

Unity 5 X Cookbook More Than 100 Solutions To Build Amazing 2d And 3d Games With Unity

Unity 5.x Cookbook Packt Publishing Ltd

This book is intended for both professional game developers and hobbyists who are interested in making games with Unity. Users are expected to have knowledge of basics / fundamentals of Unity 2D game development and should have a working knowledge of C#.

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 AI Who This Book Is For This 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 guides In Detail Unity 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 approach An 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.

Brand alchemist, prime minister whisperer and shadow trend tweaker, Jones Byrne did his best contract work remotely, hidden in the seams of his upstate New York factory loft. But one mystery client has made an irresistible offer that will pull him back into the light, and force him to face his greatest failure: his degenerate expat past life in Tokyo. He had barely escaped, just a year ago, before everything flipped upside down and Japan dropped a veil over its largely depopulated, earthquake-scarred cities, cutting off all contact with the outside world. That's around the time the rumors began. They said that Tokyo had returned to its dark, old ways. But this time, warped and infected by the pharmacological and technological graffiti of 2043. This version of Tokyo was a place no foreigner had been unfortunate enough to lay eyes upon. Until now. Byrne's mystery client promised to make him well and truly wealthy, for just one day's work. Just one day. But this will be the hardest day's work of Byrne's life, if he can make it out of Tokyo alive.

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.

Welcome to a world where there is no darkness. A world of awe, delight, fun, love, humour and adventure but one day darkness comes along saying dark is good because In order for the light to shine so brightly, the darkness must be present. Follow the adventure as light and dark battle it out. Will the earth ever be the same again?

Shaders have always been seen as notoriously difficult to understand and implement in games. Complex math have always stood in the way of attaining realism in games. This book shows you everything you need to know about vectors, constructing lighting with them, and using textures to create complex effects without the heavy math.

Leverage the power of the Unity 2018 game engine to create games with brilliant gameplay and high replayability. Key Features

Develop different types of games from scratch with Unity 2018 Discover the secrets of creating AAA quality shaders without writing long algorithms Script intelligent game characters and agents using Artificial Intelligence techniques and algorithms Book Description Through this Learning Path, you'll learn how to leverage the features of Unity and create amazing games, ranging from action shooters and mind-bending puzzle games to adventure and Virtual Reality(VR) games. If you have no prior experience of using Unity, you can still benefit from this Learning Path, which easily explains the complete working of the Unity toolset. You'll start by learning how to create compelling shaders using Unity and understanding everything you need to know about vectors. This includes useful inputs on how lighting is constructed with vectors and how textures are used to create complex effects without the need for advanced math. In the succeeding chapters, you'll also be able to use popular AI techniques, such as A* and A*mbush to develop intelligent pathfinding agents for your games. The book will also guide you through different algorithms for creating decision-making agents that go beyond simple behaviors and movement. By the end of this Learning Path, you will have developed all the basic skills to create highly engaging and replayable games. This Learning Path includes content from the following Packt products: Unity 2018 By Example - Second Edition by Alan Thorn Unity 2018 Shaders and Effects Cookbook - Third Edition by John P. Doran, Alan Zucconi Unity 2018 Artificial Intelligence Cookbook - Second Edition by Jorge Palacios What you will learn Understand concepts such as game objects, components, and scenes Create functional games with C# scripting Write shaders from scratch in ShaderLab and HLSL/Cg Develop intelligent pathfinding agents with A and Ambush Work with terrains and world-creation tools Simulate senses for agents to make decisions based on the environment Implement waypoints by creating a manual selector Enhance games with volumetric explosions, special effects, and visuals Who this book is for If you are a game developer who wants to learn tools that can transform your gameplay, this beginner-level Learning Path is ideal for you. Having basic knowledge of C# will help you grasp the concepts explained in the book easily.

?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.

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.

