

Game Engine Architecture Third Edition

A major revision of the international bestseller on game programming! Graphics hardware has evolved enormously in the last decade. Hardware can now be directly controlled through techniques such as shader programming, which requires an entirely new thought process of a programmer. 3D Game Engine Design, Second Edition shows step-by-step how to make
Explore Level Design through the Lens of Architectural and Spatial Experience Theory Written by a game developer and professor trained in architecture, *An Architectural Approach to Level Design* is one of the first books to integrate architectural and spatial design theory with the field of level design. It explores the principles of level design through the context and history of architecture, providing information useful to both academics and game development professionals. *Understand Spatial Design Principles for Game Levels in 2D, 3D, and Multiplayer Applications* The book presents architectural techniques and theories for level designers to use in their own work. The author connects architecture and level design in different ways that address the practical elements of how designers construct space and the experiential elements of how and why humans interact with this space. Throughout the text, readers learn skills for spatial layout, evoking emotion through gamespaces, and creating better levels through architectural theory. *Create Meaningful User Experiences in Your Games* Bringing together topics in game design and architecture, this book helps designers create better spaces for their games. Software independent, the book discusses tools and techniques that designers can use in crafting their interactive worlds.

Game Engine Architecture, Third Edition CRC Press

Make More Immersive and Engaging Magic Systems in Games *Game Magic: A Designer's Guide to Magic Systems in Theory and Practice* explains how to construct magic systems and presents a compendium of arcane lore, encompassing the theory, history, and structure of magic systems in games and human belief. The author combines rigorous scholarly analysis with practical game design advice in the form of a magical recipe book (grimoire). The book gives you an in-depth understanding of the history and structure of magic to make your games richer and deeper. It shows how to set up tables of correspondences and spell components as well as how to write programming code integrating these components as part of game mechanics. It also illustrates how to divide a simulated world into domains of influence (such as alteration, conjuration, and necromancy) and how to use specific rule systems to simulate powers within these realms. Showing you how to weave compelling magic into your games, the book is interspersed with examples that illustrate how to design and program magic systems. Working examples are available for download on a supporting website.

The Indie Game Developer Handbook

Breaking the Glass Level-Cap

Women in Game Development

Distributed Game Development

Blueprints Visual Scripting for Unreal Engine

Unity Game Optimization

Videogame development is usually seen as a male dominated field; even playing videogames is often wrongly viewed as a pastime for men only. But behind the curtain, women have always played myriad important roles in gaming. From programmers to artists, designers to producers, female videogame developers endure not only the pressures of their jobs but also epic levels of harassment and hostility. Jennifer Brandes Hepler 's *Women in Game Development: Breaking the Glass Level-Cap* gives voice to talented and experienced female game developers from a variety of backgrounds, letting them share the passion that drives them to keep making games. Key Features Experience the unique stories of nearly two dozen female game developers, from old-school veterans to rising stars. Understand the role of women in videogames, from the earliest days of development to the present day. Hear first-hand perspectives from working professionals in fields including coding, design, art, writing, community management, production and journalism. Get tips for how to be a better ally and make your company and teams more inclusive. Learn about the obstacles you face if you ' re an aspiring female developer, and how to overcome them. Meet the human face of some of the women who have endured the industry ' s worst harassment... and kept on going.

Now you can build your own games for your Xbox 360, Windows Phone 7, or Windows-based PC—as you learn the underlying concepts for computer programming. Use this hands-on guide to dive straight into your first project—adding new tools and tricks to your arsenal as you go. No experience required! Learn XNA and C# fundamentals—and increase the challenge with each chapter Write code to create and control game behavior Build your game ' s display—from graphics and text to lighting and 3-D effects Capture and cue sounds Process input from keyboards and gamepads Create features for one or multiple players Tweak existing games—and invent totally new ones 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.

