

## Game Programming Developing With Unity In C For Beginners Introduction To Game Design

A seat-of-your-pants manual for building fun, groovy little games quickly with Unity 3.x.

Traditional building blocks of a robust architecture, such as design patterns, cannot be applied in Unity without being adapted to the engine's unique way of doing things. The book reviews design patterns that are currently used by professional game programmers in indie, mobile, and AAA studios, along with examining notorious anti-patterns.

Create enthralling Android games with Unity Faster Than Ever Before About This Book Develop complex Android games with the help of Unity's advanced features such as artificial intelligence, high-end physics, and GUI transformations.

Create amazing Graphical User Interfaces (GUIs) with Unity's new uGUI system Unravel and deploy exciting games across Android devices Who This Book Is For If you are a Unity 5 developer and want to expand your knowledge of Unity 5 to create high-end complex Android games, then this book is for you. Readers are expected to have a basic

understanding of Unity 5, working with its environment, and its basic concepts. What You Will Learn Develop your own Jetpack Joyride clone game Explore the advanced features of Unity 5 by building your own Action Fighting game

Develop remarkable Graphical User Interfaces (GUIs) with Unity's new uGUI system Enhance your game by adding stunning particle systems and complex animations Build pleasing virtual worlds with special effects, lights, sky cube

maps, and cameras Make your game more realistic by providing music and sound effects Debug and deploy your games on different Android devices In Detail Game engines such as Unity are the power-tools behind the games we know and

love. Unity is one of the most widely-used and best loved packages for game development and is used by everyone, from hobbyists to large studios, to create games and interactive experiences for the Web, desktop, mobile, and console. With

Unity's intuitive, easy-to-learn toolset and this book, it's never been easier to become a game developer. You will begin with the basic concepts of Android game development, a brief history of Android games, the building blocks of Android

games in Unity 5, and the basic flow of games. You will configure an empty project for the Jetpack Joyride Clone Game, add an environment and characters, and control them. Next you will walk through topics such as particle systems,

camera management, prefabs, animations, triggers, colliders, and basic GUI systems. You will then cover the basic setup for 3D action fighting games, importing models, textures and controlling them with a virtual on-screen joystick. Later you

will set up Scene for 3D Configuration, create basic gameplays, and manage input controls. Next you will learn to create the interface for the main menu, gameplay, game over, achievements, and high score screens. Finally you will polish

your game with stats, sounds, and Social Networking, followed by testing the game on Android devices and then publishing it on Google Play, Amazon, and OUYA Stores. Style and approach A step-by-step and detailed guide to

developing high-end complex Android games utilizing the advanced concepts of Unity.

Build immersive game experiences using the new Unity 2020 features with this practical guide Key Features Unleash the capabilities of C# scripting for creating immersive UI, graphics, Game AI agents and much more Explore Unity's latest

tools, including Universal Render Pipeline, Shader Graph, and VFX graph, to enhance graphics and animation Get started with building augmented reality experience using Unity's AR Foundation Book Description Over the years, the

Unity game engine has extended its scope from just being about creating video games to building AR/VR experiences, complex simulations, real-time realistic rendering, films, and serious games for training and education. Its features for

implementing gameplay, graphics, and customization using C# programming make Unity a comprehensive platform for developing professional-level, rich experiences. With this book, you'll be able to build impressive Unity projects in a step-

by-step manner and apply your knowledge of Unity concepts to create a real-world game. Complete with hands-on tutorials and projects, this easy-to-follow guide will show you how to develop your first complete game using a variety of

Unity tools. As you make progress, you'll learn how to make the most of the Unity Editor and create scripts using the C# programming language. This Unity game development book will then take you through integrating graphics, sound, and

animations and manipulating physics to create impressive mechanics for your games. You'll also learn how to code a simple AI agent to challenge the user and use profiling tools to ensure that the code runs in a performant way. Finally,

you'll get to grips with Unity's AR Foundation for creating AR experiences for 3D apps and games. By the end of this book, you'll have developed a complete game and will have built a solid foundation using Unity's tooling ecosystem to

develop game projects of any scale. What you will learn Write scripts for customizing various aspects of a game, such as physics, gameplay, and UI Program rich shaders and effects using Unity's new Shader Graph and Universal Render

Pipeline Implement postprocessing to increase graphics quality with full-screen effects Create rich particle systems for your Unity games from scratch using VFX Graph and Shuriken Add animations to your game using the Animator,

Cinemachine, and Timeline Implement game artificial intelligence (AI) to control character behavior Detect and fix optimization issues using profilers and batching Who this book is for This book is for game developers looking to migrate

to the Unity game engine. If you are a developer with some exposure to Unity, this book will help you explore its latest features. Prior experience with C# programming is required to get the most out of the book.