Over 100 recipes exploring the new and exciting features of Unity 5 to spice up your Unity skillset About This Book Built on the solid foundation of the popular Unity 4.x Cookbook, the recipes in this edition have been completely updated for Unity 5 Features recipes for both 2D and 3D games Provides you with techniques for the new features of Unity 5, including the new UI system, 2D game development, new Standard Shaders, and the new Audio Mixer Who This Book Is For From beginners to advanced users, from artists to coders, this book is for you and everyone in your team! Programmers can explore multimedia features, and multimedia developers can try their hand at scripting. Basic knowledge and understanding of the Unity platform, game design principles, and programming knowledge in C# is essential. What You Will Learn Immerse players with great audio, utilizing Unity 5's audio features including the new Audio Mixer, ambient sound with Reverb Zones, dynamic soundtracks with Snapshots, and balanced audio via Ducking Create better materials with Unity's new, physically-based, Standard Shader Measure and control time, including pausing the game, displaying clocks and countdown timers, and even implementing "bullet time" effects Improve ambiance through the use of lights and effects such as reflection and light probes Create stylish user interfaces with the new UI system, including power-bars, clock displays, and an extensible inventory system Save and load text and media assets from local or remote sources, publish your game via Unity Cloud, and communicate with websites and their databases to create online scoreboards Discover advanced techniques, including the publisher-subscriber and state patterns, performance bottleneck identification, and methods to maximize game performance and frame rates Control 2D and 3D character movement, and use NavMeshAgents to write NPC and enemy behaviors such as seek, flee, flock, and waypoint path following In Detail Unity 5 is a flexible and intuitive multiplatform game engine that is becoming the industry's de facto standard. Learn to craft your own 2D and 3D computer games by working through core concepts such as animation, audio, shaders, GUI, lights, cameras, and scripting to create your own games with Unity 5. Completely re-written to cover the new features of Unity 5, this book is a great resource for all Unity game developers, from those who have recently started using Unity right up to Unity professionals. The first half of the book focuses on core concepts of 2D game design while the second half focuses on developing 3D game development skills. In the first

half, you will discover the new GUI system, the new Audio Mixer, external files, and animating 2D characters in 2D game development. As you progress further, you will familiarize yourself with the new Standard Shaders, the Mecanim system, Cameras, and the new Lighting features to hone your skills towards building 3D games to perfection. Finally, you will learn non-player character control and explore Unity 5's extra features to enhance your 3D game development skills. Style and approach Each chapter first introduces the topic area and explains how the techniques covered can enhance your games. Every recipe provides step-by-step instructions, followed by an explanation of how it all works, and useful additional refinements or alternative approaches. Every required resource and C# script (fully commented) is available to download, enabling you to follow each recipe yourself.

This is a story about a young boy named Tim Hartwell who lives in Tenby, Pembrokeshire in Wales. He learns about his family's magical past from his mother, Mary. Later, after learning and wondering about his past, he meets two Wyvern gargoyles who guide him to seven Galon Keys. The keys protect him through a parallel world in Wales called Selwyn's Chancer. Once there, he must avoid a beast named Stratford Hartwell who wants the power of the Galon Keys and the Book of Hartwell for himself.

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. Over 60 recipes to help you create professional and exquisite UIs to make your games more immersive About This Book Design and develop interactive and professional user interfaces (UIs) for games in Unity Discover how to implement and deal with various in-game UI elements that will impress your players This practical recipe guide will help you to efficiently create powerful and remarkable UIs using C# code Who This Book Is For If you are a game developer with some experience in Unity and C# and want to create the best interactive experience fast and intuitively, then this book is for you. If you are an intermediate game developer or an expert, these recipes will help you bring out the power of the new UI Unity system. What You Will Learn Implement different kinds of counters and healthbars Deal with timers and find out how to format them Animate and vivify UI elements Handle runtime customizations Add complex Head-up displays (HUDs) Design and implement 3D UIs Integrate minimaps in the UI In Detail With the increasing interest in game development, it's essential to design and implement a UI that reflects the game settings and shows the right information to the player. The Unity system is used to create complex and aesthetically pleasing user interfaces in order to give a professional look and feel to a game. Although the new Unity UI system is powerful and quite easy to use, by integrating it with C# scripts, it's possible to realize the potential of this system and bring an impressive UI to games. This guide is an invaluable collection of recipes if you are planning to use Unity to develop a game. Starting with the basic concepts of the UI components, we'll take you all the way through to creating complex interfaces by including animations and dynamics elements. Based on real-world problems, these recipes will start by showing you how to make common UI elements such as counters and healthbars. You will then get a walkthrough of how to manage time using timers, and will learn how to format them. You will move on to decorating and animating the UI elements to vivify them and give them a professional touch. Furthermore, you will be guided into the 3D UI world and into HUD scripting. Finally, you will discover how to implement complex minimaps in the interface. Style and approach Interactive, easy-to-follow recipes will help you create and implement UIs that make gaming an exhilarating experience.

Unity, the world's leading real-time engine, is used to create half of the world's games. This book will teach programming newcomers the C# language in a fun and accessible way through game development. No prior programming or game development experience is required, only a curious mind.

