

Unity Graphics Engine

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

Master performance optimization for Unity3D applications with tips and techniques that cover every aspect of the Unity3D Engine About This Book Optimize CPU cycles, memory usage, and GPU throughput for any Unity3D application Master optimization techniques across all Unity Engine features including Scripting, Asset Management, Physics, Graphics Features, and Shaders A practical guide to exploring Unity Engine's many performance-enhancing methods Who This Book Is For This book is intended for intermediate and advanced Unity developers who have experience with most of Unity's feature-set, and who want to maximize the performance of their game. Familiarity with the C# language will be needed. What You Will Learn Use the Unity Profiler to find bottlenecks anywhere in our application, and discover how to resolve them Implement best-practices for C# scripting to avoid common pitfalls Develop a solid understanding of the rendering pipeline, and maximize its performance through reducing draw calls and avoiding fill rate bottlenecks Enhance shaders in

Read Online Unity Graphics Engine

a way that is accessible to most developers, optimizing them through subtle yet effective performance tweaks Keep our scenes as dynamic as possible by making the most of the Physics engine Organize, filter, and compress our art assets to maximize performance while maintaining high quality Pull back the veil on the Mono Framework and the C# Language to implement low-level enhancements that maximize memory usage and avoid garbage collection Get to know the best practices for project organization to save time through an improved workflow In Detail Competition within the gaming industry has become significantly fiercer in recent years with the adoption of game development frameworks such as Unity3D. Through its massive feature-set and ease-of-use, Unity helps put some of the best processing and rendering technology in the hands of hobbyists and professionals alike. This has led to an enormous explosion of talent, which has made it critical to ensure our games stand out from the crowd through a high level of quality. A good user experience is essential to create a solid product that our users will enjoy for many years to come. Nothing turns gamers away from a game faster than a poor user-experience. Input latency, slow rendering, broken physics, stutters, freezes, and crashes are among a gamer's worst nightmares and it's up to us as game developers to ensure this never happens. High performance does not need to be limited to

Read Online Unity Graphics Engine

games with the biggest teams and budgets. Initially, you will explore the major features of the Unity3D Engine from top to bottom, investigating a multitude of ways we can improve application performance starting with the detection and analysis of bottlenecks. You'll then gain an understanding of possible solutions and how to implement them. You will then learn everything you need to know about where performance bottlenecks can be found, why they happen, and how to work around them. This book gathers a massive wealth of knowledge together in one place, saving many hours of research and can be used as a quick reference to solve specific issues that arise during product development. Style and approach This book is organized based on the major features of Unity engine and should be treated as a reference guide. It is written as a series of investigations into both common and unusual performance pitfalls, each including a study on why the bottleneck is causing us problems, and a list of enhancements or features that can be used to work around them. Differences in effectiveness, behaviors, or feature-sets between Unity 4.x and Unity 5.x will be highlighted.

This hands-on guide to Unity is for new and existing Unity users who want to get the most out of the Unity engine, create scripts using C#, delve into graphics, sound, and animations and manipulate physics to create interesting mechanics

Read Online Unity Graphics Engine

for games. You'll be able to practically apply the knowledge you've gained to a real-world game.

The Unity game engine has revolutionized the gaming industry with its complete set of intuitive tools and rapid workflows which can be used to create interactive 3D content. With Unity you can scaffold your way from the basics and make a game without coding. This book will guide you through the entire process of creating a 3D VR game, from downloading the Unity game engine to publishing your game. It not only gives you a strong foundation, but puts you on the path to game development. Beginning with an overview of the Unity engine and its interface, you will walk through the process of creating a game environment and learn how to use built-in assets as well as assets created with third-party 3D modeling tools such as Blender. Moving on, you will create your very own animation clips from within Unity and learn scripting in Unity. You will master exciting concepts including mini-mapping, the game navigation system, sound effects, shadows, and light effects. Next, you'll learn how to create your first VR experience, right from setting up the project to image effects. You'll be familiarized with all the tools that Unity has to offer to create your own immersive VR experiences. Each section is a stepping-stone toward the completion of the final game. By the end of the book, you'll have learned advanced topics such as

Read Online Unity Graphics Engine

cross-platform considerations that enable your games to run on every platform. Use Unity-based examples to understand fundamental mathematical concepts and see how they are applied when building modern video game functionality. You will gain the theoretical foundation you need, and you will know how to examine and modify an implementation. This book covers points in a 3D Cartesian coordinate system, and then discusses vectors and the details of dot and cross products. Basic mathematical foundations are illustrated through Unity-based example implementations. Also provided are examples showing how the concepts are applied when implementing video game functionality, such as collision support, motion simulations, autonomous behaviors, shadow approximations, and reflection off arbitrary walls. Throughout this book, you learn and examine the concepts and their applications in a game engine.

