hottest topics in the industry, and connect with fellow programmers from around the world. Code Downloads Take advantage of free code samples from this book, as well as code samples from hundreds of other books, all ready to use. Read More Find articles, ebooks, sample chapters, and tables of contents for hundreds of books, and more reference resources on programming topics that matter to you. Wrox Professional guides are planned and written by working programmers to meet the real-world needs of programmers, developers, and IT professionals. Focused and relevant, they address the issues technology professionals face every day. They provide examples, practical solutions, and expert education in new technologies, all designed to help programmers do a better job.

Augmented Reality in Education
Novel trends and innovations have enhanced contemporary educational environments. When applied properly, these computing advances can create enriched learning opportunities for students. Mobile Technologies and Augmented Reality in Open Education is a pivotal reference source for the latest academic research on the integration of interactive technology and mobile applications in online and distance learning environments. Highlighting scholarly perspectives across numerous topics such as wearable technology, instructional design, and flipped learning, this book is ideal for educators, professionals, practitioners, academics, and graduate students interested in the role of augmented reality in modern educational contexts.

**Android Application Development with Augmented Reality**

This book provides an in-depth exploration of the field of augmented reality (AR) in its entirety and sets out to distinguish AR from other inter-related technologies like virtual reality (VR) and mixed reality (MR). The author presents AR from its initial philosophies and early developments, to its current technologies and its impact on our modern society, to its possible future developments; providing readers with the tools to understand issues relating to defining, building, and using our perception of what is represented in our perceived reality, and ultimately how we assimilate and react to this information. Augmented Reality: Where We Will All Live can be used as a comprehensive guide to the field of AR and provides valuable insights for technologists, marketers, business managers, educators and academics who are interested in the field of augmented reality: its concepts, history, practices and the science behind this rapidly advancing field of research and development.

**Virtual & Augmented Reality For Dummies**

This book features the latest research in the area of immersive technologies, presented at the 5th International Augmented and Virtual Reality Conference, held in Munich, Germany in 2019. Bridging the gap between academia and industry, it presents the state of the art in augmented reality (AR) and virtual reality (VR) technologies and their applications in various industries such as marketing, education, healthcare, tourism, events, fashion, entertainment, retail and the gaming industry. The volume is a collection of research papers by prominent AR and VR scholars from around the globe. Covering the most significant topics in the field of augmented and virtual reality and providing the latest findings, it is of interest to academics and practitioners alike.

**Enterprise Augmented Reality Projects**

Augmented Reality (AR) has many advantages that include increased engagement and interaction as well as enhanced innovation and responsiveness. AR technology has applications in almost all domains such as medical training, retail, repair and maintenance of complex equipment, interior design in architecture and construction, business logistics, tourism, and classroom education. Innovating with Augmented Reality: Applications in Education and Industry explains the concepts behind AR, explores some of its application areas, and gives an in-depth look at how this technology aligns with Education 4.0. Due to the rapid advancements in technology, future education systems must prepare students to work with the latest technologies by enabling them to learn virtually in augmented ways in varied platforms. By providing an illusion of physical objects, which takes the students to a new world of imagination, AR and Virtual Reality (VR) create virtual and interactive environments for better learning and understanding. AR applications in education are covered in four chapters of this book, including a chapter on how gamification can be made use of in the teaching and learning process. The book also covers other application areas of AR and VR. One such application area is the food and beverage industry with case studies on virtual 3D food, employee training, product–customer interaction, restaurant entertainment, restaurant tours, and product packaging. The application of AR in the healthcare sector, medical education, and related devices and software are examined in the book’s final chapter. The book also provides an overview of the game development software, Unity, a real-time development platform for 2D and 3D AR and VR, as well as the software tools and techniques used in developing AR-based apps.

**Augmented and Virtual Reality**

A step-by-step tutorial-based guide aimed at giving you hands-on practical experience to develop AR applications for Android. Augmented Reality for Android Application Development is for Android mobile application developers who are familiar with Android Development Tools and deployment, JMonkeyEngine, and the Vuforia SDK.

**Augmented Reality**

This book constitutes the refereed proceedings of the Second International Conference on Augmented and Virtual Reality, AVR 2015, held in Lecce, Italy, in September 2015. The 32 papers and 8 short papers presented were carefully reviewed and selected from 82 submissions. The SALENTO AVR 2015 conference brings together a community of researchers from academia and industry, computer scientists, engineers, and physicians in order to share points of views, knowledge, experiences, and scientific and technical results related to state-of-the-art solutions and technologies on virtual and augmented reality applications for medicine, cultural heritage, education, industrial sectors, as well as the demonstration of advanced products and technologies.