This book teaches beginners and aspiring game developers how to develop 2D games with Unity. Thousands of commercial games have been built with Unity. The reader will learn the complete process of 2D game development, step

by step. The theory behind each step is fully explained. This book contains numerous color illustrations and access to all source code and companion videos. Key Features: Fully detailed game projects from scratch. Beginners can do the

steps and create games right away. No coding experience is necessary. Numerous examples take a raw beginner toward professional coding proficiency in C# and Unity. Includes a thorough introduction to Unity 2020, including 2D game

development, prefabs, cameras, animation, character controllers, lighting, and sound. Includes a step-by-step

introduction to Unity 2019.3. Extensive coverage of GIMP, Audacity, and MuseScore for the creation of 2D graphics, sound effects, and music. All required software is free to use for any purpose including commercial applications and games. Franz Lanzinger is the owner and chief game developer of Lanzinger Studio, an independent game development and music studio in Sunnyvale, California. He started his career in game programming in 1982 at Atari Games, Inc., where he designed and programmed the classic arcade game Crystal Castles. In 1989, he joined Tengen, where he was a programmer and designer for Ms. Pac-Man and Toobin' on the NES. He co-founded Bitmasters, where he designed and coded games including Rampart and Championship Pool for the NES and SNES, and NCAA Final Four Basketball for the SNES and Sega Genesis. In 1996, he founded Actual Entertainment, publisher and developer of the Gubble video game series. He has a B.Sc. in mathematics from the University of Notre Dame and attended graduate school in mathematics at the University of California at Berkeley. He is a former world record holder on Centipede and Burgertime. He is a professional author, game developer, accompanist, and piano teacher. He is currently working on remaking the original Gubble game in Unity and Blender.

2D games are everywhere, from mobile devices and websites to game consoles and PCs. Timeless and popular, 2D games represent a substantial segment of the games market. In Learn Unity for 2D Game Development, targeted at both game development newcomers and established developers, experienced game developer Alan Thorn shows you how to use the powerful Unity engine to create fun and imaginative 2D games. Written in clear and accessible language, Learn Unity for 2D Game Development will show you how to set up a step-by-step 2D workflow in Unity, how to build and import textures, how to configure and work with cameras, how to establish pixel-perfect ratios, and all of this so you can put that infrastructure to work in a real, playable game. Then the final chapters show you how to put what you've already made to work in creating a card-matching game, plus you'll learn how to optimize your game for mobile devices. What you'll learn

- How to create a 2D workflow in Unity
- Customizing the Unity Editor
- How to generate atlas textures and textured quads
- Animation effects and camera configuration
- Handling user input
- Creating a game from start to finish
- Optimizing for mobile devices

Who this book is for: Game development students and professionals, indie developers, game artists and designers, and Unity developers looking to improve their workflow and effectiveness.

Table of Contents

1. Unity Basics for 2D Games
2. Materials and Textures
3. Quick 2D Workflow
4. Customizing the Editor with Editor Classes
5. Procedural Geometry and Textured Quads
6. Generating Atlas Textures
7. UVs and Animation
8. Cameras and Pixel Perfection
9. Input for 2D Games
10. Getting Started with a 2D Game
11. Completing the 2D Card Game
12. Optimization
13. Wrapping Things Up

If you don't know anything about programming in general, writing code, writing scripts, or have no idea where to even begin, then this book is perfect for you. If you want to make games and need to learn how to write C# scripts or code, then this book is ideal for you. Unity has become one of the most popular game engines for developers, from the amateur hobbyist to the professional working in a large studio. Unity used to be considered a 3D tool, but with the release of Unity 4.3, it now has dedicated 2D tools. This will expand Unity's use even more. Developers love its object-oriented drag-and-drop user interface which makes creating a game or interactive product so easy. Despite the visual ease of working in Unity, there is a need to understand some basic programming to be able to write scripts for GameObjects. For game developers that have any programming knowledge, learning how to write scripts is quite easy. For the artist coming to Unity, creating the visual aspects of a game is a breeze, but writing scripts may appear to be a giant roadblock. This book is for those with no concept of programming. I introduce the building blocks, that is, basic concepts of programming using everyday examples you are familiar with. Also, my approach to teaching is not what you will find in the typical programming book. In the end, you will learn the basics of C#, but I will spoon-feed you the details as they are needed. I will take you through the steps needed to create a simple game, with the focus not being the game itself but on how the many separate sections of code come together to make a working game. I will also introduce the concept of a State Machine to organize code into simple, game controlling blocks. At the end, you will be saying "Wow! I can't believe how easy that was!"