What You Will Learn

- Understand the basic concepts of points and vectors and their applications in game development
- Apply mathematical concepts to modern video game functionality, such as spherical and box colliders
- Implement autonomous behaviors, including following way points, facing a target, chasing an object, etc.

Who This Book is For Beginners, and those interested in the implementation of interactive games, who need a basic mathematical background or a refresher with modern examples

Read Online Unity Graphics Engine

Unity is a powerful game engine. However, producing a performant product requires additional knowledge. This book is a comprehensive introduction to optimization techniques and best practices. By the end of the book you will be able to apply all the major optimization techniques and be able to produce faster and high performant games.

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.

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

Learn how to build a complete 3D game using the industry-leading Unity game

Read Online Unity Graphics Engine

development engine and Blender, the graphics software that gives life to your ideas About This Book Learn the fundamentals of two powerful tools and put the concepts into practice Find out how to design and build all the core elements required for a great game - from characters to environments, to props— Learn how to integrate Artificial Intelligence (AI) into your game for sophisticated and engaging gameplay Who This Book Is For This book has been created for anyone who wants to learn how to develop their own game using Blender and Unity, both of which are freely available, yet very popular and powerful, tools. Not only will you be able to master the tools, but you will also learn the entire process of creating a game from the ground up. What You Will Learn Design and create a game concept that will determine how your game will look and how it will be played Construct 3D models of your game characters and create animations for them before importing them into the game Build the game environment from scratch by constructing the terrain and props, and eventually put it all together to form a scene Import and integrate game assets created in Blender into Unity—for example, setting up textures, materials, animation states, and prefabs Develop game structures including a game flow, user interface diagram, game logic, and a state machine Make the game characters move around and perform certain actions either through player inputs or fully controlled by artificial intelligence

Read Online Unity Graphics Engine

Create particles and visual effects to enhance the overall visual aesthetic Deploy the game for various types of platforms In Detail In the wake of the indie game development scene, game development tools are no longer luxury items costing up to millions of dollars but are now affordable by smaller teams or even individual developers. Among these cutting-edge applications, Blender and Unity stand out from the crowd as a powerful combination that allows small-to-no budget indie developers or hobbyists alike to develop games that they have always dreamt of creating. Starting from the beginning, this book will cover designing the game concept, constructing the gameplay, creating the characters and environment, implementing game logic and basic artificial intelligence, and finally deploying the game for others to play. By sequentially working through the steps in each chapter, you will quickly master the skills required to develop your dream game from scratch. Style and approach A step-by-step approach with tons of screenshots and sample code for readers to follow and learn from. Each topic is explained sequentially and placed in context so that readers can get a better understanding of every step in the process of creating a fully functional game. The Unity Engine Tutorial for Any Game Creator ħ 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,

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

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 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

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

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 book is suitable for anybody who wants to create games in Unity. You don't need a programming background. If you love playing games and want to try your hand at creating them, this book is the place to start.

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,

Read Online Unity Graphics Engine

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. 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

Read Online Unity Graphics Engine

game production is required, inviting you to simply bring with you a passion for making great games.

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

Master a series of performance-enhancing coding techniques and methods that help them improve the performance of their Unity3D applications About This Book Discover features and techniques to optimize Unity Engine's CPU cycles, memory usage, and the GPU throughput of any application Explore multiple techniques to solve performance issues with your VR projects Learn the best practices for project organization to save time through an improved workflow Who This Book Is For This book is intended for intermediate and advanced Unity developers who have experience with most of Unity's feature-set, and who want to maximize the performance of their game. Familiarity with the C# language will be needed. What You Will Learn Use the Unity Profiler to find bottlenecks anywhere in your application, and discover how to resolve them Implement best practices for C# scripting to avoid common pitfalls Develop a solid understanding of the rendering pipeline, and maximize its performance by reducing draw calls and avoiding fill rate bottlenecks Enhance shaders in a way that is accessible to

