Unreal Engine 4 For Design Visualization: Developing Stunning Interactive Visualizations, Animations, And Renderings (Game Design)

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. “With his YouTube channel, Mitch’s VR Lab, Mitch has helped thousands of people understand the foundations of locomotion and interaction mechanics with clear and concise UE4 videos. I’m thrilled that he has taken the time to bring all his knowledge and experience in working with Unreal Engine and Virtual Reality to the Unreal® Engine VR Cookbook.... Mitch is uniquely qualified to share this book with the world.” —Luis Cataldi, Unreal Engine Education, Epic Games, Inc. For game developers and visualization specialists, VR is the next amazing frontier to conquer—and Unreal Engine 4 is the ideal platform to conquer it. Unreal® Engine VR Cookbook is your complete, authoritative guide to building stunning experiences on any Unreal Engine 4-compatible VR hardware. Renowned VR developer and instructor Mitch McCaffrey brings together best practices, common interaction paradigms, specific guidance on implementing these paradigms in Unreal Engine, and practical guidance on choosing the right approaches for your project. McCaffrey’s tested “recipes” contain step-by-step instructions, while empowering you with concise explanations of the underlying theory and math. Whether you’re creating first-person shooters or relaxation simulators, the techniques McCaffrey explains help you get immediate results, as you gain “big picture” knowledge and master nuances that will help you succeed with any genre or project. Understand basic VR concepts and terminology Implement VR logic with Blueprint visual scripting Create basic VR projects with Oculus Rift, HTC Vive, Gear VR, Google VR, PSVR, and other environments Recognize and manage differences between seated and standing VR experiences Set up trace interactions and teleportation Work with UMG and 2D UIs Implement character inverse kinematics (IK) for head and hands Define effective motion controller interaction Help users avoid motion sickness Optimize VR applications Explore the VR editor, community resources, and more If you’re ready to master VR on Unreal Engine 4, this is the practical resource you’ve been searching for! Register your product at informit.com/register for convenient access to downloads, updates, and corrections as they become available.

Game Development and Simulation with Unreal Engine explores the use of Unreal Engine 4 (UE4) for the development of real-time digital interactive contents to be used in computerized games or simulations. The engine is considered in three main iterations; from the basic use of the engine to build games and simulation content out of the box, to i Let your imagination run wild in the world of Unreal Technology. Mastering Unreal Technology: The Art of Level Design knows no boundaries as it shows you how to build custom mods, maps and levels with the Unreal engine. Its tutorial format will give you immediate results through the tips and demos provided from the industry’s top level designers. Learn to create your own characters, weapons and gaming environments, as well as how to go beyond the Unreal environment and export custom elements from 3D modeling applications. A CD that contains the Unreal Engine, graphics, examples and code is also included, giving you everything you need to create custom levels in Unreal or build your own games and virtual environments. Mastering Unreal Technology will help put you on the cutting-edge of gaming technology.

Presents a guide to game development and modding using Unreal Engine. The Art of Level Design An Introduction to Unreal Engine 4 Unreal Engine 4 Shaders and Effects Cookbook Design and Develop immersive virtual reality experiences with Unreal Engine 4 Models, Textures, Animation, & Blueprint Unreal Engine Virtual Reality Quick Start Guide Take your game development skills to the next level with one of the best games on the market. About This Book: Build an entire AAA game level throughout the book. Take your C++ scripting skills to the next level and use them extensively to build the game. An advanced practical guide with a tutorial style approach that will help you make the best of Unreal Engine 4. Who This Book Is For: This book is for game developers who have a basic knowledge of Unreal Engine and C++ scripting knowledge. If you want to take the leap from a casual game developer to a full-fledged professional game developer with Unreal Engine 4, this is the book for you. What You Will Learn: Script your player controls in C++ and build a superb and engaging level with advanced design techniques Program AI with C++ and use Cascade to add life to your games Use custom shaders and advanced shading techniques to make things pretty Implement an awesome UI in the game Control gameplay using data tables In Detail: Unreal Engine 4 has garnered a lot of attention in the gaming world because of its new and improved graphics and rendering engine, the physics simulator, particle generator, and more. This book is the ideal guide to help you leverage all these features to create state-of-the-art games that capture the eye of your audience. Inside we'll explain advanced shaders and effects techniques and how you can implement them in your games. You'll create custom lighting effects, use the physics simulator to add that extra edge to your games, and create customized game environments that look visually stunning using the rendering technique. You'll find out how to use the new rendering engine efficiently, add amazing post-processing effects, and use data tables to create data-driven gameplay that is engaging and exciting. By the end of this book, you will be able to create professional games with stunning graphics using Unreal Engine 4 Style and approach: An advanced guide that will help you to the next level of developing games with Unreal engine with illustrative examples that will make you confident of creating custom professional level games on your own.