Put Unity to use for your video games by creating your own custom tools with editor scripting About This Book Acquire a good understanding of extending Unity's editor capabilities for a platformer game by using Gizmos, custom inspectors, editor windows, scriptable objects, and more Learn to configure and get control over your asset import pipeline using asset preprocessors A step-by-step, comprehensible guide to creating and customizing a build pipeline that fits the necessities of your video game development team Who This Book Is For This book is for anyone who has a basic knowledge of Unity programming using C# and

wants to learn how to extend and create custom tools using Unity editor scripting to improve the development workflow and make video game development easier. What You Will Learn Use Gizmos to create visual aids for debugging Extend the editor capabilities using custom inspectors, property and decorator drawers, editor windows, and handles Save your video game data in a persistent way using scriptable objects Improve the look and feel of your custom tools using GUIStyles and GUIskins Configure and control the asset import pipeline Improve the build creation pipeline Distribute the custom tools in your team or publish them in the Asset Store In Detail One of Unity's most powerful features is the extensible editor it has. With editor scripting, it is possible to extend or create functionalities to make video game development easier. For a Unity developer, this is an important topic to know and understand because adapting Unity editor scripting to video games saves a great deal of time and resources. This book is designed to cover all the basic concepts of Unity editor scripting using a functional platformer video game that requires workflow improvement. You will commence with the basics of editor scripting, exploring its implementation with the help of an example project, a level editor, before moving on to the usage of visual cues for debugging with Gizmos in the scene view. Next, you will learn how to create custom inspectors and editor windows and implement custom GUI. Furthermore, you will discover how to change the look and feel of the editor using editor GUIStyles and editor GUIskins. You will then explore the usage of editor scripting in order to improve the development pipeline of a video game in Unity by designing ad hoc editor tools, customizing the way the editor imports assets, and getting control over the build creation process. Step by step, you will use and learn all the key concepts while creating and developing a pipeline for a simple platform video game. As a bonus, the final chapter will help you to understand how to share content in the Asset Store that shows the creation of custom tools as a possible new business. By the end of the book, you will easily be able to extend all the concepts to other projects. Style and approach This book uses a step-by-step approach that will help you finish with a level editor tool, a custom configuration for the asset import pipeline, and a build pipeline totally adjusted to the video game.

Master the art of Shader programming to bring life to your Unity projects About This Book This book will help you master the technique of physically based shading in Unity 5 to add realism to your game quickly through precise recipes From an eminent author, this book offers you the fine technicalities of professional post-processing effects for stunning results This book will help you master Shader programming through easy-to-follow examples to create stunning visual effects that can be used in 3D games and high quality graphics. Who This Book Is For Unity Effects and Shader Cookbook is written for developers who want to create their first Shaders in Unity 5 or wish to take their game to a whole new level by adding professional post-processing effects. A solid understanding of Unity is required. What You Will Learn Understand physically based rendering to fit the aesthetic of your game Enter the world of post-processing effects to make your game look visually stunning Add life to your materials, complementing Shader programming with interactive scripts Design efficient Shaders for mobile platforms without sacrificing their realism Use state-of-the-art techniques such as volumetric explosions and fur shading Build your knowledge by understanding how Shader models have evolved and how you can create your own Discover what goes into the structure of Shaders and why lighting works

the way it does Master the math and algorithms behind the most used lighting models In Detail Since their introduction to Unity, Shaders have been notoriously difficult to understand and implement in games: complex mathematics have always stood in the way of creating your own Shaders and attaining that level of realism you crave. With Shaders, you can transform your game into a highly polished, refined product with Unity's post-processing effects. Unity Shaders and Effects Cookbook is the first of its kind to bring you the secrets of creating Shaders for Unity3D—guiding you through the process of understanding vectors, how lighting is constructed with them, and also how textures are used to create complex effects without the heavy math. We'll start with essential lighting and finishing up by creating stunning screen Effects just like those in high quality 3D and mobile games. You'll discover techniques including normal mapping, image-based lighting, and how to animate your models inside a Shader. We'll explore the secrets behind some of the most powerful techniques, such as physically based rendering! With Unity Shaders and Effects Cookbook, what seems like a dark art today will be second nature by tomorrow. Style and approach The recipes in this book contain step-by-step instructions, complemented by screenshots and code, and real-world examples.