Read Online Unity Graphics Engine

most developers, optimizing them through subtle yet effective performance tweaks Keep your scenes as dynamic as possible by making the most of the Physics engine Organize, filter, and compress your art assets to maximize performance while maintaining high quality Discover different kinds of performance problems that are critical for VR projects and how to tackle them Use the Mono Framework and C# to implement low-level enhancements that maximize memory usage and avoid garbage collection Get to know the best practices for project organization to save time through an improved workflow In Detail Unity is an awesome game development engine. Through its massive feature-set and ease-of-use, Unity helps put some of the best processing and rendering technology in the hands of hobbyists and professionals alike. This book shows you how to make your games fly with the recent version of Unity 2017, and demonstrates that high performance does not need to be limited to games with the biggest teams and budgets. Since nothing turns gamers away from a game faster than a poor user-experience, the book starts by explaining how to use the Unity Profiler to detect problems. You will learn how to use stopwatches, timers and logging methods to diagnose the problem. You will then explore techniques to improve performance through better programming practices. Moving on, you will then learn about Unity's built-in batching processes; when

Read Online Unity Graphics Engine

they can be used to improve performance, and their limitations. Next, you will import your art assets using minimal space, CPU and memory at runtime, and discover some underused features and approaches for managing asset data. You will also improve graphics, particle system and shader performance with a series of tips and tricks to make the most of GPU parallel processing. You will then delve into the fundamental layers of the Unity3D engine to discuss some issues that may be difficult to understand without a strong knowledge of its inner-workings. The book also introduces you to the critical performance problems for VR projects and how to tackle them. By the end of the book, you will have learned to improve the development workflow by properly organizing assets and ways to instantiate assets as quickly and waste-free as possible via object pooling. Style and approach This practical book will help readers understand the essentials of the Unity3D engine and how to build games while improving the performance of their applications.

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

Read Online Unity Graphics Engine

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

Game Development with UnityMuska/Lipman

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.

If you don't know anything about programming in general, writing code, writing scripts, or have no idea where to even begin, then this book is perfect for you. If you want to make games and need to learn how to write C# scripts or code, then this book is ideal for you. Unity is a cross-platform development platform initially created for developing games but is now used for a wide range of things such as: architecture, art, children's apps, information management, education, entertainment, marketing, medical, military, physical installations, simulations, training, and many more. Unity takes a lot of the complexities of developing games and similar interactive experiences and looks after them behind the scenes so people can get on with designing and developing their games. These complexities include graphics rendering, world physics and compiling. More advanced users can interact and adapt them as needed but for beginners they need not worry about it. Games in Unity are developed in two halves; the first half -within the Unity editor, and the second half -using code, specifically C#. Unity is bundled with MonoDeveloper Visual Studio 2015 Community for writing C#.

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

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

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

Read Online Unity Graphics Engine

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.

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.

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

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

Is For Hobbyists with some knowledge of programming, as well as seasoned programmers interested in learning to make games independent of a major studio. Master everything you need to build a 2D game using Unity 5 by developing a complete RPG game framework! About This Book Explore the new features of Unity 5 and recognize obsolete code and elements. Develop and build a complete 2D retro RPG with a conversation system, inventory, random map battles, full game menus, and sound. This book demonstrates how to use the new Unity UI system effectively through detailed C# scripts with full explanations. Who This Book Is For This book is for anyone looking to get started developing 2D games with Unity 5. If you're already accomplished in Unity 2D and wish to expand or supplement your current Unity knowledge, or are working in 2D in Unity 4 and looking to upgrade Unity 5, this book is for you. A basic understanding of programming logic is needed to begin learning with this book, but intermediate and advanced programming topic are explained thoroughly so that coders of any level can follow along. Previous programming experience in C# is not required. What You Will Learn Create a 2D game in Unity 5 by developing a complete retro 2D RPG framework. Effectively manipulate and utilize 2D sprites. Create 2D sprite animations and trigger them effectively with code. Write beginning to advanced-level C# code using MonoDevelop. Implement the new UI system effectively and beautifully. Use state machines to trigger events within your game. In Detail The Unity engine has revolutionized the gaming industry, by making it easier than ever for indie game

