

Unity Games By Tutorials Second Edition Make 4 Complete Unity Games From Scratch Using C

Newly Edited and Updated Version (Third Edition) for Unity 2019 Learn C# with Unity, and create a full FPS game without the headaches Without this book, most people spend too long trying to learn C# with Unity the hard way. This book is the only one that will get you to learn Unity fast without wasting so much time. It includes twelve chapters that painlessly teach you the necessary skills to create an FPS game and to learn intermediate C# and Unity techniques. What you will learn After completing this book, you will be able to: - Use Unity's built-in methods. - Use Rigidbody physics to propel airborne objects. - Use a Finite State Machine to create intelligent NPCs. - Manage 3D animations for the NPCs. - Create NPCs who can chase the player. - Create and manage weapons and ammunition for the player. - Create a 2D scrolling shooter. - Create a card-guessing game. - Create a 2D puzzle game. Content and structure of this book The content of the books is as follows: - In Chapter 1, you will learn key C# programming concepts such as variables, variable types, polymorphism, or constructors. - In Chapter 2, you will code and compile your first script in C#. - In Chapter 3, you will create a simple 3D game where the user has to reach the end of the level by avoiding projectiles from intelligent robots. - In Chapter 4, you will create a gun and a grenade launcher that the player can use to defeat enemies. - In Chapter 5, you will start to use Mecanim and NavMesh navigation to control an animated character that detects, follows, or attacks the player. - In Chapter 6, you will combine the skills that you have acquired in the previous chapters to create a fully functional level where the player needs to escape a level full of armed NPCs. You will also learn how to generate a game level dynamically from your code. - In Chapter 7, you will create a simple 2D scrolling shooter. - In Chapter 8, you will improve your game by adding explosions and a scrolling background. - In Chapter 9, you will add intelligent spaceships that attack the player. - In Chapter 10, you will include a shield to the player's spaceship, along with other interesting features (e.g., sound FX, a scoring system, etc). - In Chapter 11, you will create a card-guessing game. - In Chapter 12, you will create a 2D puzzle game. - Chapter 13 summarizes the topics covered in the book. If you want to create FPS games, 2D Shooters, Card Games and Puzzles with Unity using a tried-and-tested method: download this book now!

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.

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 you 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 Unity3 is an amazing game development tool being used around the world by professional, indie and bedroom game developers. This hands-on blueprints book is designed to get to the heart of Unity 3 development by showing you how to create 4 classic games with a Unity twist. All the code and the high quality game art assets are available from the Deep Pixel website so you can build the games yourself or customize your own projects! This book is aimed at indie game developers and artists who want to develop winning video games. This book will assume no prior knowledge of Unity or game creation in general, but you should be comfortable in development environments and have some knowledge of scripting (a refresher will be provided). This book uses JavaScript as the example language. Games: Match the Pairs, Top-Down Shooter, Tower Defense, Marble Madness. Play all the games and download all the code now from the Deep Pixel website.

Learn Unity for 2D Game Development

An All-in-one Guide to Implementing Game Mechanics, Art, Design, and Programming

Independent Game Programming with C#

Developing 2D Games with Unity

Unity Game Development Blueprints

Unity 3 Blueprints

This hands-on guide covers both game development and design, and both Unity and C#. This guide illuminates the basic tenets of game design and presents a detailed, project-based introduction to game prototyping and development, using both paper and the Unity game engine.

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.

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.

C# Game Programming Cookbook for Unity 3D

Learn about game and virtual reality development by creating five engaging projects, 2nd Edition

Learning C# by Developing Games with Unity 2020

Hands-On Unity 2020 Game Development

IOS Games by Tutorials

Unity From Zero to Proficiency (Foundations)

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

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.

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.