An insidious parasite is working its way through the suburbs of Washington, D.C. NITS follows the trail of a virulent outbreak of head lice as it wreaks havoc on the lives of a social climbing mother of a scholarship student, a buff young Latin teacher and a controlling do-gooder who is so consumed with exterminating the pest, people start calling her the "Lice Nazi." A social satire with bite, NITS explores the themes of class, ambition, and the unavoidable interconnectedness of modern life.

A recipe-based guide to give you practical information on Unity 5.x animation techniques and tools
About This Book- A straightforward and easy-to-follow format.- A selection of the most important tasks and problems.- Carefully organized instructions to solve problems efficiently.- Clear explanations of what you did.- Solutions that can be applied to solve real-world problems.
Who This Book Is For This book is for Unity developers who have some exposure to Unity game development who want to learn the nuances of animation in Unity. Previous knowledge of animation techniques and mecanim is not necessary.
What You Will Learn- Importing animations to Unity- Work with different animation assets and components- Create, visualize, and edit animated creatures- Animating game cut scenes- Design character actions and expressions- Create gameplay by animating characters and environments- Use animations to drive in-game logic
In Detail This recipe-based practical guide will show you how to unleash the power of animation in Unity 5.x and make your games visually impeccable. Our primary focus is on showing you tools and techniques to animate not only humanoid biped characters, but also other elements. This includes non-humanoid character animation, game world creation, UI element animation, and other key features such as opening doors, changing lights, transitioning to different scenes, using physics, setting up ragdolls, creating destructible objects and more. While discussing these topics, the book will focus on mecanim, the Unity 3D animation tool, and how you can use it to perform all these tasks efficiently and quickly. It contains a downloadable Unity project with interactive examples for all the recipes. By the end of this book, you will be confident and self-sufficient in animating your Unity 3D games efficiently.
Style and approach This practical no-nonsense guide is recipe-based with real-world examples of almost all the techniques mentioned.

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!

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.

Build and customize a wide range of powerful Unity AI systems with over 70 hands-on recipes and techniques About This Book Empower your agent with decision making capabilities using advanced minimaxing and Negamaxing techniques Discover how AI can be applied to a wide range of games to make them more interactive. Instigate vision and hearing abilities in your agent through collider based and graph based systems Who This Book Is For This book is intended for those who already have a basic knowledge of Unity and are eager to get more tools under their belt to solve AI and gameplay-related problems. What You Will Learn Use techniques such as A* and A*mbush to empower your agents with path finding capabilities. Create a representation of the world and make agents navigate it Construct decision-making systems to make the agents take different actions Make different agents coordinate actions and create the illusion of technical behavior Simulate senses and apply them in an awareness system Design and implement AI in board games such as Tic-Tac-Toe and Checkers Implement efficient prediction mechanism in your agents with algorithms such as N-Gram predictor and naive Bayes classifier Understand and analyze how the influence maps work. In Detail Unity 5 comes fully packaged with a toolbox of powerful features to help game and app developers create and implement powerful game AI. 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. This practical Cookbook covers both essential and niche techniques to help you be able to do that and more. This Cookbook is engineered as your one-stop reference to take your game AI programming to the next level. Get to grips with the essential building blocks of working with an agent, programming movement and navigation in a game environment, and improving your agent's decision making and coordination mechanisms - all through hands-on examples using easily customizable techniques. Discover how to emulate vision and hearing capabilities for your agent, for natural and humanlike AI behaviour, and improve them with the help of graphs. Empower your AI with decision-making functions through programming simple board games such as Tic-Tac-Toe and Checkers, and orchestrate agent coordination to get your AIs working together as one. Style and approach This recipe-based guide will take you through implementing various AI algorithms. Each topic is explained and placed among other related techniques, sometimes building on the knowledge from previous chapters. There are also references to more technical books and papers, so you can dig deeper if you want to.

In the past, not being able to program meant not being able to make video games. Now if you can draw a flow-chart you can use powerful State Machine technology to create your dream game! No-Code Video Game Development using Unity and Playmaker will teach you how to substitute flow-charts for code. As a complete course, it uses a project-based approach. The FPS project comes with over a hundred dollars worth of free #gamedev DLC: Unity Packages, Playmaker Templates, Character Models, Animations, Materials, and more! You'll also learn game design documentation and theory, Mecanim, Particle Systems, and UI. By the time you're done you'll have gained the skills needed to create your own dream game, all without writing any code!

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.

If you have a good understanding of Unity's core functionality and a decent grasp of C# scripting in Unity (although not essential if you are just using the Editor with the new UI), you'll be well placed to take advantage of the new UI feature set.