Read Online Unity Graphics Engine

developers to create quality games on a budget. Hobbyists and students can use this powerful engine to build 2D and 3D games, to play, distribute, and even sell for free! This book will help you master the 2D features available in Unity 5, by walking you through the development of a 2D RPG framework. With fully explained and detailed C# scripts, this book will show you how to create and program animations, a NPC conversation system, an inventory system, random RPG map battles, and full game menus. After your core game is complete, you'll learn how to add finishing touches like sound and music, monetization strategies, and splash screens. You'll then be guided through the process of publishing and sharing your game on multiple platforms. After completing this book, you will have the necessary knowledge to develop, build, and deploy 2D games of any genre! Style and approach This book takes a step-by-step practical tutorial style approach. The steps are accompanied by examples, and all the intermediate steps will be clearly explained. The focus of this book will obviously be on the advanced topics so that the game looks and performs efficiently.

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.

Beginning 3D Game Development with Unity 4 is perfect for those who would like to come to grips with programming Unity. You may be an artist who has learned 3D tools such as 3ds Max, Maya, or Cinema 4D, or you may come from 2D tools such as

Read Online Unity Graphics Engine

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

How to build interactive games that work on a variety of platforms
Take the tour around Unity user interface fundamentals, scripting and more
Create a test environment and gain control over functionality, cursor control, action objects, state

Read Online Unity Graphics Engine

management, object metadata, message text and more
What is inventory logic and how to manage it
How to handle 3D object visibility, effects and other special cases
How to handle variety of menus and levels in your games development
How to handle characters, scrollers, and more
How to create or integrate a story/walkthrough
How to use the new Mecanim animation
Who this book is for
Students or artists familiar with tools such as 3ds Max or Maya who want to create games for mobile platforms, computers, or consoles, but with little or no experience in scripting or the logic behind games development.

Table of Contents

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

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

Read Online Unity Graphics Engine

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.

Master a series of performance-enhancing coding techniques and methods that help them improve the performance of their Unity3D applications
About This Book* Discover features and techniques to optimize Unity Engine's CPU cycles, memory usage, and the GPU throughput of any application* Explore multiple techniques to solve performance issues with your VR projects* Learn the best practices for project organization to save time through an improved workflow
Who This Book Is For
This book

Read Online Unity Graphics Engine

is intended for intermediate and advanced Unity developers who have experience with most of Unity's feature-set, and who want to maximize the performance of their game. Familiarity with the C# language will be needed.

What You Will Learn*

- Use the Unity Profiler to find bottlenecks anywhere in your application, and discover how to resolve them*
- Implement best practices for C# scripting to avoid common pitfalls*
- Develop a solid understanding of the rendering pipeline, and maximize its performance by reducing draw calls and avoiding fill rate bottlenecks*
- Enhance shaders in a way that is accessible to most developers, optimizing them through subtle yet effective performance tweaks*
- Keep your scenes as dynamic as possible by making the most of the Physics engine*
- Organize, filter, and compress your art assets to maximize performance while maintaining high quality*
- Discover different kinds of performance problems that are critical for VR projects and how to tackle them*
- Use the Mono Framework and C# to implement low-level enhancements that maximize memory usage and avoid garbage collection*
- Get to know the best practices for project organization to save time through an improved workflow

In Detail Unity is an awesome game development engine. Through its massive feature-set and ease-of-use, Unity helps put some of the best processing and rendering technology in the hands of hobbyists and professionals alike. This book shows you how to make your games fly with the recent version of Unity 2017, and demonstrates that high performance does not need to be limited to games with the biggest teams and budgets. Since nothing turns

Read Online Unity Graphics Engine

gamers away from a game faster than a poor user-experience, the book starts by explaining how to use the Unity Profiler to detect problems. You will learn how to use stopwatches, timers and logging methods to diagnose the problem. You will then explore techniques to improve performance through better programming practices. Moving on, you will then learn about Unity's built-in batching processes; when they can be used to improve performance, and their limitations. Next, you will import your art assets using minimal space, CPU and memory at runtime, and discover some underused features and approaches for managing asset data. You will also improve graphics, particle system and shader performance with a series of tips and tricks to make the most of GPU parallel processing. You will then delve into the fundamental layers of the Unity3D engine to discuss some issues that may be difficult to understand without a strong knowledge of its inner-workings. The book also introduces you to the critical performance problems for VR projects and how to tackle them. By the end of the book, you will have learned to improve the development workflow by properly organizing assets and ways to instantiate assets as quickly and waste-free as possible via object pooling. Style and approach This practical book will help readers understand the essentials of the Unity3D engine and how to build games while improving the performance of their applications.