Newly Edited and Updated Version (Fourth Edition) for Unity 2019. Get started with Unity and game programming fast without the headaches Unity is a great software to create video games; however, it includes so many options and features that getting started can feel overwhelming. Without my book, most people spend too long trying to learn how to use Unity the hard way. This book is the only one that will get you to learn Unity fast without wasting so much time. This book is the first book in the series "Unity from Zero to Proficiency" where you will learn to code fast and be able to create your own video games with Unity in no time. What you will learn - After completing this book, you will be able to: - Know and master the features that you need to create 2D and 3D environments for your games. - Quickly create (and navigate through) realistic 3D indoors and outdoors environments. - Create a 3D Maze with lights, walls, and textures. - Use ProBuilder to create a house. - Create an island with trees, sandy beaches, mountains, and water. - Include and control a car and a plane. - Create a 2D platform game (with no scripting needed). - Export your games to the web. Who this book is for This book is for: - Hobbyists who need a book that gets them started with Unity and game development easily. - Parents looking for a book that introduces their children to game programming painlessly. - Teachers looking for a complete and clear resource on programming through the creation of games. - Aspiring indie game developers. How this book is different This is the only book that you need to get started with Unity fast and to enjoy the journey without the frustration. This book includes six chapters that painlessly guide you through the necessary skills to master Unity's interface, use its core features, and create and navigate through realistic 2D and 3D environments. It assumes no prior knowledge on your part and ensures that you have all the information and explanations that you need every step of the way. What this book offers This book includes all the features that you need to get started with Unity and game development: Learn without the headaches: This book assumes that you can't be expected to learn everything at once; this is why you will build all your skills incrementally. In addition, if you are more of a visual learner, you will gain access to a FREE video training that covers all the topics and features introduced in the book so that you can see how it is done. Make your dream of creating your own games come true: This book ensures that you stay motivated by giving you the right amount of information and challenge in each chapter; we all know that it's hard to keep motivated when learning a new skill, so this book always contextualizes the knowledge with an example (so that you feel it's relevant), and also makes sure that you get to challenge yourself, if you need to, with optional challenges present at the end of each chapter. Progress and feel confident in your skills: You will have the opportunity to learn and to use Unity at your own pace and to become comfortable with its interface. This is because every single new concept introduced will be explained in great detail so that you never feel lost. All the concepts are introduced progressively so that you don't feel overwhelmed. Create your own games and feel awesome: With this book, you will build your own 2D and 3D environments and you will spend more time creating than reading, to ensure that you can apply the concepts covered in each section. All chapters include step-by-step instructions with examples that you can use straight-away. If you want to get started with Unity today, then buy this book now.

Unity Game Development in 24 Hours, Sams Teach Yourself

Learning C# Programming with Unity 3D, second edition

Multiplatform game development in C#

Make 4 Complete Unity Games from Scratch Using C#

Getting Started with Unity 5

Game Programming Patterns

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.

Build exciting 2D/3D games and virtual reality applications with the help of hands-on examples Key Features Create five different types of games from scratch with Unity 2018 Import custom content into Unity from third-party tools such as Maya and Blender Learn to build NPCs with artificial intelligent behavior. Book Description Unity is the most exciting and popular engine used for developing games. With its 2018 release, Unity has become the primary source of both game development and virtual reality content. In Unity 2018 By Example, you'll learn how to use Unity in order to make amazing games from popular genres - from action shooters to mind-bending puzzle games to adventure and Virtual Reality (VR) games. Even if you have no previous experience of using Unity, this book will help you understand the toolsets it provides in depth. In addition to this, you'll understand how to create time-critical collection games, twin-stick space shooters, platformers, and action-fest games with intelligent enemies. Finally, you'll get to grips with creating VR games with the new toolsets introduced by Unity to help you develop amazing VR experiences. To make things easier, you will be provided with step-by-step tutorials for making five great games in Unity 2018, along with a detailed explanation of all the fundamental concepts. By the end of this book, you'll have established a strong foundation in making games with Unity 2018. What you will learn Understand core Unity concepts, such as game objects, components, and scenes Study level-design techniques for building immersive and interesting worlds Make functional games with C# scripting Use the toolset creatively to build games with different themes and styles Handle player controls and input functionality Work with terrains and world-creation tools Get to grips with making both 2D and 3D games Who this book is for You don't need to have any previous experience with Unity to enjoy Unity 2018 By Example, although you need to have basic knowledge of C#.

The biggest challenge facing many game programmers is completing their game. Most game projects fizzle out, overwhelmed by the complexity of their own code. Game Programming Patterns tackles that exact problem. Based on years of experience in shipped AAA titles, this book collects proven patterns to untangle and optimize your game, organized as independent recipes so you can pick just the patterns you need. You will learn how to write a robust game loop, how to organize your entities using components, and take advantage of the CPUs cache to improve your performance. You'll dive deep into how scripting engines encode behavior, how quadrees and other spatial partitions optimize your engine, and how other classic design patterns can be used in games.