Unity has established itself as a powerful force for developing games. If you love mobile games and want to learn how to create them but have no idea where to begin, this book is for you. It takes a step-by-step approach to build an endless runner game using Unity, along with covering examples on how to create a game that is uniquely your own.

Find out how to use the Unity Game Engine to its fullest for both 3D and 2D game development—from the basics to the hottest new tricks in virtual reality. With this unique cookbook, you'll get started in two ways: First, you'll learn about the Unity game engine by following very brief exercises that teach specific features of the software. Second, this tutorial-oriented guide provides a collection of snippets that solve common gameplay problems, like determining if a player has completed a lap in a race. Using our cookbook format, we pinpoint the problem, set out the solution, and discuss how to solve your problem in the best and most straightforward way possible so you can move onto the next step in the project. Unity Game Development Cookbook is ideal for beginning to intermediate Unity developers. Beginners will get a broad immersion into the Unity development environment, while intermediate developers will learn how to apply the foundational Unity skills they have to solve real game development problems.

Summary Manning's bestselling and highly recommended Unity book has been fully revised! Unity in Action, Second Edition teaches you to write and deploy games with the Unity game development platform. You'll master the Unity toolset from the ground up, adding the skills you need to go from application coder to game developer. Foreword by Jesse Schell, author of The Art of Game Design. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Build your next game without sweating the low-level details. The Unity game development platform handles the heavy lifting, so you can focus on game play, graphics, and user experience. With support for C# programming, a huge ecosystem of production-quality prebuilt assets, and a strong dev community, Unity can get your next great game idea off the drawing board and onto the screen! About the Book Unity in Action, Second Edition teaches you to write and deploy games with Unity. As you explore the many interesting examples, you'll get hands-on practice with

Unity's intuitive workflow tools and state-of-the-art rendering engine. This practical guide exposes every aspect of the game dev process, from the initial groundwork to creating custom AI scripts and building easy-to-read UIs. And because you asked for it, this totally revised Second Edition includes a new chapter on building 2D platformers with Unity's expanded 2D toolkit. What's Inside Revised for new best practices, updates, and more! 2D and 3D games Characters that run, jump, and bump into things Connect your games to the internet About the Reader You need to know C# or a similar language. No game development knowledge is assumed. About the Author Joe Hocking is a software engineer and Unity expert specializing in interactive media development. Table of Contents PART 1 - First steps Getting to know Unity Building a demo that puts you in 3D space Adding enemies and projectiles to the 3D game Developing graphics for your game PART 2 - Getting comfortable Building a Memory game using Unity's 2D functionality Creating a basic 2D Platformer Putting a GUI onto a game Creating a third-person 3D game: player movement and animation Adding interactive devices and items within the game PART 3 - Strong finish Connecting your game to the internet Playing audio: sound effects and music Putting the parts together into a complete game Deploying your game to players' devices

Build fully functional, professional 3D games with realistic environments, sound, dynamic effects, and more!

Beginning 3D Game Development with Unity is perfect for those who would like to come to grips with programming Unity. You may be an artist who has learned 3D tools such as 3ds Max, Maya, or Cinema 4D, or you may come from 2D tools such as Photoshop and Illustrator. On the other hand, you may just want to familiarize yourself with programming games and the latest ideas in game production. This book introduces key game production concepts in an artist-friendly way, and rapidly teaches the basic scripting skills you'll need with Unity. It goes on to show how you, as an independent game artist, can create casual interactive adventure games in the style of Telltale's Tales of Monkey Island, while also giving you a firm foundation in game logic and design. The first part of the book explains the logic involved in game interaction, and soon has you creating game assets through simple examples that you can build upon and gradually expand. In the second part, you'll build the foundations of a point-and-click style first-person adventure game—including reusable state management scripts, load/save functionality, a robust inventory system, and a bonus feature: a dynamically configured maze and mini-map. With the help of the provided 2D and 3D content, you'll learn to evaluate and deal with challenges in bite-sized pieces as the project progresses, gaining valuable problem-solving skills in interactive design. By the end of the book, you will be able to actively use the Unity 3D game engine, having learned the necessary workflows to utilize your own assets. You will also have an assortment of reusable scripts and art assets with which to build future games.