**Augmented Reality, Virtual Reality, and Computer Graphics**

**Augmented Reality for Android Application Development**

**Android Application Programming with OpenCV**

Virtual and augmented reality is the next frontier of technological innovation. As technology exponentially evolves, so do the ways in which humans interact and depend upon it. Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source for the latest scholarly material on the trends, techniques, and uses of virtual and augmented reality in various fields, and examines the benefits and challenges of these developments. Highlighting a range of pertinent topics, such as human-computer interaction, digital self-identity, and virtual reconstruction, this multi-volume book is ideally designed for researchers,
Augmented Reality is not a new technology, but its use has been seen by the public since the advent of the Pokémon GO, which shows that the AR technology has a great potential. The book deals with different ways of developing applications with augmented reality, from native development in the Android Studio to use of engines such as the Unity.

**Android Augmented Reality Application**

Explore how to use ARKit to create iOS apps and learn the basics of augmented reality while diving into ARKit specific topics. This book reveals how augmented reality allows you to view the screen on an iOS device, aim the camera at a nearby scene, and view both the real items in that scene as well as a graphic image overlaid on to that scene. You'll start by accessing the camera and teaching your app to track the world around its device. You'll then see how to position nodes and create augmented reality shapes and textures. Next you’ll have your creations interact with their environment by programming workable physics, detecting planes, measuring distance, and applying virtual force. Finally you’ll learn how to hit test and troubleshoot your applications to ensure they interact with the real world around them seamlessly. ARKit is Apple’s software framework for creating augmented reality apps on iOS devices such as the iPhone and iPad. Unlike virtual reality that creates an entire artificial world for the user to view and explore, Beginning ARKit for iPhone and iPad will show you how augmented reality places artificial items in an actual scene displayed by an iOS device’s camera. What You’ll Learn Access the camera Use ARKit’s hit testing for tracked geometry Apply and combine real world and virtual physics Who This Book Is For Programmers familiar with the basics of Swift programming who want to dive into developing iOS applications with Swift.

**Augmented Reality and Virtual Reality**

This book presents best selected papers presented at the International Conference on Emerging Wireless Communication Technologies and Information Security (EWCIS 2020), held from 8th & 9th October 2020 at Amity University Jharkhand, Ranchi, India. The book includes papers in the research area of wireless communications and intelligent systems, signal and image processing in engineering applications, data communication and information security, IoT and cloud computing. The contribution ranges from scientists, engineers and technologists from academia as well as from industry.

**Pro Android Augmented Reality**

This project aims at developing an android augmented reality application that would have the capability to show university campus related information such as library, faculty and courses offered from a particular department. All this information is available by getting sensor data from your android device camera and overlaying images in real-time. Augmented Reality (AR) is a generic term for an interactive 3D environment that blends with our physical reality, usually through a webcam, or in this case, an android device camera. AR by definition is a live, direct or indirect, view of a physical, real world environment whose elements are augmented by computer-generated sensory input such as sound, video graphics or GPS data. The “SDSU University Campus Guide” mobile application is built on by taking pictures and videos of a particular building within a university campus and creating a sensible presentation (by stitching all pictures). Where a user focuses his/her android device camera on to a particular image of a live building, the information related to that particular department will be displayed, after “recognizing” that building from the archived pictures. This application helps University students to get information about events, faculty, department or particular department related courses by just one click on this app. This AR app uses Vuforia as a software platform and JAVA as a programming language which provides superior vision based image recognition and offers the widest set of features and capabilities to improve the University campus tour guide for the students to get to know their University better and easier. The application has been prototyped of a subset of campus buildings.

**Mastering Android Application Development**

The 67 full papers and 26 short papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in the following topical sections: virtual reality; augmented and mixed reality; computer graphics; human-computer interaction; applications of VR in medicine; and applications of VR/AR in cultural heritage; and applications of VR/AR in industry.