Achieve mesmerizing game experiences using the latest Unity 2021 features by following a practical approach to building professional games Key Features: Unleash the capabilities of C# scripting to create UIs, graphics, game AI agents and more Explore Unity's latest tools, including Universal Render Pipeline, Shader Graph, UI Toolkit, Visual Scripting, and VFX graph, to enhance graphics and animation Build an AR experience using Unity's AR Foundation Book Description: Unity is a comprehensive yet simple suite of tools for developing video games. You can use Unity to not only create video games, but also AR/VR experiences, complex simulations, real-time realistic rendering, films, and practical games for training and education. With this book, you will get to grips with creating a full game from the ground up, building it step-by-step and applying your knowledge as you progress. Complete with hands-on tutorials and projects, this easy-to-follow guide will teach you how to develop the game using several Unity tools. As you advance, you will learn how to use the Unity engine, create simple scripts using C#, integrate graphics, sound, and animations, and manipulate physics to create interesting mechanics for your game. You'll be able to apply all the knowledge that you gain to a real-world game. Later chapters will show you how to code a simple AI agent to challenge the user and use profiling tools to ensure that the code runs efficiently. Finally, you'll work with Unity's AR tools to create AR experiences for 3D apps and games. By the end of this Unity book, you will have created a complete game and built a solid foundation in using a wide variety of Unity tools. What You Will Learn: Explore both C# and Visual Scripting tools to customize various aspects of a game, such as physics, gameplay, and the UI Program rich shaders and effects using Unity's new Shader Graph and Universal Render Pipeline Implement postprocessing to improve 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 Use the brand new UI Toolkit package to create user interfaces Implement game AI to control character behavior Who this book is for: This Unity engine 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 this Unity game development book.

Learning LibGDX Game Development - Second Edition

Learning C# Programming with Unity 3D Second Edition

A Hands-On Guide to Game Creation

An All-in-One Guide to Implementing Game Mechanics, Art, Design and Programming

Mastering Unity 2D Game Development

All-in-one, multi-platform game development

Explore various recipes to build games using popular artificial intelligence techniques and algorithms such as Navmesh navigation A*, DFS, and UCBI Key Features Explore different algorithms for creating decision-making agents that go beyond simple behaviors and movement Discover the latest features of the NavMesh API for scripting intelligent behaviour in your game characters Create games that are non-predictable and dynamic and have a high replayability factor Book Description Interactive and engaging games come with intelligent enemies, and this intellectual behavior is combined with a variety of techniques collectively referred to as Artificial Intelligence. Exploring Unity's API, or its built-in features, allows limitless possibilities when it comes to creating your game's worlds and characters. This cookbook covers both essential and niche techniques to help you take your AI programming to the next level. To start with, you'll quickly run through the essential building blocks of working with an agent, programming movement, and navigation in a game environment, followed by improving your agent's decision-making and coordination mechanisms – all through hands-on examples using easily customizable techniques. You'll then discover how to emulate the vision and hearing capabilities of your agent for natural and humanlike AI behavior, and later improve the agents with the help of graphs. This book also covers the new navigational mesh with improved AI and pathfinding tools introduced in the Unity 2018 update. You'll empower your AI with decision-making functions by programming simple board games, such as tic-tac-toe and checkers, and orchestrate agent coordination to get your AIs working together as one. By the end of this book, you'll have gained expertise in AI programming and developed creative and interactive games. What you will learn Create intelligent pathfinding agents with popular AI techniques such as A* and A*mbush Implement different algorithms for adding coordination between agents and tactical algorithms for different purposes Simulate senses so agents can make better decisions, taking account of the environment Explore different algorithms for creating decision-making agents that go beyond simple behaviors and movement Create coordination between agents and orchestrate tactics when dealing with a graph or terrain Implement waypoints by making a manual selector Who this book is for The Unity 2018 Artificial Intelligence Cookbook is for you if you are eager to get more tools under your belt to solve AI- and gameplay-related problems. Basic knowledge of Unity and prior knowledge of C# is an advantage.

If you are a game developer interested in learning Unity 3D from scratch and becoming familiar with its core features, then this book is for you. No prior knowledge of Unity 3D is required.

Learn How to Make Games with the Unity game engine! Unity is a popular game engine used by both by AAA studios and indie game developers alike. This book will introduce you how to create games with Unity whether you have some game development experience or you are a complete beginner. By the time you're finished reading this book, you will have made 4 complete mini-games, modeled your own game assets, and even played with virtual reality! These games include a twin stick shooter, a first person shooter, a 2D platformer, and tower defense game. Topics Covered in Unity Games by Tutorials: GameObjects: Learn about basic building blocks used to create your game. Components: Customize your GameObjects by the way of components.