Create a game for the Windows Phone market with a heavy emphasis placed on optimization and good design decisions. While doing so, you will be introduced to key Unity concepts and functionality, weigh the pros and cons of various possibilities, and gain a good working knowledge of scripting in the Unity environment using both JavaScript and C#. Learn Unity for Windows 10 Game Development starts by exploring the Unity editor and experimenting with staple game functionality. If you are new to scripting or just new to C#, you will be able to investigate syntax, commonly used functions, and communication required to bring your ideas to life. With the book's included art assets, you will learn the ins and outs of asset choices and management while making use of Unity's 2D physics, Shuriken particle systems and Mecanim's character and state management tools. Finally, you will bring it all together to create a multi-level game as you learn how to incorporate mobile specific functionality, test on a Windows Phone device, and others for Windows 10 and ultimately, publish your game to the Windows App Store. What You Will Learn Learn C# basics for Unity Work with the Unity Editor Manage assets Use the Mecanim animation system and 2D features and physics Who This Book Is For Game developers, hobbyists and game dev students who are new to Unity or Windows Mobile game development or both. JavaScript and C# experience are helpful, but C# experience is not required.

A complete beginner's guide to game development with the powerful Unity game engine. CS Instructor and game designer, Mike Geig, offers a do-it-yourself approach to game development - with all of the main essentials covered. In just 24 hours, learn how to get started developing games with Unity with a hands-on and modular approach. Each chapter covers an essential component of the game development process, illustrated with sample projects, and including full source code, all 3rd party art assets (textures, fonts, models), and all 3rd party sound assets.

In Pro Unity Game Development with C#, Alan Thorn, author of Learn Unity for 2D Game Development and experienced game developer, takes you through the complete C# workflow for developing a cross-platform first person shooter in Unity. C# is the most popular programming language for experienced Unity developers, helping them get the most out of what Unity offers. If you're already using C# with Unity and you want to take the next step in becoming an experienced, professional-level game developer, this is the book you need. Whether you are a student, an indie developer, or a season game dev professional, you'll find helpful C# examples of how to build intelligent enemies, create event systems and GUIs, develop save-game states, and lots more. You'll understand and apply powerful programming concepts such as singleton classes, component based design, resolution independence, delegates, and event driven programming. By the end of the book, you will have a complete first person shooter game up and running with Unity. Plus you'll be equipped with the know-how and techniques needed to deploy your own professional-grade C# games. If you already know a bit of C# and you want to improve your Unity skills, this is just the right book for you.

Follow a walkthrough of the Unity Engine and learn important 2D-centric lessons in scripting, working with image assets, animations, cameras, collision detection, and state management. In addition to the fundamentals, you'll learn best practices, helpful game-architectural patterns, and how to customize Unity to suit your needs, all in the context of building a working 2D game. While many books focus on 3D game creation with Unity, the easiest market for an independent developer to thrive in is 2D games. 2D games are generally cheaper to produce, more feasible for small teams, and more likely to be completed. If you live and breathe games and want to create them then 2D games are a great place to start. By focusing exclusively on 2D games and Unity's ever-expanding 2D workflow, this book gives aspiring independent game developers the tools they need to thrive. Various real-world examples of independent games are used to teach fundamental concepts of developing 2D games in Unity, using the very latest tools in Unity's updated 2D workflow. New all-digital channels for distribution, such as Nintendo eShop, Xbox Live Marketplace, the Playstation Store, the App Store, Google Play, itch.io, Steam, and GOG.com have made it easier than ever to discover, buy, and sell games. The golden age of independent gaming is upon us, and there has never been a better time to get creative, roll up your sleeves, and build that game you've always dreamed about. Developing 2D Games with Unity can show you the way. What You'll Learn Delve deeply into useful 2D topics, such as sprites, tile slicing, and the brand new Tilemap feature. Build a working 2D RPG-style game as you learn. Construct a flexible and extensible game architecture using Unity-specific tools like Scriptable Objects, Cinemachine, and Prefabs. Take advantage of the streamlined 2D workflow provided by the Unity environment. Deploy games to desktop Who This Book Is For Hobbyists with some knowledge of programming, as well as seasoned programmers interested in learning to make games independent of a major studio.

Master the art of programming games for Android using the Unity3D game engine. This book will help you understand basic concepts of game development in Unity. By the end of Beginning Unity Android Game Development, you will have the knowledge to confidently build an Android game. The book starts by explaining simple programming concepts to make beginners comfortable with the jargon. You will then learn to navigate around the Unity interface and use basic tools (hand, move, rotate, scale, and rect). You will also be acquainted with the creation of basic 3D objects in the game while understanding the purpose of several of Unity's windows. In the last chapters, you will learn to create a simple game for Android using the concepts studied in the previous chapters. Scripts will be written to handle the behaviors of the

player and enemies as well as to handle other aspects of the game. The author shares tips along the way to help improve in-game performance, such as switching to the universal rendering pipeline when targeting mobile platforms. At the end of the book, you will have a solid knowledge in making basic Android games that can be upgraded later to make more complex games. What You Will Learn Explore basic Unity and C# programming concepts and scripting for Android games Navigate around the Unity interface and use its basic tools Make the most of popular components and features of Unity Write an Android game with optimizations Who This Book Is For Absolute beginners learning to program games for the Android platform using Unity3D. Basic knowledge of programming would be beneficial for the reader but is not required.