This updated bestseller provides an introduction to programming interactive computer graphics, with an emphasis on game development using DirectX 12. The book is divided into three main parts: basic mathematical tools, fundamental tasks in Direct3D, and techniques and special effects. It shows how to use new Direct12 features such as command lists, pipeline state objects, descriptor heaps and tables, and explicit resource management to reduce CPU overhead and increase scalability across multiple CPU cores. The book covers modern special effects and techniques such as hardware tessellation, writing compute shaders, ambient occlusion, reflections, normal and

displacement mapping, shadow rendering, and character animation. Includes a companion DVD with code and figures. eBook Customers: Companion files are available for downloading with order number/proof of purchase by writing to the publisher at info@merclearning.com. FEATURES: • Provides an introduction to programming interactive computer graphics, with an emphasis on game development using DirectX 12 • Uses new Direct3D 12 features to reduce CPU overhead and take advantage of multiple CPU cores • Contains detailed explanations of popular real-time game effects • Includes a DVD with source code and all the images (including 4-color) from the book • Learn advance rendering techniques such as ambient occlusion, real-time reflections, normal and displacement mapping, shadow rendering, programming the geometry shader, and character animation • Covers a mathematics review and 3D rendering fundamentals such as lighting, texturing, blending and stenciling • Use the end-of-chapter exercises to test understanding and provide experience with DirectX 12

Game Engine Architecture, Third Edition

History of Digital Games

Programming 2D Games

3D Math Primer for Graphics and Game Development, 2nd Edition

The Fundamentals of C/C++ Game Programming

Game Magic

Pixel Art for Game Developers

Vintage Games explores the most influential videogames of all time, including Super Mario Bros., Grand Theft Auto III, Doom, The Sims and many more.

Drawing on interviews as well as the authors' own lifelong experience with videogames, the book discusses each game's development, predecessors, critical reception, and influence on the industry. It also features hundreds of full-color screenshots and images, including rare photos of game boxes and other materials. Vintage Games is the ideal book for game enthusiasts and professionals who desire a broader understanding of the history of videogames and their evolution from a niche to a global market.

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! In just 24 sessions of one hour or less, this guide will help you create great 2D and 3D games for any platform with the 100% free Godot 3.0 game engine. Its straightforward, step-by-step approach guides you from basic scenes, graphics, and game flow through advanced shaders, environments, particle rendering, and networked games. Godot's co-creator and main contributor walk you through building three complete games, offering advanced techniques you won't find anywhere else. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success. Step-by-step instructions carefully walk you through the most common Godot engine programming tasks and techniques Practical, hands-on examples show you how to apply what you learn Quizzes and exercises help you test your knowledge and stretch your skills Notes and tips point out shortcuts, solutions, and problems to avoid Learn how to... · Install Godot, create projects, and use the visual editor · Master the scene system, and organize games with Scene Trees · Create 2D graphics, 3D graphics, and animations · Use basic and advanced scripting to perform many game tasks · Process player input from any source · Control game flow, configurations, and resources · Maximize realism with Godot's physics and particle systems · Make the most of 3D shaders, materials, lighting, and shadows · Control effects and post-processing · Build richer, more sophisticated game universes with viewports · Develop networked games, from concepts to communication and input · Export games to the devices you've targeted · Integrate native code, third-party APIs, and engine extensions (bonus chapter)

This book is aimed at giving novice coders an understanding of the methods and techniques used in professional games development. Designed to help develop and strengthen problem solving and basic C/C++ skills, it also will help to develop familiarity targeting and using fixed/restricted hardware, which are key skills in console development. It allows the reader to increase their confidence as game programmers by walking them through increasingly involved game concepts, while maintaining the understanding that despite the increased complexity, the core methods remain consistent with the advancement of the technology; the technology only enhances the gaming experience. It also demonstrates underlying principles of game coding in practical step by step ways to increase exposure and confidence in game coding concepts. Key Features: Increases the confidence of new coders by demonstrating how to get things done. Introduces evolving projects to reinforce concepts, both directly and indirectly that the reader will use to produce and then enhance the project. Provides tutorials on Graphics API's that can be easily understood by a novice. Demystifies hardware used to gain new

effects without blinding the user to the technical wizardry going on under the system. Gives a sense of achievement to the reader and pushes them toward improvement.