Physics: Unleash the power of the built-in physics engine. Animation: Learn how to bring your models to life through Unity's animation system. Sound: Add depth to your games through Unity's powerful audio tools. Pathfinding: Learn about the pathfinding system to give direction to your monsters. User Interface: Provide custom user interfaces for players to use in your game. Virtual Reality: Convert one of your games to be played in Virtual Reality. Modeling: Learn the basics of Blender and how to create and animate your creations. Publishing: Learn how to export your game to your computer, web, and mobile devices. Unity 2D: A deep walkthrough on Unity's 2D system. And much more including a C# quick start guide, a Unity API overview, and saving game dat

This book teaches beginners and aspiring game developers how to develop 3D games with Unity. Thousands of commercial games have been built with Unity. This book combines a practical, step-by-step approach with explanations of the underlying theory that are reinforced with hundreds of screenshots and several larger projects. Building on the knowledge developed in 2D Game Development for Unity, this book uses the Blender software for 3D modelling and texturing, GIMP for 2D art, Audacity for sound effects, and MuseScore for music composition and notation. Readers can follow the step-by-step guides and create an introductory racing game, a 3D maze game, and a 3D FPS adventure game as they progress through the chapters. The book contains numerous color illustrations and online access to easily downloadable game assets, code, and project files. Written to be accessible and easy to follow, this book will be a valuable resource to both beginner and aspiring game developers that want to develop 3D games with Unity. Franz Lanzinger is an independent game developer, author, and pianist. He is the owner of Lanzinger Studio located in Sunnyvale, California. His game development career spans almost 40 years starting with the coin-op classic Crystal Castles at Atari in 1983, continuing with Ms. Pacman and Toobin' for the NES, published by Tengen in 1990. Franz has been an indie game developer since 1991. He worked on SNES Rampart, Championship Pool, and NCAA Final Four Basketball, as well as Gubble for the PC, Mac, and PlayStation. This is Franz's third book about game development. He is currently working on a remaster of Gubble. In his spare time, he is the piano accompanist for the Valley Chorale and the Serendipity Choir. Go to franzlanzinger.com for the latest news about Franz as well as resources for his books.

Unity in Action

Learning C# by Developing Games with Unity 5.x

Holistic Game Development with Unity 3e

Holistic Game Development with Unity

Metal by Tutorials (Second Edition): Beginning Game Engine Development with Metal

Unity 2018 By Example

If you want to build exciting 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.

Hailed as a "must-have textbook" (CHOICE, January 2010), the first edition of Game Engine Architecture provided readers with a complete guide to the theory and practice of game engine software development. Updating the content to match today's landscape of game engine architecture, this second edition continues to thoroughly cover the major components that make up a typical commercial game engine. New to the Second Edition Information on new topics, including the latest variant of the C++ programming language, C++11, and the architecture of the eighth generation of gaming consoles, the Xbox One and PlayStation 4 New chapter on audio technology covering the fundamentals of the physics, mathematics, and technology that go into creating an AAA game audio engine Updated sections on multicore programming, pipelined CPU architecture and optimization, localization, pseudovectors and Grassman algebra, dual quaternions, SIMD vector math, memory alignment, and anti-aliasing Insight into the making of Naughty Dog's latest hit, The Last of Us The book presents the theory underlying various subsystems that comprise a commercial game engine as well as the data structures, algorithms, and software interfaces that are typically used to implement them. It primarily focuses on the engine itself, including a host of low-level foundation systems, the rendering engine, the collision system, the physics simulation, character animation, and audio. An in-depth discussion on the "gameplay foundation layer" delves into the game's object model, world editor, event system, and scripting system. The text also touches on some aspects of gameplay programming, including player mechanics, cameras, and AI. An awareness-building tool and a jumping-off point for further learning, Game Engine Architecture, Second Edition gives readers a solid understanding of both the theory and common practices employed within each of the engineering disciplines covered. The book will help readers on their journey through this fascinating and multifaceted field.