A fun, easy-to-follow experience that takes you from an empty project in Unity 4.3+ all the way to a finished, functional 2D platformer, while giving you challenges and ideas to take what you learn in this book and expand upon it. This book is ideal for anyone who wants to learn how to build 2D video games or who just wants to expand their knowledge of the Unity game engine. It would be helpful to know how to navigate your way around Unity and some basic C# before getting started with this book; however, if you don't, no worries – we will point you in the right direction!

This second edition of C# Game Programming Cookbook for Unity expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before. New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the most used systems. Improve your game's sound in a dedicated audio chapter covering topics such as audio mixers, fading and audio ducking effects. Or, dissect a fully featured racing game with car physics, lap counting, artificial intelligence steering behaviors and game management. Use this book to guide your way through all the required code and framework to build a multi-level arena blaster game. Features Focusing on programming, structure and an industry-level, C#-based framework Extensive breakdowns of all the important classes Example projects illustrate and break down common and important Unity C# programming concepts, such as coroutines, singletons, static variables, inheritance and scriptable objects. Three fully playable example games with source code: 2D infinite runner, an arena blaster and an isometric racing game. The script library includes a base game manager, timed and proximity spawning, save profile manager, weapons control, artificial intelligence controllers (path following, target chasing and line-of-sight patrolling behaviors), user interface Canvas management and fading, car physics controllers and more. Code and screenshots have been updated with the latest versions of Unity; these updates will help illustrate how to create 2D games and 3D games based on the most up-to-date methods and techniques. Experienced C# programmers will discover ways to structure Unity projects for reusability and scalability. The concepts offered within the book are instrumental to mastering C# and Unity. In his game career spanning more than 20 years, Jeff W. Murray has worked with some of the world's largest brands as a Game Designer, Programmer, and Director. A Unity user for over 14 years, he now works as a consultant and freelancer between developing his own VR games and experiments with Unity.

Game Development with Unity Muska/Lipman

This second edition of C# Game Programming Cookbook for Unity 3D expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before. New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the most used systems. Improve your game's sound in a dedicated audio chapter covering topics such as audio mixers, fading, and audio ducking effects, or dissect a fully featured racing game with car physics, lap counting, artificial intelligence steering behaviors, and game management. Use this book to guide your way through all the required code and framework to build a multi-level arena blaster game. Features Focuses on programming, structure, and an industry-level, C#-based framework Extensive breakdowns of all the important classes Example projects illustrate and break down common and important Unity C# programming concepts, such as coroutines, singletons, static variables, inheritance, and scriptable objects. Three fully playable example games with source code: a 2D infinite runner, an arena blaster, and an isometric racing game The script library includes a base Game Manager, timed and proximity spawning, save profile manager, weapons control, artificial intelligence controllers (path following, target chasing and line-of-sight patrolling behaviors), user interface Canvas management and fading, car physics controllers, and more. Code and screenshots have been updated with the latest versions of Unity. These updates will help illustrate how to create 2D games and 3D games based on the most up-to-date methods and techniques. Experienced C# programmers will discover ways to structure Unity projects for reusability and scalability. The concepts offered within the book are instrumental to mastering C# and Unity. In his game career spanning more than 20 years, Jeff W. Murray has worked with some of the world's largest brands as a Game Designer, Programmer, and Director. A Unity user for over 14 years, he now works as a consultant and freelancer between developing his own VR games and experiments with Unity.

If you want to build enticing projects with Unity, this book is for you. Readers who are familiar with the basics of how to create simple projects in Unity will have an easier time.

This book presents a unique 10-stage workflow for development success. It offers advice, ideas and practical examples for developing games quickly and efficiently using some of today's most popular (and free) software tools. The reader will work with Unity (game engine), Blender (3D modeling and animation), and GIMP (image editor), fusing them into a single, productive workflow. This book presents the full process of game creation, with concrete instruction and tangible examples, including project and asset files, available on the book's companion website. --

This book follows an informal, demystifying approach to the world of game development with the Unity game engine. With no prior knowledge of game development or 3D required, you will learn from scratch, taking each concept at a time working up to a full 3D mini-game. You'll learn scripting with C# or JavaScript and master the Unity development environment with easy-to-follow stepwise tasks. If you're a designer or animator who wishes to take their first steps into game development or prototyping, or if you've simply spent many hours sitting in front of video games, with ideas bubbling away in the back of your mind, Unity and this book should be your starting point. No prior knowledge of game production is required, inviting you to simply bring with you a passion for making great games.