The Art of Game Design

Create 2D Mobile Games with Corona SDK

A Practical Approach to Real-Time Computer Graphics

Game Programming Patterns

Game Coding Complete

Introduction to 3D Game Programming with DirectX 12

For iOS and Android

The indie game developer's complete guide to running a studio. The climate for the games industry has never been hotter, and this is only set to continue as the marketplace for tablets, consoles and phones grow. Seemingly every day there is a story of how a successful app or game has earned thousands of downloads and revenue. As the market size increases, so does the number of people developing and looking to develop their own app or game to publish. The Indie Game Developer Handbook covers every aspect of running a game development studio—from the initial creation of the game through to completion, release and beyond. Accessible and complete guide to many aspects of running a game development studio from funding and development through QA, publishing, marketing, and more. Provides a useful knowledge base and help to support the learning process of running an indie development studio in an honest, approachable and easy to understand way. Case studies, interviews from other studios and industry professionals grant an first-hand look into the world of indie game development

The growth of videogame design programs in higher education and explosion of amateur game development has created a need for a deeper understanding of game history that addresses not only "when," but "how" and "why." Andrew Williams takes the first step in creating a comprehensive survey on the history of digital games as commercial products and artistic forms in a textbook appropriate for university instruction. History of Digital Games adopts a unique approach and scope that traces the interrelated concepts of game design, art and design of input devices from the beginnings of coin-operated amusement in the late 1800s to the independent games of unconventional creators in the present. Rooted in the concept of videogames as designed objects, Williams investigates the sources that inspired specific game developers as well as establishing the historical, cultural, economic and technological contexts that helped shape larger design trends. Key Features Full-color images and game screenshots Focuses primarily on three interrelated digital game elements: visual design, gameplay design and the design of input devices This book is able to discuss design trends common to arcade games, home console games and computer games while also respecting the distinctions of each game context Includes discussion of game hardware as it relates to how it affects game design Links to online resources featuring games discussed in the text, video tutorial and other interactive resources will be included.

Welcome to Game Coding Complete, Fourth Edition, the newest edition of the essential, hands-on guide to developing commercial-quality games. Written by two veteran game programmers, the book examines the entire game development process and all the unique challenges associated with creating a game. In this excellent introduction to game architecture, you'll explore all the major subsystems of modern game engines and learn professional techniques used in actual games, as well as Teapot Wars, a game created specifically for this book. This updated fourth edition uses the latest versions of DirectX and Visual Studio, and it includes expanded chapter coverage of game actors, AI, shader programming, LUA scripting, the C# editor, and other important updates to every chapter. All the code and examples presented have been tested and used in commercial video games, and the book is full of invaluable best practices, professional tips and tricks, and cautionary advice.

Publisher's note: This edition from 2019 is based on Unreal Engine 4 and does not make use of the most recent Unreal Engine features. A new third edition, updated for Unreal Engine 5 blueprints including new topics, such as implementing procedural generation and creating a product configurator, has now been published. Key Features Design a fully functional game in UE4 without writing a single line of code Implement visual scripting to develop gameplay mechanics, UI, visual effects, VR and artificial intelligence Deploy your game on multiple platforms and share it with the world Book Description Blueprints is the visual scripting system in Unreal Engine that enables

programmers to create baseline systems and can be extended by designers. This book helps you explore all the features of the Blueprint Editor and guides you through using Variables, Macros, and Functions. You'll also learn about object-oriented programming (OOP) and discover the Gameplay Framework. In addition to this, you'll learn how Blueprint Communication allows one Blueprint to access information from another Blueprint. Later chapters will focus on building a fully functional game using a step-by-step approach. You'll start with a basic first-person shooter (FPS) template, and each chapter will build on the prototype to create an increasingly complex and robust game experience. You'll then progress from creating basic shooting mechanics to more complex systems, such as user interface elements and intelligent enemy behavior. The skills you will develop using Blueprints can also be employed in other gaming genres. In the concluding chapters, the book demonstrates how to use arrays, maps, enums, and vector operations. Finally, you'll learn how to build a basic VR game. By the end of this book, you'll have learned how to build a fully functional game and will have the skills required to develop an entertaining experience for your audience. What you will learn