Master the art of programming games for Android using the Unity3D game engine. This book will help you understand basic concepts of game development in Unity. By the

Read Online Unity Graphics Engine

end of Beginning Unity Android Game Development, you will have the knowledge to confidently build an Android game. The book starts by explaining simple programming concepts to make beginners comfortable with the jargon. You will then learn to navigate around the Unity interface and use basic tools (hand, move, rotate, scale, and rect). You will also be acquainted with the creation of basic 3D objects in the game while understanding the purpose of several of Unity's windows. In the last chapters, you will learn to create a simple game for Android using the concepts studied in the previous chapters. Scripts will be written to handle the behaviors of the player and enemies as well as to handle other aspects of the game. The author shares tips along the way to help improve in-game performance, such as switching to the universal rendering pipeline when targeting mobile platforms. At the end of the book, you will have a solid knowledge in making basic Android games that can be upgraded later to make more complex games.

What You Will Learn

- Explore basic Unity and C# programming concepts and scripting for Android games
- Navigate around the Unity interface and use its basic tools
- Make the most of popular components and features of Unity
- Write an Android game with optimizations

Who This Book Is For

Absolute beginners learning to program games for the Android platform using Unity3D. Basic knowledge of programming would be beneficial for the reader but is not required.

Unity Android Game Development by Example Beginner's Guide consists of different game application examples. No prior experience with programming, Android, or Unity is

Read Online Unity Graphics Engine

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.

Create enthralling Android games with Unity Faster Than Ever Before About This Book Develop complex Android games with the help of Unity's advanced features such as artificial intelligence, high-end physics, and GUI transformations. Create amazing Graphical User Interfaces (GUIs) with Unity's new uGUI system Unravel and deploy exciting games across Android devices Who This Book Is For If you are a Unity 5 developer and want to expand your knowledge of Unity 5 to create high-end complex Android games, then this book is for you. Readers are expected to have a basic understanding of Unity 5, working with its environment, and its basic concepts. What You Will Learn Develop your own Jetpack Joyride clone game Explore the advanced features of Unity 5 by building your own Action Fighting game Develop remarkable Graphical User Interfaces (GUIs) with Unity's new uGUI system Enhance your game by adding stunning particle systems and complex animations Build pleasing virtual worlds

Read Online Unity Graphics Engine

with special effects, lights, sky cube maps, and cameras Make your game more realistic by providing music and sound effects Debug and deploy your games on different Android devices In Detail Game engines such as Unity are the power-tools behind the games we know and love. Unity is one of the most widely-used and best loved packages for game development and is used by everyone, from hobbyists to large studios, to create games and interactive experiences for the Web, desktop, mobile, and console. With Unity's intuitive, easy-to-learn toolset and this book, it's never been easier to become a game developer. You will begin with the basic concepts of Android game development, a brief history of Android games, the building blocks of Android games in Unity 5, and the basic flow of games. You will configure an empty project for the Jetpack Joyride Clone Game, add an environment and characters, and control them. Next you will walk through topics such as particle systems, camera management, prefabs, animations, triggers, colliders, and basic GUI systems. You will then cover the basic setup for 3D action fighting games, importing models, textures and controlling them with a virtual on-screen joystick. Later you will set up Scene for 3D Configuration, create basic gameplays, and manage input controls. Next you will learn to create the interface for the main menu, gameplay, game over, achievements, and high score screens. Finally you will polish your game with stats, sounds, and Social Networking, followed by testing the game on Android devices and then publishing it on Google Play, Amazon, and OUYA Stores. Style and approach A step-by-step and detailed guide to

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

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

Read Online Unity Graphics Engine

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.