This hands-on guide to Unity is for new and existing Unity users who want to get the most out of the Unity engine, create scripts using C#, delve into graphics, sound, and animations and manipulate physics to create interesting mechanics for games. You'll be able to practically apply the knowledge you've gained to a real-world game.

If you are new to Unity scripting and want to learn simple and modular code and advance your knowledge to the next level, this is the book for you.

Beginning 3D Game Development with Unity 4 is perfect for those who would like to come to grips with programming Unity. You may be an artist who has learned 3D tools such as 3ds Max, Maya, or Cinema 4D, or you may come from 2D tools such as Photoshop and Illustrator. On the other hand, you may just want to familiarize yourself with programming games and the latest ideas in game production. This book introduces key game production concepts in an artist-friendly way, and rapidly teaches the basic scripting skills you'll need with Unity. It goes on to show how you, as an independent game artist, can create interactive games, ideal in scope for today's casual and mobile markets, while also giving you a firm foundation in game logic and design. The first part of the book explains the logic involved in game interaction, and soon has you creating game assets through simple examples that you can build upon and gradually expand. In the second part, you'll build the foundations of a point-and-click style first-person adventure game—including reusable state management scripts, dialogue trees for character interaction, load/save functionality, a robust inventory system, and a bonus feature: a dynamically configured maze and mini-map. With the help of the provided 2D and 3D content, you'll learn to evaluate and deal with challenges in bite-sized pieces as the project progresses, gaining valuable problem-solving skills in interactive design. By the end of the book, you will be able to actively use the Unity 3D game engine, having learned the necessary workflows to utilize your own assets. You will also have an assortment of reusable scripts and art assets with which to build future games. What you'll learn

How to build interactive games that work on a variety of platforms  
Take the tour around Unity user interface fundamentals, scripting and more  
Create a test environment and gain control over functionality, cursor control, action objects, state management, object metadata, message text and more  
What is inventory logic and how to manage it  
How to handle 3D object visibility, effects and other special cases  
How to handle variety of menus and levels in your games development  
How to handle characters, scrollers, and more  
How to create or integrate a story/walkthrough  
How to use the new Mecanim animation

Who this book is for  
Students or artists familiar with tools such as 3ds Max or Maya who want to create games for mobile platforms, computers, or consoles, but with little or no experience in scripting or the logic behind games development.

Table of Contents  
01. Introduction to Game Development  
02. Unity UI basics  
03. Introduction to Scripting  
04. Terrain Generation and Environment  
05. Exploring Navigation  
06. Cursor Control and Interaction  
07. Importing Assets  
08. Action Objects  
09. Managing State  
10. Exploring Transitions  
11. Physics and Special Effects  
12. Message Text and HUD  
13. Inventory Logic  
14. Managing Inventory  
15. Dialogue Trees  
16. Mecanim  
17. Game Environment  
18. Setting up the Game  
19. Menus and Levels

The art of programming mechanics -- Real world mechanics -- Animation mechanics -- Game rules and mechanics -- Character mechanics -- Player mechanics -- Environmental mechanics -- Mechanics for external forces.

Includes bibliographical references and index.

Demystifies the Processes of Game Development  
Game Development for iOS with Unity3D takes you through the complete process of Unity iOS game development. A game developer for over 12 years, the author presents production-proven techniques and valuable tips and tricks needed to plan, build, test, and launch games for the iPhone, iPod, and iPad. He walks you through all the necessary procedures, including how to publish your game to the App Store. Encompasses the Whole Range of iOS Game Development  
This practical book begins with advice on writing a game design document and getting Apple developer certification. It then covers the build processes of the Unity Remote application and explains how to use the Unity editor. After focusing on debugging and optimization, the author describes tips for designing and marketing a successful App Store page. The book also features two iOS-ready games to explore, adapt, and play. Source files for the game examples are available at [www.crcpress.com](http://www.crcpress.com).  
Guides You in Creating a Functional iOS Game  
Accessible to indie game developers and small- to medium-sized studios, this hands-on guide gives you the tools and knowledge needed to start building and launching iOS games. It helps you create games using Unity3D and publish them to the App Store.