Develop high-quality interactive games with the power of Unreal Engine's visual scripting language and Blueprints framework. Key Features: Design a fully functional game in UE4 without writing a single line of code Implement visual scripting to develop gameplay mechanics, UI, visual effects, VR and artificial intelligence Deploy your game on multiple platforms and share it with the world Book Description: Blueprints is the visual scripting system in Unreal Engine that enables programmers to create baseline systems and can be extended by designers. This book helps you explore all the features of the Blueprint Editor and guides you through using Variables, Macros, and Functions. You'll also learn about object-oriented programming (OOP) and discover the Gameplay Framework. In addition to this, you’ll learn how Blueprint Communication allows one Blueprint to access information from another Blueprint. Later chapters will focus on building a fully functional game using a step-by-step approach. You’ll start with a basic first-person shooter (FPS) template, and each chapter will build on the prototype to create an increasingly complex and robust game experience. You’ll then progress from creating basic mechanics to more complex systems, such as user interface elements and intelligent enemy behavior. The skills you will develop using Blueprints can also be employed in other gaming genres. In the concluding chapters, the book demonstrates how to use arrays, maps, enums, and vector operations. Finally, you’ll learn how to build a basic VR game. By the end of this book, you’ll have learned how to build a fully functional game and have the skills required to develop an entertaining experience for your audience. What you will learn: Understand programming concepts in Blueprints Create prototypes and iterate new game mechanics Rapidly build user interface elements and interactive menus Use advanced Blueprint nodes to manage the complexity of a game Explore all the features of the Blueprint editor, such as the Components tab, Viewport, and Event
Graph Get to grips with object-oriented programming (OOP) concepts and explore the Gameplay Framework. Learn Virtual Reality development with UE Blueprint. Who this book is for: This book is for anyone who is interested in developing games or applications with UE4. Although basic knowledge of Windows OS is required, experience in programming or UE4 is not necessary.

Mastering Unreal Engine aims to introduce developers of all ages to the beautiful and valuable world of Unreal Engine in particular, and game development in general.

Master the basics of Unreal Engine 4 to build stunning video games. About This Book Get to grips with the user interface of Unreal Engine 4 and find out more about its various robust features. Create dream video games with the help of the different tools Unreal Engine 4 offers. Create video games and fully utilize the power of Unreal Engine 4 to bring games to life through this step-by-step guide. Who this book is for: This book is for anyone who has a basic understanding of working on a 3D environment and who are interested in video game development, then this book is for you. A solid knowledge of C++ will come in handy. What you will learn: Download both the binary and source version of Unreal Engine 4 and get familiar with the UI. Get to know more about the Material Editor and how it works. Add a boss to the scene and learn to get a unique look for your scene. Acquire yourself with the unique and exclusive features of Unreal Engine 4—Blueprints. Find out more about Static and Dynamic lighting and the difference between various lights. Use Matinee to create cutscenes. Create a health bar for the player with the use of Unreal Motion Graphics (UMG). Get familiar with Cascade Particle Editor. In Detail Unreal Engine 4 is a complete suite of game development tools that gives you power to develop your game and seamlessly deploy it to iOS and Android devices. It can be used for the development of simple 2D games or even stunning high-end visuals. Unreal Engine features a high degree of portability and is a tool used by many game developers today. This book will introduce you to the most popular game development tool called Unreal Engine 4 with hands-on instructions for building stunning video games. You will begin by creating a new project or prototype by learning the essentials of Unreal Engine by getting familiar with the UI and Content Browser. Next, we'll import a sample asset from Autodesk 3ds max and learn more about Material Editor. After that, we will learn more about Post Process. From there we will continue to learn more about Blueprints, Lights, UMG, C++ and more. Style and approach This step-by-step guide will help you gain practical knowledge about Unreal Engine through detailed descriptions of all the tools offered by Unreal Engine.