Develop your first interactive 2D platformer game by learning the fundamentals of C# About This Book Get to grips with the fundamentals of scripting in C# with Unity Create an awesome, 2D platformer game from scratch using the principles of object-oriented programming and coding in C# This is a step-by-step guide to learn the fundamentals of C# scripting to develop GameObjects and master the basics of the new UI system in Unity Who This Book Is For The book is targeted at beginner level Unity developers with no programming experience. If you are a Unity developer and you wish to learn how to write C# scripts and code by creating games, then this book is for you. What You Will Learn Understand the fundamentals of variables, methods, and code syntax in C# Get to know about techniques to turn your game idea into working project Use loops and collections efficiently in Unity to reduce the amount of code Develop a game using the object-oriented programming principles Generate infinite levels for your game Create and code a good-looking functional UI system for your game Publish and share your game with users In Detail Unity is a cross-platform game engine that is used to develop 2D and 3D video games. Unity 5 is the latest version, released in March 2015, and adds a real-time global illumination to the games, and its powerful new features help to improve a game's efficiency. This book will get you started with programming behaviors in C# so you can create 2D games in Unity. You will begin by installing Unity and learning about its features, followed by creating a C# script. We will then deal with topics such as unity scripting for you to understand how codes work so you can create and use C# variables and methods. Moving forward, you will find out how to create, store, and retrieve data from collection of objects. You will also develop an understanding of loops and their use, and you'll perform object-oriented programming. This will help you to turn your idea into a ready-to-code project and set up a Unity project for production. Finally, you will discover how to create the GameManager class to manage the game play loop, generate game levels, and develop a simple UI for the game. By the end of this book, you will have mastered the art of applying C# in Unity. Style and approach This is a step-by-step guide to developing a game from scratch by applying the fundamentals of C# and Unity scripting.

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.

Build, customize, and optimize professional games using Unity 2020 and C#

Beginning 2D iOS, Tvos, Macos & Watchos Game Development with Swift 3

Unity Ios Game Development Beginners Guide

3D Game Development with Unity

Unity 3.x Game Development Essentials

Sams Teach Yourself Unity Game Development in 24 Hours

Build your own low-level game engine in Metal! This book introduces you to graphics programming in Metal - Apple's framework for programming on the GPU. You'll build your own game engine in Metal where you can create 3D scenes and build your own 3D games. Who This Book Is For This book is for intermediate Swift developers interested in learning 3D graphics or gaining a deeper understanding of how game engines work. Topics Covered in Metal by Tutorials The Rendering Pipeline: Take a deep dive through the graphics pipeline. 3D Models: Import 3D models with Model I/O and discover what makes up a 3D model. Coordinate Spaces: Learn the math behind 3D rendering. Lighting: Make your models look more realistic with simple lighting techniques. Textures & Materials: Design textures and surfaces for micro detail. Character Animation: Bring your 3D models to life with joints and animation. Tessellation: Discover how to use tessellation to add a greater level of detail using fewer resources. Environment: Add a sky to your scenes and use the sky image for lighting. Instancing & Procedural Generation: Save resources with instancing, and generate scenes algorithmically. Multipass & Deferred Rendering: Add shadows with advanced lighting effects. And more! After reading this book, you'll be prepared to take full advantage of graphics rendering with the Metal framework.

"Learn to program games using Apple's new framework: Sprite Kit!"--Cover.

This book is aimed at indie and existing game developers as well as those who want to get started with game development using LibGDX. Basic knowledge of Java programming and game development is required.

"For the novice game programmer with no experience with any programming languages. Covers how C# is used to make a game in Unity3D. Interactive examples give C# code meaning. As more complex aspects of C# are explained the interactivity of example games gains depth. Common programming tasks are taught by way of making a game. Thereader will understand how to read and apply C# in Unity3D and apply that knowledge to other development environments that use C#. New to this edition: includes latest C# functionality and feratures; new tips and tricks oo tuples, pattern matching, out variables, local functions, binary laterals, digit separators, null propagator reduces, etc. Key Features Provides a starting point for the first time programmer Examples enable the reader to eventually write a game using Unity 3D Learn to read and understand documentation and the Unity 3D API"--

Unity Games by Tutorials Second Edition

Game Development with Unity

A step-by-step guide to coding your first FPS in C# with Unity.