An example-based practical guide to get you up and running with Unity 5.x About This Book The most updated resource on Unity 5.x with comprehensive discussion on all the new features of Unity 5.x Understand the core concepts surrounding Unity5 game development with this power-packed hands-on guide Brush up your existing game development skills and create games that have a brilliant gameplay using the excellent examples from this book Who This Book Is For The ideal target audience for this book would be game developers. They need not have previous experience with Unity since this book will cover all the basics about game development with unity. This would also be a very good resource for Unity developers who want to brush up their basic Unity skills and also get up and running with creating interesting games with Unity 5.x. What You Will Learn Understand core Unity concepts, such as game objects, components, and scenes Learn level design techniques for building immersive and interesting worlds Learn to make functional games with C# scripting Use the toolset creatively to build games of different themes and styles Learn to handle player controls and input functionality Dive into the process of working with terrains and world-creation tools Import custom content into Unity from third-party tools, such as Maya and Blender Get to grips with making both 2D and 3D games In Detail Unity is an exciting and popular

Read Online Unity Graphics Engine

engine in the game industry. Throughout this book, you'll learn how to use Unity by making four fun game projects, from shooters and platformers to exploration and adventure games. Unity 5 By Example is an easy-to-follow guide for quickly learning how to use Unity in practical context, step by step, by making real-world game projects. Even if you have no previous experience of Unity, this book will help you understand the toolset in depth. You'll learn how to create a time-critical collection game, a twin-stick space shooter, a platformer, and an action-fest game with intelligent enemies. In clear and accessible prose, this book will present you with step-by-step tutorials for making four interesting games in Unity 5 and explain all the fundamental concepts along the way. Starting from the ground up and moving toward an intermediate level, this book will help you establish a strong foundation in making games with Unity 5. Style and approach This book would be a very unique resource for any game developer who wants to get up and running with Unity. The unique example based approach will take you through the most basic games towards the more complex ones and will gradually build your skill level.

Do you want to build mobile games, but lack game development experience? No problem. This practical guide shows you how to create beautiful, interactive content for iOS and Android devices with the Unity game engine. Authors Jon Manning and Paris Buttfield-Addison (iOS Swift Game Development Cookbook) provide a top-to-bottom overview of Unity's features with specific, project-oriented guidance on how to use

Read Online Unity Graphics Engine

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

Holistic Mobile Game Development with Unity: An All-In-One Guide to Implementing Mechanics, Art Design and Programming for iOS and Android Games Master mobile game design and development in this all-in-one guide to creating iOS and Android games in the cutting-edge game engine, Unity. By using Penny de Byl's holistic method, you will learn about the principles of art, design, and code and gain multidisciplinary skills needed to succeed in the independent mobile games industry. In addition, hands-on exercises will help you throughout the process from design to publication in the Apple App Store and Google Play Store. Over 70 practical step-by-step exercises recreating the game mechanics of contemporary mobile games, including Angry Birds, Temple Run, Year Walk, Minecraft, Curiosity Cube, Fruit Ninja, and more. Design principles, art, and programming in unison – the one-stop shop for

Read Online Unity Graphics Engine

indie developers requiring interdisciplinary skills in their small teams. An introduction to essential two- and three-dimensional mathematics, geometry and physics concepts. A portfolio of royalty free reusable game mechanics and assets. Accompanying website, www.holistic3d.com, features project source code, instructional videos, art assets, author blog, and teaching resources. Challenge questions and lesson plans are available online for an enhanced learning experience.

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

A complete guide to creating usable, realistic game characters with two powerful tools. Creating viable game characters requires a combination of skills. This book teaches game creators how to create usable, realistic game assets using the power of an open-source 3D application and a free game engine. It presents a step-by-step approach to modeling, texturing, and animating a character using the popular Blender software, with emphasis on low polygon modeling and an eye for using sculpting and textures, and demonstrates how to bring the character into the Unity game engine. Game creation is a popular and productive pursuit for both hobbyists and serious developers; this guide brings together two effective tools to simplify and enhance the process. Artists who are familiar with Blender or other 3D software but who lack experience with game development workflow will find this book fills important gaps in their knowledge. Provides a complete tutorial on developing a game character, including modeling, UV

Read Online Unity Graphics Engine

unwrapping, sculpting, baking displacements, texturing, rigging, animation, and export
Emphasizes low polygon modeling for game engines and shows how to bring the
finished character into the Unity game engine Whether you're interested in a new hobby
or eager to enter the field of professional game development, this book offers
valuable guidance to increase your skills.

[Copyright: 09fa4f32473c2dc32731126d88cc6e6e](#)