Unreal Engine 4—Blueprints Visual Scripting Projects

Develop quality game components and solve scripting problems with the power of C++ and UE4. This book

Unreal Engine VR Cookbook

Beginning Unreal Engine 4: Blueprints Visual Scripting

Unreal Engine Game Development Cookbook

Unreal Engine 4 for Design Visualization

Create responsive and intelligent game AI using Blueprints in Unreal Engine 4. About This Book Understand and apply your Game AI better through various projects such as adding randomness and probability, and introducing movement. Configure and debug Game AI logic using multiple methodologies. Bridge the gap between your knowledge and Game AI in Unreal Engine 4. Who This Book is for: This book is for programmers and artists who want to expand their knowledge of Game AI in relation to Unreal Engine 4. You are recommended to have some experience of exploring Unreal Engine 4 prior to this book because we jump straight into Game AI. What You Will Learn: Understand the fundamental components of Game AI within Unreal Engine 4. Skillfully introduce Game AI within Unreal Engine 4. Customize, assign Navigation and AI components to your pawn. Create, debug, and analyze Game AI behavior. Design responsive Game AI using the Behavior Tree methodology. Create smart objects designed to interact with AI. Utilize advanced AI features within your project to maximize the user experience. In Detail Unreal Engine is a powerful game development engine that provides rich functionalities to create 2D and 3D games. Developers have the opportunity to build cross-platform mobile and desktop games from scratch. This book will show you how to apply artificial intelligence (AI) techniques to your Unreal project using blueprints as your scripting language. You will start with an introduction to AI, and learn how it is applied to gaming. Then you'll jump right in and create a simple AI bot and apply basic behaviors to allow it to move randomly. As you progress, you'll find out how to implement randomness and probability traits. Using NavMesh, you will import navigation components such as character movement, MoveTo nodes, settings, and world objects, and implement Behavior Trees. At the end of the book, you will troubleshoot any issues that might crop up while building the game. Style and approach: This easy-to-follow project-based guide throws you directly into the excitement of Game AI in an approachable and comprehensive manner.

Description: This tutorial-based book allows readers to create a first-person game from start to finish using industry-standard (and free to student) tools of Maya, Substance Painter, and Unreal Engine. The first half of the book lays out the basics of using Maya and Substance Painter to create game-ready assets. This includes polygonal modeling, UV layout, and custom texture painting. Then, the book covers rigging and animation solutions to create assets to be placed in the game including animated first-person assets and motion-captured NPC animations. Finally, readers can put it all together and build interactivity that allows the player to create a finished game using the assets built and animated earlier in the book. * Written by industry professionals with real-world experience in animation. * First-person assets and motion-captured NPC animations. * Complete and detailed tutorial-based guide. * All software used are free to students. * When complete, students will have a playable version of an FPS game. Jing Tian Li is a graduate of China's Central Academy of Fine Arts. He earned an MFA in Computer Art. Currently he is an Assistant Professor of 3D Animation & Game Design at the University of the Incarnate Word in San Antonio, Texas. Kassandra Arevalo is an instructor of 3D Animation & Game Design at the University of the Incarnate Word in San Antonio, Texas. She previously worked as an animator at Immersed Games. Matt Tovar is an industry veteran animator. He has worked at Naughty Dog, Infinity Ward, and Sony Interactive on such games as The Last of Us, Call of Duty: Modern Warfare, and most recently Marvel's Avengers with Crystal Dynamics. He is an Assistant Professor of 3D Animation at the University of the Incarnate Word in San Antonio, Texas.