**Augmented Reality with Unity AR Foundation**

Wi-Android Apps with App Inventor provides hands-on walkthroughs that cover every area of App Inventor development, including the Google and MIT versions of App Inventor. Kloss begins with the absolute basics of program structure, syntax, flow, and function, and then demonstrates simple ways to solve today’s most common mobile development problems. Along the way, you’ll build a dozen real Android apps, from games and geotrackers to navigation systems and news tickers. By the time you’re done, you’ll be comfortable implementing advanced apps and mashups integrating realtime multimedia data from all kinds of Web services with the communication and sensor-based features of your smartphone. Topics covered include installing and configuring App Inventor Building modern, attractive mobile user interfaces Controlling Android media hardware, including the camera Saving data locally with TinyDB, or in the cloud with TinyWebDB Streamlining and automating phone, text, and email communications Tracking orientation, acceleration, and geoposition Integrating text-to-speech and speech-to-text in your apps Controlling other apps and Web services with ActivityStarter Building mobile mashups by exchanging data with Web APIs Testing your apps for diverse hardware with the Android Emulator Example apps, including multimedia center, online vocabulary trainer, finger painting, squash game, compass, geocacher, navigator, stock market ticker, and many more This book will empower you to explore, experiment, build your skills and confidence, and start writing professional-quality Android apps—for yourself, and for everyone else! Companion files for this title can be found at informit.com/title/9780321812704

**Processing for Android**

Create next-generation Augmented Reality and Mixed Reality apps with the latest version of Google ARCore Key Features Harness the power of the Google’s new augmented reality (AR) platform ARCore to build cutting-edge augmented reality apps Learn core concepts of Environmental Understanding, Immersive Computing, and Motion Tracking with ARCore Extend your application by combining ARCore with OpenGL, Machine Learning and more. Book Description Are you a mobile developer or web developer who wants to create immersive and cool Augmented Reality apps with the latest Google ARCore platform? If so, this book will help you jump right into
developing with ARCore and will help you create a step by step AR app easily. This book will teach you how to implement the core features of ARCore from the fundamentals of 3D rendering to more advanced concepts such as lighting, shaders, Machine Learning, and others. We'll begin with the basics of building a project on three platforms: web, Android, and Unity. Next, we'll go through the ARCore concepts of motion tracking, environmental understanding, and light estimation. For each core concept, you'll work on a practical project to use and extend the ARCore feature, from learning the basics of 3D rendering and lighting to exploring more advanced concepts. You'll write custom shaders to light virtual objects in AR, then build a neural network to recognize the environment and explore even grander applications by using ARCore in mixed reality. At the end of the book, you'll see how to implement motion tracking and environment learning, create animations and sounds, generate virtual characters, and simulate them on your screen. What you will learn Build and deploy your Augmented Reality app to the Android, Web, and Unity platforms Implement ARCore to identify and visualize objects as point clouds, planes, surfaces, and/or meshes Explore advanced concepts of environmental understanding using Google ARCore and OpenGL ES with Java Create light levels from ARCore and create a C# script to watch and propagate lighting changes in a scene Develop graphics shaders that react to changes in lighting and map the environment to place objects in Unity/C# Integrate motion tracking with the Web ARCore API and Google Street View to create a combined AR/VR experience Who this book is for This book is for Ark's Android and Mobile developers who have broad programming knowledge on Java or JavaScript or C# and want to develop Augmented Reality applications with Google ARCore. To follow this book no prior experience with AR development, 3D, or 3D math experience is needed.