A Practical Guide to Indie Games Development

Unity Game Development Essentials

Unity Android Game Development by Example Beginner's Guide

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.*

The Unity Engine Tutorial for Any Game Creator *¿* *Unity is now the world's #1 game engine, thanks to its affordability, continuous improvements, and amazing global community. With Unity, you can design, code, and author your game once, and then deploy it to multiple platforms, reaching huge audiences and earning maximum returns. Learning 2D Game Development with Unity® will help you master Unity and build powerful skills for success in today's game industry. It also includes a bonus rundown of the new GUI tools introduced in Unity's version 4.6 beta. ¿* *With this indispensable guide, you'll gain a solid, practical understanding of the Unity engine as you build a complete, 2D platform-style game, hands-on. The step-by-step project will get you started fast, whether you're moving to Unity from other engines or are new to game development. ¿* *This tutorial covers the entire development process, from initial concept, plans, and designs to the final steps of building and deploying your game. It illuminates Unity's newly integrated 2D toolset, covering sprites, 2D physics, game scripts, audio, and animations. Throughout, it focuses on the simplest and lowest-cost approaches to game development, relying on free software and assets. Everything you'll need is provided. ¿* *Register your book at* informit.com/title/9780321957726 *to access assets, code listings, and video tutorials on the companion website. ¿* *Learn How To Set up your Unity development environment and navigate its tools* *Create and import assets and packages you can add to your game* *Set up game sprites and create atlas sheets using the new Unity 2D tools* *Animate sprites using keyframes, animation controllers, and scripting* *Build a 2D game world from beginning to end* *Establish player control* *Construct movements that "feel right"* *Set up player physics and colliders* *Create and apply classic gameplay systems* *Implement hazards and tune difficulty* *Apply audio and particle effects to the game* *Create intuitive game menus and interface elements* *Debug code and provide smooth error handling* *Organize game resources and optimize game performance* *Publish your game to the web for others to see and play* *¿*

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

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

Game Engine Architecture, Second Edition

Beginning 3D Game Development with Unity

Over 90 recipes to build and customize AI entities for your games with Unity, 2nd Edition

2D Apple Games by Tutorials

Create, Customize, and Optimize Your Own Professional Games from Scratch with Unity 2021

Hands-On Unity 2021 Game Development - Second Edition

In just 24 lessons of one hour or less, Sams Teach Yourself Unity Game Development in 24 Hours will help you master the Unity 5 game engine at the heart of Hearthstone: Heroes of Warcraft, Kerbal Space Program, and many other sizzling-hot games! This book's straightforward, step-by-step approach teaches you everything from the absolute basics through sophisticated game physics, animation, and mobile device deployment techniques. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success. Step-by-step instructions carefully walk you through the most common Unity 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.

This step-by-step book guides you through the process of using Unity to create monetized iOS games. It will get you through all the major learning points in a smooth, logical order. Youwill also learn how to avoid some common pitfalls. This book is for developers and designers who want to learn the process of building commercial game applications using Unity. It is intended for novices through to intermediate developers of all types regardless of their skill level with Unity. This book is packed with clear instructions and careful explanations for creating a powerful social networking site using Drupal 7. With each chapter, you add new features and content until your social network is ready to be released to the Internet where it can grow. By the end of this book, you will have a powerful social network which you can either choose to model on the case-study, or create to your own unique design. This book is aimed at anyone looking to create their own social networking website, including: Businesses – building a social network around a product or service can improve your company profile and increase customer loyalty, while an internal social network gives you employees a place to keep resources, discuss ideas, raise concerns, and keep up to date on company policies. Hobbyists – create a community around your hobbies and interests; create a local or distributed user group. Organizations and charities – raise your profile, promote your events, services, and fundraisers, and get help from the community in organizing them. Families – for large families based across the country or across the globe, keep up to date with everyone, and let everyone know what you are up to. You don't need any experience of Drupal or PHP to use this book. If you are a Drupal user you will find this book a great way to rapidly tailor an existing installation into a socially orientated website.

Learning C# Programming with Unity 3D, Second Edition is for the novice game programmer without any prior programming experience. Readers will learn how C# is used to make a game in Unity 3D. Many example projects provide working code to learn from and experiment with. As C# evolves, Unity 3D evolves along with it. Many new features and aspects of C# are included and explained. Common programming tasks are taught by way of making working game mechanics. The reader will understand how to read and apply C# in Unity 3D and apply that knowledge to other development environments that use C#. New to this edition: includes latest C# language features and useful tools included with the .NET library like LINQ, Local Functions Tuples, and more! Key Features Provides a starting point for the first-time programmer C# Code examples are simple short and clear Learn the very basics on up to interesting tricks which C# offers

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 2018 Artificial Intelligence Cookbook

An enjoyable and intuitive approach to getting started with C# programming and Unity, 5th Edition

Learning 2D Game Development with Unity

Unity from Zero to Proficiency (Intermediate)

From Concept to Playable Game - With Unity and C#

Unity AI Game Programming - Second Edition

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.