Blueprints Visual Scripting for Unreal Engine is a step-by-step approach to building a fully functional game, one system at a time. Starting with a basic First Person Shooter template, each chapter will extend the prototype to create an increasingly complex and robust game experience. You will progress from creating basic shooting mechanics to gradually more complex systems that will generate user interface elements and intelligent enemy
behavior. Focusing on universally applicable skills, the expertise you will develop in utilizing Blueprints can translate to other types of genres. By the time you finish the book, you will have a fully functional First Person Shooter game and the skills necessary to expand on the game to develop an entertaining, memorable experience for your players. From making customizations to player movement to creating new AI and game mechanics from scratch, you will discover everything you need to know to get started with game development using Blueprints and Unreal Engine 4.

Discover how Unreal Engine 4 allows you to create exciting games using C++ and Blueprints. This book starts with installing, launching, and examining the details of Unreal Engine. Next, you will learn about Blueprints and C++ and how to leverage them. The following chapters talk in detail about gameplay, basic physics, and ray-casting for game development in Unreal Engine. Furthermore, you'll create material, meshes, and textures. The last chapter brings all the concepts together by building a demo game. By the end of the book, you'll be equipped with the know-how and techniques needed to develop and deploy your very own game in Unreal Engine. What You Will Learn Discover Blueprints and how to apply them in Unreal Engine 4 Get started with C++ programming in Unreal Engine 4 Apply the concepts of physics and ray-casting Work with the Gameplay Framework Who This Book Is For Beginners interested in learning Blueprints visual scripting and C++ for programming games in Unreal Engine 4 would find this book useful.

Unreal Engine 4 AI Programming Essentials

Mastering Unreal Technology

The faster way to build games using UE4 Blueprints, 2nd Edition

Unreal Engine 4.X By Example

Beginning Unreal Game Development

Unreal Engine 4 Game Development Quick Start Guide

Start with the fundamentals of UE4 and progressively build your knowledge and skills through several easy-to-follow projects. Take a hands-on approach to equip yourself with the tools needed to develop your own high-quality, immersive games.

Build optimized, efficient, and real-time applications that are production-ready using Unreal Engine's Material Editor Key Features Create stunning visual effects for 3D games and high-quality graphics Design efficient Shaders for mobile platforms without sacrificing their realism Discover what goes into the structure of Shaders and why lighting works the way it does Book Description Unreal Engine 4 is a powerful game engine, one which has seen a recent boost in widespread adoption thanks to its ease of use and the powerful rendering pipeline that it packs. Seeing as how it's relatively easy to create stunning presentations and visuals, Unreal has quickly become a strong contender in industries where this kind of software had been previously denied entry. With that in mind, this book aims to help you get the most out of Unreal Engine 4 - from creating awe-inspiring graphics to delivering optimized experiences to your users. This is possible thanks to a mixture of hands-on experience with real materials and the theory behind them. You will immediately know how to create that material that you want to display, and you'll also end up with the knowledge that will let you know how to control it. All of this will be done without losing sight of two key components of any real-time application - optimization, and efficiency. The materials that you create will be light and efficient, and they will vary depending on your target platform. You'll know which techniques can be used in any kind of device and which ones should be kept to high-end machines, giving you the confidence to tackle any material-related task that you can imagine. Hop onboard and discover how! What you will learn Master Unreal Engine's rendering pipeline for developing real-time graphics Use physically based rendering (PBR) for building materials and lighting solutions Build optimized materials for games targeting multiple platforms Understand Unreal Engine's node and functions for creating desirable effects Design and build production-ready shaders Explore Unreal Engine's Material Editor for building complex materials and textures Who this book is for This book is for developers who want to create their first Shaders in Unreal Engine 4 or wish to take their game to a whole new level by adding professional post-processing effects. A solid understanding of Unreal is required to get the most from this book.

A fun, quick, step by step guide to level design and creating your own game world.

Unreal Engine VR Quick Start Guide introduces designers to the guidelines and design processes necessary to build interactive VR experiences. Learn to use User Experience design techniques and Blueprint programming to create virtual reality gameplay for HTC Vive, Oculus Rift, PSVR, and Windows Mixed Reality headsets.