Get a thorough and practical introduction to Unity development for Android devices with no previous experience with game development needed. In this book, you'll go through every step from downloading and installing Unity and the Android SDK, to creating fully functional games. The bulk of Learn Unity for Android Game Development is a simple project to create a 2D platform game complete with touchscreen controls, physics, enemies, respawning, collectibles and more. The book closes with a brief introduction to creating 3D games, virtual reality games for the Gear VR, and other more advanced applications. It also provides some guidance on publishing and marketing, as well as thinking about game design and mechanics. Resources including sprites and scripts are provided in the code download.  
What You Will Learn  
Install Unity with the Android SDK  
Understand and use scripts, prefabs and Android Studio  
Design a great game  
Build a game app  
Add a bit of polish  
Deploy for various Android devices  
Build and deploy for 3D games, virtual reality and more  
Promote your game and make money  
Who This Book Is For  
This book requires no previous experience with programming or game development of any kind. Prior experience with the Android ecosystem recommended.

Provides information on using the Unity game engine to build games for any platform, including the Web, the Wii, and on smartphones.

If you have C# knowledge but now want to become truly confident in creating fully functional 2D RPG games with Unity, then this book will show you everything you need to know.

Unity Android Game Development by Example Beginner's Guide consists of different game application examples. No prior experience with programming, Android, or Unity is required. You will learn everything from scratch and will have an organized flow of information specifically designed for complete beginners to Unity. Great for developers new to Unity, Android, or both, this book will walk you through everything you need to know about game development for the Android mobile platform. No experience with programming, Android, or Unity is required. Most of the assets used in each chapter project are provided with the book, but it is assumed that you have some access to basic image and model creation software. You will also need access to an Android powered device.

The Unity engine game development tool is a multi-platform engine and editor rolled into one. It is an ideal development tool for independent developers and students, and many pro studios turn to it for fast prototyping. Unity allows developers to create a

single game and release it on many platforms including Android, iOS, and the web. This completely updated edition of **GAME DEVELOPMENT WITH UNITY** is a tutorial-style guide that provides a complete overview of the Unity editor along with step-by-step projects covering every basic functional aspect, from asset importing to publishing. Each chapter includes tutorials and small assignments geared toward making a larger game. You will learn the basics of design and level theory and prototyping concepts in the virtual world. You will also learn how to polish and publish your finished game. A companion website features software, sample levels, source code and more. Start learning Unity today with **GAME DEVELOPMENT WITH UNITY, SECOND EDITION**.

**Harness the power of procedural content generation to design unique games with Unity**  
**About This Book** Learn the basics of PCG development  
**Develop a 2D game from start to finish** Explore all the different ways PCG can be applied in games  
**Who This Book Is For** This book is for Unity game developers, especially those who work on indie games. You should be familiar with Unity and C# scripting but you'll be able to jump in and start learning PCG straightaway.  
**What You Will Learn** Understand the theory of Procedural Content Generation  
**Learn the uses of Pseudo Random Numbers** Create reusable algorithm designs for PCG  
**Evaluate the data structures for PCG** Develop smaller games with larger amounts of content  
**Generate content instead of spending time designing every minute detail** Learn when and how to add PCG to your game  
**Learn the fundamental techniques of PCG** In Detail  
**Procedural Content Generation** is a process by which game content is developed using computer algorithms, rather than through the manual efforts of game developers. This book teaches readers how to develop algorithms for procedural generation that they can use in their own games. These concepts are put into practice using C# and Unity is used as the game development engine. This book provides the fundamentals of learning and continued learning using PCG. You'll discover the theory of PCG and the mighty Pseudo Random Number Generator. Random numbers such as die rolls and card drafting provide the chance factor that makes games fun and supplies spontaneity. This book also takes you through the full development of a 2D game. Starting with level generation, you'll learn how PCG can make the game environment for you. You'll move into item generation and learn the different techniques to procedurally create game items. Thereafter, you'll be guided through the more abstract PCG areas such as scaling difficulty to the player and even generating music! The book helps you set up systems within your games where algorithms create computationally generated levels, art assets, quests, stories, characters, and weapons; these can substantially reduce the burden of manually creating every aspect of the game. Finally, you'll get to try out your new PCG skills on 3D terrain generation.  
**Style and approach** An easy-to-follow, project-based guide that will let you build a complete game by the end of the book using PCG.

Do you want to build mobile games, but lack game development experience? No problem. This practical guide shows you how to create beautiful, interactive content for iOS and Android devices with the Unity game engine. Authors Jon Manning and Paris Buttfield-Addison (iOS Swift Game Development Cookbook) provide a top-to-bottom overview of Unity's features with specific, project-oriented guidance on how to use them in real game situations. Over the course of this book, you'll learn hands-on how to build 2D and 3D games from scratch that will hook and delight players. If you have basic programming skills, you're ready to get started. Explore the basics of Unity, and learn how to structure games, graphics, scripting, sounds, physics, and particle systems  
**Use 2D graphics and physics features to build a side-scrolling action game**  
**Create a 3D space combat simulator with projectile shooting and respawning objects, and learn how to manage the appearance of 3D models**  
**Dive into Unity's advanced features, such as precomputed lighting, shading, customizing the editor, and deployment**