Pro Android Augmented Reality
Learn Augmented Reality! Augmented reality is going to be the next big thing - there's absolutely no doubt about it. If you want to build realistic and immersive AR experiences for the Apple platform, this book is your golden ticket. Apple Augmented Reality by Tutorials is the easiest and fastest way to get hands-on experience using Apple frameworks and technologies like Reality Composer, RealityKit, and ARKit. Who This Book Is For This book is for beginners to intermediate iOS developers who already know the basics of Swift development and are looking to build immersive AR experiences for the Apple platform. Topics Covered in Apple AR by Tutorials AR Quick Look: Discover how to integrate AR Quick Look into your apps to give them some cool AR superpowers. Reality Composer & Reality Files: Find out how to leverage the power of Reality Composer to create interactive AR-based experiences. Reality Converter & PBR Materials: Discover how PBR materials can add a level of realism to your AR objects, and how to use Reality Converter to convert, view & customize USDZ content. RealityKit: Learn to set up and use RealityKit to build a face-based augmented reality app. Facial Blend Shapes: Build a fully interactive augmented reality face mask that reacts to your facial expressions using blend shapes. ARKit: Get a complete introduction to ARKit, Apple's framework for creating fully interactive augmented reality, and learn about the different types of rendering options available with ARKit. Raycasting & Physics: Learn about raycasting, 2D and 3D physics, and how to project and perform actions in 3D. With all these tools, you can add more features and functionality to your game. 2D & 3D Collisions: Learn how to create 2D and 3D collision handling systems and use them in your AR applications. New Perspectives on Virtual and Augmented Reality discusses the possibilities of using virtual and augmented reality in the role of innovative pedagogy, where there is an urgent need to find ways to teach and support learning in a transformed learning environment. Technology creates opportunities to learn differently and presents challenges for education. Virtual reality solutions can be exciting, create interest in learning, and make learning more accessible and engaging. With the explosive growth in mobile phone usage and rapid rise in search engine technologies over the last decade, augmented reality (AR) is poised to be one of this decade's most disruptive technologies, as the information that is constantly flowing around us is brought into view, in real-time, through augmented reality. In this cutting-edge book, the authors outline and discuss never-before-published information about augmented reality and its capabilities. With coverage of mobile, desktop, developers, security, challenges, and gaming, this book gives you a comprehensive understanding of what augmented reality is, what it can do, what is in store for the future and most important: how to benefit from using AR in our lives and careers. Educates readers about the latest technologies and applications in AR, such as virtual and augmented reality. The book includes actual examples and case studies from both private and government application. The Impact of Virtual and Augmented Reality on Individuals and Society New Perspectives on Virtual and Augmented Reality discusses the possibilities of using virtual and augmented reality in the role of innovative pedagogy, where there is an urgent need to find ways to teach and support learning in a transformed learning environment. Technology creates opportunities to learn differently and presents challenges for education. Virtual reality solutions can be exciting, create interest in learning, and make learning more accessible and engaging faster. This book presents the capabilities of virtual, augmented and mixed reality by providing ideas on how to make learning more effective, how existing VR/AR solutions can be used as learning tools and how learning processes can be structured. The virtual reality (VR) solutions can be used successfully for educational purposes as their use can contribute to the construction of knowledge and the development of metacognitive processes. They also contribute to inclusive education by providing access to knowledge that would not otherwise be available. This book will be of great interest to academics, researchers and post-graduate students in the field of educational technology.
Android Apps with App Inventor

Brings to life ten of the most notorious and chilling ghosts from the annals of history, including Abraham Lincoln, the Whalley Abbey ghost, and the Headless Horseman.

Beginning ARKit for iPhone and iPad

Design end-to-end AR solutions for domains such as marketing, retail, manufacturing, tourism, automation, and training

Key Features
- Use leading AR development frameworks such as ARCore, ARKit, and Vuforia across key industries
- Identify the market potential of AR for designing visual solutions in different business sectors
- Build multi-platform AR projects for various platforms such as Unity, iOS, and Android

Book Description

Augmented reality (AR) is expanding its scope from just being used in mobile and game applications to enterprise. Different industries are using AR to enhance assembly line visualization, guide operators performing difficult tasks, attract more customers, and even improve training techniques. In this book, you'll gain comprehensive insights into different aspects of developing AR-based apps for six different enterprise sectors, focusing on market needs and choosing the most suitable tool in each case. You'll delve into the basics of Unity and get familiar with Unity assets, materials, and resources, which will help you build a strong foundation for working on the different AR projects covered in the book. You'll build real-world projects for various industries such as marketing, retail, and automation in a step-by-step manner. This will give you hands-on experience in developing your own industrial AR apps. While building the projects, you'll explore various AR frameworks used in the enterprise environment such as Vuforia, EasyAR, ARCore, and ARKit, and understand how they can be used by themselves or integrated into the Unity 3D engine to create AR markers, 3D models, and components of an AR app. By the end of this book, you'll be well versed in using different commercial AR frameworks as well as Unity for building robust AR projects. What you will learn

- Understand the basics of Unity application development and C# scripting
- Learn how to use Android Studio along with ARCore and Sceneform to build AR prototypes for Android devices
- Enable AR experiences on the web with ARCore and WebAR
- Explore emerging AR authoring tools such as Augmented Class!
- for education
- Understand the differences and similarities between handheld and head-mounted display (HMD) environments and how to build an app for each target
- Become well versed in using Xcode with ARKit and SceneKit to develop AR portals for iOS devices
- Who this book is for

This book is for anyone interested in emerging and interactive technologies or looking to build AR applications for any domain. Although, no prior augmented reality experience is required, having some skills in object-oriented programming (OOP) will be helpful.

Augmented Reality