Building an RPG with Unreal

Build High-Performance AAA Games with UE 4, 2nd Edition

Immersive 3D Design Visualization

With Autodesk Maya and Unreal Engine 4

Learn C++ and Unreal Engine by Creating a Complete Action Game

Mastering Unreal Engine
 Written in cookbook style, this book offers many recipes to learn game design with UDK. Each recipe contains step-by-step instructions followed by analysis of what was done in each task and other useful information. The book is designed so that you can read it chapter by chapter, or you can look at the list of recipes and refer to them in no particular order. This book is meant for game artists who are getting used to UDK but may feel the need for guidance on matters of implementation. It also targets brave beginners who are struggling to find an all in one package for getting started with UDK, and want a ready to hand reference. Level designers can use this book to gauge their understanding of the editor, check for specific problems, and discover gems they may not have come across before.

Combine the powerful UE4 with Blender to create visually appealing and comprehensive game environments About This Book The only resource that shows how you can incorporate Blender into your Unreal Engine 4 Game environment Create amazing 3D game environments by leveraging the power of Blender and Unreal Engine 4 Practical step-by-step approach with plenty of illustrative examples to get you started immediately Who This Book Is For This book would be ideal for 3D artists and game designers who want to create amazing 3D game environments and leverage the power of Blender with Unreal Engine 4. 3D design basics would be necessary to get the most out of this book. Some previous experience with Blender would be helpful but not essential What You Will Learn Create a fully functioning game level of your own design using Blender and Unreal Engine 4 Customize your level with detailed 3D assets created with Blender Import assets into Unreal Engine 4 to create an amazing finished product Build a detailed dynamic environment with goals and an ending Explore Blender's incredible animation tools to animate elements of your game Create great environments using sound effects, particle effects, and class blueprints In Detail Unreal Engine 4 now has support for Blender, which was not available in earlier versions. This has opened up new possibilities and that is where this book comes in. This is the first book in the market combining these two powerful game and graphic engines. Readers will build an amazing high-level game environment with UE4 and will show them how to use the power of Blender 3D to create stunning animations and 3D effects for their game. This book will start with creating levels, 3D assets for the game, game progression, light and environment control, animation, and so on. Then it will teach readers to add amazing visual effects to their game by applying rendering, lighting, rigging, and compositing techniques in Blender. Finally, readers will learn how to smoothly transfer blender files to UE4 and animate the game assets. Each chapter will add complexities to the game environment. Style and approach This will have a clear, step-by-step approach to creating game assets in Blender and then importing them to UE4 to create stunning game environments. All asset creation techniques are explained in detail along with tips on how to use them to create your own game environments. The book offers end-to-end coverage of how to design a game level from scratch. Using Unreal Engine 3, the authors teach aspiring game makers the fundamentals of designing a computer game. The only prerequisite is a basic working knowledge of computers and a desire to build an original game. To get the most out of the book, the authors recommend gathering up some friends and working through the book together as a team and with time limits, mimicking the key elements of real world commercial game development. This book mirrors the curriculum used at CampGame, a six week summer program organized for high school students at The New York University and Arizona State University that has been running successfully for over five years. Students enter with no prior knowledge of game making whatsoever, and through the course of six intensive weeks, they finish as teams of budding game developers who have already completed fully functional games with their own designs, code, and art. Unreal is a registered trademark of Epic Games, Inc. Copyright in the Unreal Development Kit, Unreal Tournament, and Unreal Engine 3 is owned by Epic Games. Content of those programs included in screen shots in this book is copyrighted by Epic Games and used with the permission of Epic Games. Over 40 recipes to accelerate the process of learning game design and solving development problems using Unreal Engine About This Book Explore the quickest way to tackle common challenges faced in Unreal Engine Create your own content, levels, light scenes, and materials, and work with Blueprints and C++ scripting An intermediate, fast-paced Unreal Engine guide with targeted recipes to design games within its framework Who This Book Is For This book is for those who are relatively experienced with Unreal Engine 4 and have knowledge of its fundamentals. Working knowledge of C++ is required. What You Will Learn Discover editor functionalities for an in-depth insight into game design Develop environments using terrain for outdoor areas and a workflow for interiors as well using brushes Design various kinds of materials with unique features, such as mirrors and glows Explore the various ways that lighting can be used in the engine Build various level effects using Blueprints, Unreal's visual scripting system Set up a development environment and develop custom functionality with C++ for your games Create healthbars and main menus with animations using Slate, Unreal's UI solution, through the UMG Editor Package and create an installer to get your project out into the world In Detail Unreal Engine is powerful tool with rich functionalities to create games. It equips you with the skills to easily build mobile and desktop games from scratch without worrying about which platform they will run on. You can focus on the individual complexities of game development such as animation and rendering. This book takes you on a journey to jumpstart your game design efforts. You will learn various aspects of the Unreal engine commonly encountered with practical examples of how it can be used, with numerous references for further study. You will start by getting acquainted with Unreal Engine 4 and building out levels for your game. This will be followed by recipes to help you create environments, place meshes, and implement your characters. You will then learn to work with lights, camera, and shadows to include special effects in your game. Moving on, you'll learn Blueprint scripting and C++ programming to enable you to achieve trigger effects and add simple functionalities. By the end of the book, you will see how to create a healthbar and main menu, and then get your game ready to be deployed and published. Style and approach This book offers detailed, easy-to-follow recipes that will help you master a wide range of Unreal Engine 4's features. Every recipe provides step-by-step instructions, with explanations of how these features work, and alternative approaches and research materials so you can learn even more. Unreal Engine 4 Game Development Essentials Unreal Engine 4 for Beginners Programming professional 3D games with Unreal Engine 4 Foundation for Simple to Complex Games Using Unreal Engine 4 Developing Stunning Interactive Visualizations, Animations, and Renderings
滋味。您会发现这里没有其他：出色的解决方案，从粒子效果到物理，材料到动画。打包的技巧，手把手的辅导，以及您将需要的项目文件和资产。所有这些项目文件和资产都可供下载，包括“前-后”文件，展示了初始设置和完成的步骤。