Understand programming concepts in Blueprints
Create prototypes and iterate new game mechanics rapidly
Build user interface elements and interactive menus
Use advanced Blueprint nodes to manage the complexity of a game
Explore all the features of the Blueprint editor, such as the Components tab, Viewport, and Event Graph
Get to grips with object-oriented programming (OOP) concepts and explore the Gameplay Framework
Learn Virtual Reality development with UE Blueprint
Who this book is for This book is for anyone who is interested in developing games or applications with UE4. Although basic knowledge of Windows OS is required, experience in programming or UE4 is not necessary.

Vintage Games

A Programmer's Guide, Second Edition

Game Physics Engine Development

An Architectural Approach to Level Design

Essential Mathematics for Games and Interactive Applications

Real-Time Rendering, Fourth Edition

Using Target-based Development on SBC's

Corona SDK is one of the most powerful tools used to create games and apps for mobile devices. The market requires speed; new developers need to operate quickly and efficiently. Create 2D Mobile Games with Corona SDK gives you the tools needed to master Corona - even within the framework of professional constraints. A must-read guide, this book gives you fast, accurate tips to learn the programming language necessary to create games. Read it sequentially or as an FAQ and you will have the tools you need to create any base game before moving on to advanced topics. The tutorial-based format: Contains step-by-step directions complete with coding and screenshots Is filled with tutorials, tips, and links to useful online resources Includes a comprehensive companion website featuring online exercise files to practice coding, full build samples from the text, additional book details, and more!

From a steamy jungle to a modern city, or even a sci-fi space station, 3D Game Environments is the ultimate resource to help you create AAA quality art for a variety of game worlds. Primarily using Photoshop and 3ds Max, students will learn to create realistic textures from photo source and a variety of techniques to portray dynamic and believable game worlds. With detailed tutorials on creating 3D models, applying 2D art to 3D models, and clear concise advice on issues of efficiency and optimization for a 3D game engine, Luke Ahearn gives you everything students need to make their own realistic game environments.

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

This book, the second volume in the popular Game Engine Gems series, contains short articles that focus on a particular technique, describe a clever trick, or offer practical advice within the subject of game engine development.

The 31 chapters cover three broad categories-graphics and rendering, game engine design, and systems programming. Profess

No-Code Video Game Development Using Unity and Playmaker

Media Management

AI for Games, Third Edition

A Primer for Technical Artists Using Maya and Python

Game Development for iOS with Unity3D

Sams Teach Yourself Unity Game Development in 24 Hours

Create Professional 3D Game Worlds

Take control of your global game development team and make successful AAA game titles using the 'Distributed Development' model. Game industry veteran Tim Fields teaches you how to evaluate game deals, how to staff teams for highly distributed game development, and how to maintain challenging relationships in order to get great games to market. This book is filled with interviews with a broad spectrum of industry experts from top game publishers and business owners in the US and UK. A supplementary web site provides interviews from the book, a forum where developers and publishers can connect, and additional tips and tricks. Topics include:

Is the art for your video game taking too long to create? Learning to create Pixel Art may be the answer to your development troubles. Uncover the secrets to creating stunning graphics with Pixel Art for Game Developers. The premier how-to book on Pixel Art and Pixel Art software, it focuses on the universal principles of the craft. The book provides Physics is really important to game programmers who need to know how to add physical realism to their games. They need to take into account the laws of physics when creating a simulation or game engine, particularly in 3D computer graphics, for the purpose of making the effects appear more real to the observer or player. The game engine needs to recognize the physical properties of objects that artists create, and combine them with realistic motion. The physics ENGINE is a computer program that you work into your game that simulates Newtonian physics and predict effects under different conditions. In video games, the physics engine uses real-time physics to improve realism. This is the only book in its category to take readers through the process of building a complete game-ready physics engine from scratch. The Cyclone game engine featured in the book was written specifically for this book and has been utilized in iPhone application development and Adobe Flash projects. There is a good deal of master-class level information available, but almost nothing in any format that teaches the basics in a practical way. The second edition includes NEW and/or revised material on collision detection, 2D physics, casual game physics for Flash games, more references, a glossary, and end-of-chapter exercises. The companion website will include the full source code of the Cyclone physics engine, along with example applications that show the physics system in operation.

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

Programming Game AI by Example

A Book of Lenses, Second Edition

Collected Wisdom of Game AI Professionals

A Designer's Guide to Magic Systems in Theory and Practice

An Insider Look at the History of Grand Theft Auto, Super Mario, and the Most Influential Games of All Time

A Casebook Approach

Game Engine Gems 2

This engaging book presents the essential mathematics needed to describe, simulate, and render a 3D world. Reflecting both academic and in-the-trenches practical experience, the book shows how to describe objects and their positions, orientations, and trajectories in 3D using mathematics. The text provides an introduction to mathematics for game designers, including topics such as coordinate spaces, vectors, and matrices. It also covers orientation in three dimensions, calculus and dynamics, graphics, and parametric curves.

Good game design happens when you view your game from as many perspectives as possible. Written by one of the world's top game designers, The Art of Game Design presents 100 different questions, or different lenses, for viewing a game's design, encompassing diverse fields such as psychology, architecture, music, visual design, film, software engineering, theme parks, mathematics, puzzle design, and anthropology. This Second Edition of a Game Developer Front Line Award winner: Describes the deepest and most fundamental principles of game design. Demonstrates how tactics used in board, card, and athletic games also work in top-quality video games. Contains valuable insight from Jesse Schell, the former chair of the International Game Developers Association and award-winning designer of Disney online games. The Art of Game Design, Second Edition gives readers useful perspectives on how to make better game design. Provides practical instruction on creating world-class games that will be played again and again.

Demystifies the Processes of Game Development Game Development for iOS with Unity3D takes you through the complete process of Unity iOS game development. A game developer for over 10 years, the author presents production-proven techniques and valuable tips and tricks needed to plan, build, test, and launch games for the iPhone, iPod, and iPad. He walks you through the necessary procedures, including how to publish your game to the App Store. Encompasses the Whole Range of iOS Game Development This practical book begins with advice on writing a design document and getting Apple developer certification. It then covers the build processes of the Unity Remote application and explains how to use the Unity editor. After focusing on performance and optimization, the author describes tips for designing and marketing a successful App Store page. The book also features two iOS-ready games to explore, adapt, and play. Source code and game examples are available at www.crcpress.com. Guides You in Creating a Functional iOS Game Accessible to indie game developers and small- to medium-sized studios, this handbook

you the tools and knowledge needed to start building and launching iOS games. It helps you create games using Unity3D and publish them to the App Store.

Media Management: A Casebook Approach provides a detailed consideration of the manager's role in today's media organizations, highlighting critical skills and responsibilities. Using case-based cases that promote critical thinking and problem-solving, this text addresses topics of key concern to managers: diversity, group cultures, progressive discipline, training, and journalism, among others. The cases provide real-world scenarios to help students anticipate and prepare for experiences in their future careers. Accounting for major changes in the landscape that have affected every media industry, this Fifth Edition actively engages these changes in both discussion and cases. The text considers the need for managers to communicate quality information, and be entrepreneurial and flexible in the face of new situations and technologies that cannot be predicted and change rapidly in national and international settings. A resource for students and young professionals working in media industries, Media Management offers essential insights and guidance for succeeding in contemporary media management.