Leverage the power of Unity 5 to create fun and unbelievable AI entities in your games!About This Book- Compose richer games by learning the essential concepts in artificial intelligence with exciting examples- Explore the brand new Unity 5 features that make implementing artificial intelligence in your game easier than ever- Using this practical guide become a competent Unity 3D developer by learning AI techniques, methods and the applicability of AIWho This Book Is ForThis book is intended for Unity developers with a basic understanding of C# and the Unity editor. Whether you're looking to build your first game or are looking to expand your knowledge as a game programmer, you will find plenty of exciting information and examples of game AI in terms of concepts and implementation. It does not require any prior technical knowledge of how game AI works.What You Will Learn- Understand the basic terminology and concepts in game AI- Implement a basic finite state machine using state machine behaviors in Unity 5- Create sensory systems for your AI with the most commonly used techniques- Implement an industry-standard path-finding system and a navigation mesh with the Unity 5 NavMesh feature- Build believable and highly-efficient artificial flocks and crowds- Create a basic behavior tree to drive a character's actions- Make your characters more engaging by implementing fuzzy logic concepts in your AI's decision-making- Tie all the concepts together with examples and guidesIn DetailUnity 5 provides game and app developers with a variety of tools to implement artificial intelligence. Leveraging these tools via Unity's API or built-in features allows limitless possibilities when it comes to creating your game's worlds and characters. Whether you are developing traditional, serious, educational, or any other kind of game, understanding how to apply artificial intelligence can take the fun-factor to the next level!This book helps you break down artificial intelligence into simple concepts to give the reader a fundamental understanding of the topic to build upon. Using a variety of examples, the book then takes those concepts and walks you through actual implementations designed to highlight key concepts, and features related to game AI in Unity 5. Along the way, several tips and tricks are included to make the development of your own AI easier and more efficient.Starting from covering the basic essential concepts to form a base for the later chapters in the book, you will learn to distinguish the state machine pattern along with implementing your own. This will be followed by learning how to implement a basic sensory system for your AI agent and coupling it with a finite state machine (FSM). Next you will be taught how to use Unity's built-in NavMesh feature and implement your own A* pathfinding system. Then you will learn how to implement simple flocks and crowd's dynamics, the key AI concepts. Then moving on you will learn how a behavior tree works and its implementation. Next you will learn adding layer of realism by combining fuzzy logic concepts with state machines. Lastly, you learn applying all the concepts in the book by combining them in a simple tank game.Style and approachAn easy-to-follow guide that is full of example implementations of the concepts and is accompanied by easy-to-understand demonstrations and explanations of the code and concepts.

Learn How to Make 2D Games for iOS, tvOS, watchOS and macOS! Learn how to make games for all the major Apple platforms in Swift, using Apple's built-in 2D game framework: Sprite Kit. Through a series of mini-games and challenges, you will go from beginner to advanced and learn everything you need to make your own game! By the time you're finished reading this book, you will have made 6 complete mini-games, from an action game to a puzzle game to a tower defense game! Topics Covered in 2D Apple Games by Tutorials Sprites: Get started quickly and get your images onto your screen. Manual Movement: Move sprites manually with a crash course on 2D math. Actions: Learn how to move sprites the "easy way" using SpriteKit actions. Scenes and Transitions: Make multiple screens in your app and move between them. Camera: Use Sprite Kit's built-in camera to control your view. Labels: Learn how to display text for lives, scores and more in your game. Physics: Add realistic physics behavior into your games. Beyond Sprites: Add video nodes, core image filters, and custom shapes. Particle Systems: Add explosions, star fields, and other special effects. Adding "Juice" Take your game from good to great by polishing it until it shines. Online Gaming: Add multiplayer features to your game with Apple's Game Center. Tile Maps: Make games that use tile maps with obstacles, power-ups, and more. tvOS: Learn how to port your game to the Apple TV and work with the remote. watchOS: Take advantage of the unique features of the Apple Watch. macOS: Learn how to bring 2D gaming to the desktop. And much more, including a bonus chapter on creating your own 2D game art!

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. 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, 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.

Introduction to Game Design, Prototyping, and Development
A step-by-step guide to creating your first game with Unity