**Unreal Engine 4’s interface, its workflows, and its most powerful editors and tools. In just hours you’ll be creating effects, scripting warfare, implementing physics–even developing for mobile devices and HUDs. Every lesson builds on what you’ve already learned, giving you a rock-solid foundation for real-world success. Organize new projects and work with the Gameplay Framework Master Unreal’s units and control systems Import 3D models and work with the Static Mesh Editor Create new landscapes and use Unreal’s foliage system Bring characters and creatures to life with the Persona Editor Apply materials and build lighting Integrate and modify audio with the Unreal Sound Cue Editor Craft particle effects and simulate physics Set up and react to player inputs Build levels and entirely new worlds Get started with powerful Blueprint visual scripting system Script an arcade game from start to finish Create events that respond to player actions Spawn Actors during gameplay Design and create action-based encounters Optimize games for mobile devices and touch-based inputs Build menus with Unreal’s UMG UI Designer Prepare your game for deployment Step-by-step instructions carefully walk you through the most common Unreal Engine 4 game development tasks. Practical, hands-on examples show you how to apply what you learn. Quizzes and Exercises help you test your knowledge and stretch your skills. Notes and tips point out shortcuts and solutions. All the project files and assets you’ll need are available for download, including “before-and-after” files demonstrating initial setup and proper completion for every exercise.

**In just 24 lessons of one hour or less, learn how to start using Unreal Engine 4 to build amazing games for Windows, Mac, PS4, Xbox One, iOS, Android, the web, Linux—or all of them! Sams Teach Yourself Unreal Engine 4 Game Development in 24 Hours’ straightforward, step-by-step approach shows you how to work with Unreal Engine 4’s interface, its workflows, and its most powerful editors and tools. In just hours you’ll be creating effects, scripting warfare, implementing physics–even developing for mobile devices and HUDs. Every lesson builds on what you’ve already learned, giving you a rock-solid foundation for real-world success. Organize new projects and work with the Gameplay Framework Master Unreal’s units and control systems Import 3D models and work with the Static Mesh Editor Create new landscapes and use Unreal’s foliage system Bring characters and creatures to life with the Persona Editor Apply materials and build lighting Integrate and modify audio with the Unreal Sound Cue Editor Craft particle effects and simulate physics Set up and react to player inputs Build levels and entirely new worlds Get started with powerful Blueprint visual scripting system Script an arcade game from start to finish Create events that respond to player actions Spawn Actors during gameplay Design and create action-based encounters Optimize games for mobile devices and touch-based inputs Build menus with Unreal’s UMG UI Designer Prepare your game for deployment Step-by-step instructions carefully walk you through the most common Unreal Engine 4 game development tasks. Practical, hands-on examples show you how to apply what you learn. Quizzes and Exercises help you test your knowledge and stretch your skills. Notes and tips point out shortcuts and solutions. All the project files and assets you’ll need are available for download, including “before-and-after” files demonstrating initial setup and proper completion for every exercise.