Do you want to build mobile games, but lack game development experience? No problem. This practical guide shows you how to create

Online Library Unity 5 X Cookbook More Than 100 Solutions To Build Amazing 2d And 3d Games With Unity

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 Discover how to make your Unity projects look stunning with Shaders and screen effects

Unity 2021 Cookbook is a practical guide with recipes covering a wide variety of Unity's essential features. This new edition has been fully updated for Unity 2021 to help you discover not only the latest features but also modern game development practices.

Envious of her best friends lavish lifestyle, a young woman wonders how different her life would be if she had an opportunity to change her past.

Includes bibliographical references and index.

In introducing new students to video game development, there are two crucial components to consider: design and implementation. Unity 3D and PlayMaker Essentials: Game Development from Concept to Publishing provides theoretical background on topics such as characters, stories, level design, interface design, audio, game mechanics, and tools and skills needed. Each chapter focuses on a specific topic, with topics building upon each other so that by the end of the book you will have looked into all the subjects relevant to creating your own game. The book transitions from discussion to demonstrations of how to implement techniques and concepts into practice by using Unity3D and PlayMaker. Download boxes are included throughout the book where you can get the version of the game project under discussion or other content to add to the project, as well as any supplementary video tutorials that have been developed. Addressing both theoretical and practical aspects, Unity 3D and PlayMaker Essentials enables you to understand how to create a game by having you make a game. By gradually completing your own design document through the course of the book, you will become familiar with core design principles while learning the practical skills needed to bring your unique game to life.

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.

Develop quality game components and solve common gameplay problems with various game design patterns Key Features Become proficient at traditional 2D and 3D game development Build amazing interactive interfaces with Unity's UI system Develop professional games with realistic animation and graphics, materials and cameras, and AI with Unity 2018 Book Description With the help of the Unity 2018

Cookbook, you'll discover how to make the most of the UI system and understand how to animate both 2D and 3D characters and game scene objects using Unity's Mecanim animation toolsets. Once you've got to grips with the basics, you will familiarize yourself with shaders and Shader Graphs, followed by understanding the animation features to enhance your skills in building fantastic games. In addition to this, you will discover AI and navigation techniques for nonplayer character control and later explore Unity 2018's newly added features to improve your 2D and 3D game development skills. This book provides many Unity C# gameplay scripting techniques. By the end of this book, you'll have gained comprehensive knowledge in game development with Unity 2018. What you will learn Get creative with Unity's shaders and learn to build your own shaders with the new Shader Graph tool Create a text and image character dialog with the free Fungus Unity plugin Explore new features integrated into Unity 2018, including TextMesh Pro and ProBuilder Master Unity audio, including ducking, reverbing, and matching pitch to animation speeds Work with the new Cinemachine and timeline to intelligently control camera movements Improve ambiance through the use of lights and effects, including reflection and light probes Create stylish user interfaces with the UI system, including power bars and clock displays Who this book is for Unity 2018 Cookbook is for you if you want to explore a wide range of Unity scripting and multimedia features and find ready-to-use solutions for many game features. This book also helps programmers explore multimedia features. It is assumed that you already know basics of Unity and have some programming knowledge of C#.

Explore various recipes to build games using popular artificial intelligence techniques and algorithms such as Navmesh navigation A*, DFS, and UCB1 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.

Implementing shaders in your games can be notoriously challenging due to the complex math that stands in the way of attaining realism in

games. This fourth edition, updated to Unity 2021, covers everything you need to know about vectors, constructing lighting with them, and using textures to create sophisticated effects without the complex math.

A recipe-based guide to give you practical information on Unity 5.x animation techniques and tools

About This Book A straightforward and easy-to-follow format. A selection of the most important tasks and problems. Carefully organized instructions to solve problems efficiently. Clear explanations of what you did. Solutions that can be applied to solve real-world problems.

Who This Book Is For This book is for Unity developers who have some exposure to Unity game development who want to learn the nuances of animation in Unity. Previous knowledge of animation techniques and mecanim is not necessary.

What You Will Learn

- Importing animations to Unity
- Work with different animation assets and components
- Create, visualize, and edit animated creatures
- Animating game cut scenes
- Design character actions and expressions
- Create gameplay by animating characters and environments
- Use animations to drive in-game logic

In Detail This recipe-based practical guide will show you how to unleash the power of animation in Unity 5.x and make your games visually impeccable. Our primary focus is on showing you tools and techniques to animate not only humanoid biped characters, but also other elements. This includes non-humanoid character animation, game world creation, UI element animation, and other key features such as opening doors, changing lights, transitioning to different scenes, using physics, setting up ragdolls, creating destructible objects and more. While discussing these topics, the book will focus on mecanim, the Unity 3D animation tool, and how you can use it to perform all these tasks efficiently and quickly. It contains a downloadable Unity project with interactive examples for all the recipes. By the end of this book, you will be confident and self-sufficient in animating your Unity 3D games efficiently.