**Designed for beginners with no knowledge or experience in game development or programming, this book teaches the essentials of the Unity game engine, the C# programming language, and the art of object-oriented programming.** New concepts are not only explained, but thoroughly demonstrated. Starting with an introduction to Unity, you'll learn about scenes, GameObjects, prefabs, components, and how to use the various windows to interact with the engine. You'll then dive into the fundamentals of programming by reviewing syntax rules, formatting, methods, variables, objects and types, classes, and inheritance, all while getting your hands dirty writing and testing code yourself. Later, the book explains how to expose script data in the Inspector and the basics of Unity's serialization system. This carefully crafted work guides you through the planning and development of bare bones, simple game projects designed to exercise programming concepts while keeping less relevant interruptions out of the way, allowing you to focus on the implementation of game mechanics first and foremost. Through these example projects, the book teaches input handling, rigidbodies, colliders, cameras, prefab instantiation, scene loading, user interface design and coding, and more. By the end, you'll have built a solid foundation in programming that will pave your way forward in understanding core C# syntax and fundamentals of object-oriented programming—not just what to type but why it's typed and what it's really doing. **Game Programming with Unity and C#** will send you on your way to becoming comfortable with the Unity game engine and its documentation and how to independently seek further information on yet-untouched concepts and challenges.  
**What You'll Learn** Understand the fundamentals of object-oriented computer programming, including topics specifically relevant for games. Leverage beginner-to-intermediate-level skills of the C# programming language and its syntax. Review all major component types of the Unity game engine: colliders and rigidbodies, lights, cameras, scripts, etc. Use essential knowledge of the Unity game engine and its features to balance gameplay mechanics for making interesting experiences. **Who This Book Is For** Beginners who have no prior experience in programming or game development who would like to learn with a solid foundation that prepares them to further develop their skills.

This fifth edition of the popular C# guide helps you learn the building blocks of C# language, right from variables to classes and exception handling. After getting to grips with the basics of C# programming, it takes you through the world of Unity game development and how you can apply C# knowledge using game development examples.

Master game design and digital art principles simultaneously with this all-in-one guide to creating games in the cutting-edge game engine Unity. Reworked for C# and Unity 2018 & 2019, and bursting with images and tutorials, Penny de Byl's **Holistic Game Development with Unity** will help the reader gain the multidisciplinary skills needed to succeed in the independent game industry. **Holistic Game Development with Unity** includes new coverage on Augmented Reality, Networking, and Virtual Reality such as the Oculus Rift. Supplementary material, including instructional videos, discussion forums and art assets are provided in the companion website located at [www.holistic3d.com](http://www.holistic3d.com). Learn to combine the beauty of art and the functionality of programming in de Byl's third edition for Unity game development. Key features: Art and programming in Unity, the only one-stop shop for individual developers and small teams looking to tackle both tasks. Proven step-by-step tutorials show you how to design and structure an entire game in Unity with art assets. Revised to cover the Unity game engine versions 2018 and 2019. New coverage of Nav Meshes, Augmented Reality, Mobile Builds and Mecanim. An introduction to essential two- and three-dimensional mathematical and physics concepts. A portfolio of royalty free reusable game mechanics. Revamped and expanded accompanying website, [www.holistic3d.com](http://www.holistic3d.com), features project source code, instructional videos, art assets, author blog, and discussion forums. Additional challenge questions and lesson plans are available online for an enhanced learning experience.

**Holistic Mobile Game Development with Unity: An All-In-One Guide to Implementing Mechanics, Art Design and Programming for iOS and Android Games** Master mobile game design and development in this all-in-one guide to creating iOS and Android games in the cutting-edge game engine, Unity. By using Penny de Byl's holistic method, you will learn about the principles of art, design, and code and gain multidisciplinary skills needed to succeed in the independent mobile games industry. In addition, hands-on exercises will help you throughout

the process from design to publication in the Apple App Store and Google Play Store. Over 70 practical step-by-step exercises recreating the game mechanics of contemporary mobile games, including Angry Birds, Temple Run, Year Walk, Minecraft, Curiosity Cube, Fruit Ninja, and more. Design principles, art, and programming in unison – the one-stop shop for indie developers requiring interdisciplinary skills in their small teams. An introduction to essential two- and three-dimensional mathematics, geometry and physics concepts. A portfolio of royalty free reusable game mechanics and assets. Accompanying website, [www.holistic3d.com](http://www.holistic3d.com), features project source code, instructional videos, art assets, author blog, and teaching resources. Challenge questions and lesson plans are available online for an enhanced learning experience.

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