**Mastering Unreal Technology, Volume II: Advanced Level Design Concepts with Unreal Engine 3 is your start-to-finish guide to state-of-the-art Unreal Tournament 3 modding and level design. Here’s everything you need to know to take your game design skills to the next level, creating content with breakthrough depth and interactivity! Your authors aren’t just the world’s #1 Unreal game development trainers: They’ve built the training mods that shipped with Unreal Tournament. Now, working with the full cooperation of Unreal Engine 3’s creators, Epic Games, they introduce innovative, pro-quality techniques you’ll find nowhere else: outstanding solutions for everything from particle effects to physics, materials to cinematics. Packed with tips, hands-on tutorials, and expert insight, Mastering Unreal Technology, Volume II will help you take Unreal Tournament 3 and Unreal Engine 3 to the limit...and then blow right by it! You’ll find expert tips on Creating advanced materials that leverage the full power of UnrealEd’s Material Editor Bringing levels to life with objects affected by gravity, collisions, and player influence Creating fire, smoke, sparks, and more with Unreal Engine 3’s particle effects system Building custom user interfaces, including Heads-Up Displays (HUDs) that update constantly Using SoundCues to mix, modulate, crossfade, and attenuate sounds Generating real-time camera-based effects, including depth of field, motion blur, and color adjustment Using post process effects to quickly transform a scene’s look and feel without changing existing materials or textures Animating characters and vehicles that move with unprecedented realism Creating in-game cinematics that develop your characters and move your story forward

This book serves as an introduction to the level design process in Unreal Engine 4. By working with a number of different components within the Unreal Editor, readers will learn to create levels using BSPs, create custom materials, create custom Blueprints complete with events, import objects, create particle effects, create sound effects and combine them to create a complete playable game level. The book is designed to work step by step at the beginning of each chapter, then allow the reader to complete similar tasks on their own to show an understanding of the content. A companion website with project files and additional
The best out of your games by scripting them using UE4. About This Book A straightforward and easy-to-follow format A selection of the most important tasks and problems. Carefully organized instructions to solve problems efficiently. Clear explanations of what you did. Solutions that can be applied to solve real-world problems. Who This Book Is For This book is intended for game developers who understand the fundamentals of game design and C++ and would like to incorporate native code into the games they make with Unreal. They will be programmers who want to extend the engine, or implement systems and Actors that allow designers control and flexibility when building levels. What You Will Learn Build function libraries (Blueprints) containing reusable code to reduce upkeep. Move low-level functions from Blueprint into C++ to improve performance. Abstract away complex implementation details to simplify designer workflows. Incorporate existing libraries into your game to add extra functionality such as hardware integration. Implement AI tasks and behaviors in Blueprints and C++. Generate data to control the appearance and content of UI elements. In Detail Unreal Engine 4 (UE4) is a complete suite of game development tools made by game developers, for game developers. With more than 100 practical recipes, this book is a guide showcasing techniques to use the power of C++ scripting while developing games with UE4. It will start with adding and editing C++ classes from within the Unreal Editor. It will delve into one of Unreal’s primary strengths, the ability for designers to customize programmer-developed actors and components. It will help you understand the benefits of when and how to use C++ as the scripting tool. With a blend of task-oriented recipes, this book will provide actionable information about scripting games with UE4, and manipulating the game and the development environment using C++. Towards the end of the book, you will be empowered to become a top-notch developer with Unreal Engine 4 using C++ as the scripting language. Style and approach A recipe based practical guide to show you how you can leverage C++ to manipulate and change your game behavior and game design using Unreal Engine 4.
A step-by-step guide that paves the way for developing fantastic games with Unreal Engine 4

About This Book
Learn about game development and the building blocks that go into creating a game. A simple tutorial for beginners to get acquainted with the Unreal Engine architecture. Learn about the features and functionalities of Unreal Engine 4 and how to use them to create your own games.