Rigging for Games

The Official Guide to Godot 3.0

Developments in Art, Design and Interaction

Learn Programming Now!

Game Engine Black Book

Game Engine Architecture, Second Edition

Game AI Pro 2

Thoroughly updated, this fourth edition focuses on modern techniques used to generate synthetic three-dimensional images in a fraction of a second. With the advent of programmable shaders, a wide variety of new algorithms have arisen and evolved over the past few years. This edition discusses current, practical rendering methods used in games and o

From the splash of breaking waves to turbulent swirling smoke, the mathematical dynamics of fluids are varied and continue to be one of the most challenging aspects in animation. Fluid Engine Development demonstrates how to create a working fluid engine through the use of particles and grids, and even a combination of the two. Core algorithms are explained from a developer's perspective in a practical, approachable way that will not overwhelm readers. The Code Repository offers further opportunity for growth and discussion with continuously changing content and source codes. This book helps to serve as the ultimate guide to navigating complex fluid animation and development.

Game AI Pro2: Collected Wisdom of Game AI Professionals presents cutting-edge tips, tricks, and techniques for artificial intelligence (AI) in games, drawn from developers of shipped commercial games as well as some of the best-known academics in the field. It contains knowledge, advice, hard-earned wisdom, and insights gathered from across the community of developers and researchers who have devoted themselves to game AI. In this book, 47 expert developers and researchers have come together to bring you their newest advances in game AI, along with twists on proven techniques that have shipped in some of the most successful commercial games of the last few years. The book provides a toolbox of proven techniques that can be applied to many common and not-so-common situations. It is written to be accessible to a broad range of readers. Beginners will find good general coverage of game AI techniques and a number of comprehensive overviews, while intermediate to expert professional game developers will find focused, deeply technical chapters on specific topics of interest to them. Covers a wide range of AI in games, with topics applicable to almost any game Touches on most, if not all, of the topics necessary to get started in game AI Provides real-life case studies of game AI in published commercial games Gives in-depth, technical solutions from some of the industry's best-known games Includes downloadable demos and/or source code, available at <http://www.gameapro.com>

How was Wolfenstein 3D made and what were the secrets of its speed? How did id Software manage to turn a machine designed to display static images for word processing and spreadsheet applications into the best gaming platform in the world, capable of running games at seventy frames per seconds? If you have ever asked yourself these questions, Game Engine Black Book is for you. This is an engineering book. You will not find much prose in here (the author's English is broken anyway.) Instead, this book has only bit of text and plenty of drawings attempting to describe in great detail the Wolfenstein 3D game engine and its hardware, the IBM PC with an Intel 386 CPU and a VGA graphic card. Game Engine Black Book details techniques such as raycasting, compiled scalars, deferred rendition, VGA Mode-Y, linear feedback shift register, fixed point arithmetic, pulse width modulation, runtime generated code, self-modifying code, and many others tricks. Open up to discover the architecture of the software which pioneered the First Person Shooter genre.

3D Game Engine Design

The faster way to build games using UE4 Blueprints

Wolfenstein 3D

Harnessing Global Talent to Create Winning Games

Enhance and extend the performance of all aspects of your Unity games, 3rd Edition

Fluid Engine Development

Engineering Real-time Applications with Wild Magic

A First Course in Game Programming Most of today's commercial games are written in C++ and are created using a game engine. Addressing both of these key elements, Programming 2D Games provides a complete, up-to-date introduction to game programming. All of the code in the book was carefully crafted using C++. As game programming techniques are introduced, students learn how to incorporate them into their own game engine and discover how to use the game engine to create a complete game. Enables Students to Create 2D Games The text covers sprites, animation, collision detection, sound, text display, game dashboards, special graphic effects, tiled games, and network programming. It systematically explains how to program DirectX applications and emphasizes proper software engineering techniques. Every topic is explained theoretically and with working code examples. The example programs for each chapter are available at www.programming2dgames.com.