Style and approach This practical no-nonsense guide is recipe-based with real-world examples of almost all the techniques mentioned.

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 and customize a wide range of powerful Unity AI systems with over 70 hands-on recipes and techniques
About This Book- Empower your agent with decision making capabilities using advanced minimaxing and Negamaxing techniques- Discover how AI can be applied to a wide range of games to make them more interactive.- Instigate vision and hearing abilities in your agent through collider based and graph based systems
Who This Book Is For- This book is intended for those who already have a basic knowledge of Unity and are eager to get more tools under their belt to solve AI and gameplay-related problems.
What You Will Learn- Use techniques such as A* and A*mbush to empower your agents with path finding capabilities.- Create a representation of the world and make agents navigate it- Construct decision-making systems to make the agents take different actions- Make different agents coordinate actions and create the illusion of technical behavior- Simulate senses and apply them in an awareness system- Design and implement AI in board games such as Tic-Tac-Toe and Checkers- Implement efficient prediction mechanism in your agents with algorithms such as N-Gram predictor and naive Bayes classifier- Understand and analyze how the influence maps work.
In Detail- Unity 5 comes fully packaged with a toolbox of powerful features to help game and app developers create and implement powerful game AI. 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. This practical Cookbook covers both essential and niche techniques to help you be able to do that and more. This Cookbook is engineered as your one-stop reference to take your game AI programming to the next level. Get to grips with the essential building blocks of working with an agent, programming movement and navigation in a game environment, and improving your agent's decision making and coordination mechanisms - all through hands-on examples using easily customizable techniques. Discover how to emulate vision and hearing capabilities for your agent, for natural and humanlike AI behaviour, and improve them with the help of graphs. Empower your AI with decision-making functions through programming simple board games such as Tic-Tac-Toe and Checkers, and orchestrate agent coordination to get your AIs working together as one.
Style and approach- This recipe-based guide will take you through implementing various AI algorithms. Each topic is explained and placed among other related techniques, sometimes building on the knowledge from previous chapters. There are also references to more technical books and papers, so you can dig deeper if you want to.

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.

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.

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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

Life is indeed a game that we all play to pass time; simply a series of days strung together, made up of how you planned or decided to spend the moments. Like any game how well it is played or whether life's circumstances are interpreted accurately, then used to the best advantage, makes losers and winners to varying degrees. Senseless insanity is alive and well within the world. The world is awash with unruly forces, that if not intent upon harming you do desire to become a destabilising force, either temporarily or over the long term. We are all participants in a charade, how life evolves and turns out all depend on how well the game is played. It is not wise or ideal to treat life like a game of chance, a random roll of the dice that can determine unpredictable outcomes. The cost of success is the careful application of well thought out concepts and ideas. Like any game preparation is critical; understanding the rules, knowing how to manipulate the dynamics at play efficiently to ones own advantage, understanding the intricacies of the rules and how to capitalise upon or create opportunities, pursuing whatever circumstances are present to maximise whatever potential exists to the best advantage. The potential opportunities in life are only limited by the inability to firstly comprehend them and secondly to fully utilise personal abilities to maximise the potential that is available. Don't wait for special times to evolve, rather create them in accordance with your true desires to experience what you wish to make real.

Much like any game, the game of life has things that can be obtained, or things that can be lost. How the game is played, the value of the stakes, the opposing factions all come to dictate an outcome, be that favourable or lacking any resemblance of being lucky. A life lived based upon any reliance on luck or fate being favourable is tempting only to the over optimistic, or those extremely lucky ones or who were fortunate in the past and believe that good fortune will continue in the future. While it takes resources to control the world, the control of your own specific world environment is really within your potential to achieve. How you choose to control your world, as well as to what extent your desires are put into action, determine whether your life will meet your wishes or not. The amount of thought and energy you exhort, the persistence of that effort, all comes to determine whether and to what degree what you want is what you actually get. In life you may win or loose at times, it's basically just like playing a game; the right mentality is chancing the wheel of life by trusting and ensuring you will win just the same.

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