Who This Book Is For
If you are new to game development and want to learn how games are created using Unreal Engine 4, this book is the right choice for you. You do not need prior game development experience, but it is expected that you have played games before. Knowledge of C++ would prove to be useful.

What You Will Learn
Learn what a game engine is, the history of Unreal Engine, and how game studios create games. Explore the Unreal Engine 4 editor controls and learn how to use the editor to create a room in a game level. Understand the basic structures of objects in a game, such as the differences between BSP and static meshes. Make objects interactive using level blueprints. Learn more about computer graphics rendering; how materials and light are rendered in your game. Get acquainted with the Material Editor to create materials and use different types of lights in the game levels. Utilize the various editors, tools, and features such as UI, the particle system, audio, terrain manipulation, and cinematics in Unreal Engine 4 to create game levels.

In Detail
Unreal Engine 4 is a powerful game development engine that provides rich functionalities to create 2D and 3D games across multiple platforms. Many people know what a game is and they play games every day, but how many of them know how to create a game? Unreal Engine technology powers hundreds of games, and thousands of individuals have built careers and companies around skills developed using this engine. Learning Unreal Engine 4 Game Development starts with small, simple game ideas and playable projects that you can actually finish. The book first teaches you the basics of using Unreal Engine to create a simple game level. Then, you’ll learn how to add details such as actors, animation, effects, and so on to the game. The complexity will increase over the chapters and the examples chosen will help you learn a wide variety of game development techniques. This book aims to equip you with the confidence and skills to design and build your own games using Unreal Engine 4. By the end of this book, you’ll have learnt about the entire Unreal suite and know how to successfully create fun, simple games.

Style and approach
This book explains in detail what goes into the development of a game, provides hands-on examples that you can follow to create the different components of a game, and provides sufficient background/theory to equip you with a solid foundation for creating your own games.

Unreal Engine 4 for Design Visualization
Unreal Engine 4 (UE4) was created to develop video games, but it has gone viral among architecture, science, engineering, and medical visualization communities. UE4’s stunning visual quality, cutting-edge toolset, unbeatable price (free!), and unprecedented ease of use redefines the state of the art and has turned the gaming, film, and visualization industries on their heads. Unreal Engine 4 for Design Visualization delivers the knowledge visualization professionals need to leverage UE4’s immense power. World-class UE4 expert Tom Shannon introduces Unreal Engine 4’s components and technical concepts, mentoring you through the entire process of building outstanding visualization content—all with realistic, carefully documented, step-by-step sample projects. Shannon answers the questions most often asked about UE4 visualization, addressing issues ranging from data import and processing to lighting, advanced materials, and rendering. He reveals important ways in which UE4 works differently from traditional rendering systems, even when it uses similar terminology.

Throughout, he writes from the perspective of visualization professionals in architecture, engineering, or science—not gaming. Understand UE4’s components and development environment. Master UE4’s pipeline from source data to delivered application. Recognize and adapt to the differences between UE4 and traditional visualization and rendering techniques. Achieve staggering realism with UE4’s Physically Based Rendering (PBR) Materials, Lighting, and Post-Processing pipelines. Create production-ready Materials with the interactive real-time Material Editor. Quickly set up projects, import massive datasets, and populate worlds with accurate visualization data. Develop bright, warm lighting for architectural visualizations. Use Sequencer to create high-quality animations with Blueprints Visual Scripting. Use Unreal Engine 4’s limitations and leveraging its advantages to achieve your vision. All UE4 project files and 3ds Max source files, plus additional resources and links, are available at the book’s companion website.

Mastering Game Development with Unreal Engine 4
Unreal Game Development