Rigging for Games: A Primer for Technical Artists Using Maya and Python is not just another step-by-step manual of loosely related tutorials. Using characters from the video game *Tin*, it takes you through the real-world creative and technical process of rigging characters for video games and cinematics, allowing readers a complete inside look at a single project. You'll explore new ways to write scripts and create modular rigs using Maya and Python, and automate and speed up the rigging process in your creative pipeline. Finally, you'll learn the most efficient ways of exporting your rigs into the popular game engine Unity. This is the practical, start-to-finish rigging primer you've been waiting for! Enhance your skillset by learning how to efficiently rig characters using techniques applicable to both games and cinematics. Keep up with all the action with behind-the-scenes images and code scripts. Refine your rigging skills with tutorials and project files available on the companion website.

Essential Mathematics for Games and Interactive Applications, 2nd edition presents the core mathematics necessary for sophisticated 3D graphics and interactive physical simulations. The book begins with linear algebra and matrix multiplication and expands on this foundation to cover such topics as color and lighting, interpolation, animation and basic game physics. *Essential Mathematics* focuses on the issues of 3D game development important to programmers and includes optimization guidance throughout. The new edition Windows code will now use Visual Studio.NET. There will also be DirectX support provided, along with OpenGL - due to its cross-platform nature. Programmers will find more concrete examples included in this edition, as well as additional information on tuning, optimization and robustness. The book has a companion CD-ROM with exercises and a test bank for the academic secondary market, and for main market: code examples built around a shared code base, including a math library covering all the topics presented in the book, a core vector/matrix math engine, and libraries to support basic 3D rendering and interaction.

AI is an integral part of every video game. This book helps professionals keep up with the constantly evolving technological advances in the fast growing game industry and equips students with up-to-date information they need to jumpstart their careers. This revised and updated Third Edition includes new techniques, algorithms, data structures and representations needed to create powerful AI in games. The companion website includes downloadable and executable source code that will be regularly updated by the author. Key Features A comprehensive professional tutorial and reference to implement AI in games Includes new exercises so readers can test their comprehension and understanding of the concepts and practices presented Revised and updated to cover new techniques and advances in AI Walks the reader through the entire game AI development process New and improved companion website with easily downloaded and executable source code

Godot Engine Game Development in 24 Hours, Sams Teach Yourself

How to Build a Robust Commercial-Grade Physics Engine for your Game

3D Game Engine Architecture

3D Game Environments

Microsoft XNA Game Studio 4.0

In this new and improved third edition of the highly popular Game Engine Architecture, Jason Gregory draws on his nearly two decades of experience at Midway, Electronic Arts and Naughty Dog to present both the theory and practice of game engine software development. In this book, the broad range of technologies and techniques used by AAA game studios are each explained in detail, and their roles within a real industrial-strength game engine are illustrated. New to the Third Edition This third edition offers the same comprehensive coverage of game engine architecture provided by previous editions, along with updated coverage of: computer and CPU hardware and memory caches, compiler optimizations, C++ language standardization, the IEEE-754 floating-point representation, 2D user interfaces, plus an entirely new chapter on hardware parallelism and concurrent programming. This book is intended to serve as an introductory text, but it also offers the experienced game programmer a useful perspective on aspects of game development technology with which they may not have deep experience. As always, copious references and citations are provided in this edition, making it an excellent jumping off point for those who wish to dig deeper into any particular aspect of the game development process. Key Features Covers both the theory and practice of game engine software development Examples are grounded in specific technologies, but discussion extends beyond any particular engine or API. Includes all mathematical background needed. Comprehensive text for beginners and also has content for senior engineers.

Provides an introduction to AI game techniques used in game programming.

Takes programmers through the complete process of developing a professional quality game, covering a range of topics such as the key "gotcha" issues that could trip up even a veteran programmer, game interface design, game audio, and game engine technology.

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.