Online Library Game Design Foundations

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KEY=GAME - MELISSA TALIYAH

Game Design Foundations: 1 Ideas, Core Loops, and Goals

Game Design Foundations: 2 Systems, Chance, and Strategy

Game Design Foundations

Jones & Bartlett Publishers **Game Design Foundations, Second Edition covers how to design the game from the important opening sentence, the One Pager document, the Executive Summary and Game Proposal, the Character Document to the Game Design Document. The book describes game genres, where game ideas come from, game research, innovation in gaming, important gaming principles such as game mechanics, game balancing, AI, path finding and game tiers. The basics of programming, level designing, and film scriptwriting are explained by example. Each chapter has exercises to hone in on the newly learned designer skills that will display your work as a game designer and your knowledge in the game industry."**

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Game Design Foundations: 3 Pitch, Propose, and Practice

In this course?the third installment in the Game Design Foundations series?learn how to pitch your ideas, document your design, and prepare yourself to enter the game industry.

Video Game Design Foundations

Goodheart-Willcox Pub **Video Game Design Foundations provides students a complete overview of video game design in a first-year curriculum. This turnkey curriculum is a complete guide to immersion in the field, from beginning each game build project through completion, integration, and marketing. Video Game Design Foundations is specifically designed for a high school first-year video game design class. Content and game builds are age appropriate, and learning is focused on the skills students need to preparefor college and career. The 1-Year Access Key Code allows an individual online access to the textbook for 12 consecutive months using a unique username and password that must be associated with a valid e-mail address. The Online Textbook provides fast, page-at-a-time viewing from any browser-based device including iPadsRG, netbooks, PCs, and Mac computers. Features of the Online Textbook include: * Exact page reproduction, including figures and formulas * Linked table of contents * Search capabilities to find specific topics * Full text search with relevancy ranking to quickly locate passages of interest * The ability to quickly jump to specific pages * Full screen reading mode with zoom capabilities * Permission to print selected pages for offline reading**

Video Game Design Foundations

Software Design Guide

Goodheart-Willcox Pub **The software design guide (SDG) provides the hands-on application of the theory presented in the textbook. The SDG should be considered an integral part of the curriculum. It is where students take the theory learned in the textbook and use that knowledge to build video games. Working in simulated design teams, students will experience all aspects of video game design, from the planning stages, through the design and programming, and concluding with a capstone project. Each chapter in the SDG is correlated to the textbook chapter. There are several activities for each chapter. The last chapter in the SDG is a capstone project that requires students to apply all of the knowledge acquired in the textbook and SDG. The SDG includes The Games Factory 2. This is a fully-functional version (not a demo) with a two-install license. One install is intended for school use and the other install is intended for student home use. The Games Factory 2 System Requirements Windows: Intel® Pentium 200 Mhz or higher; Windows 95, 98, Me, NT4, 2000, XP, Vista, or 7; 32 Mb RAM (256 Mb for XP, Vista, or 7); CD-ROM Drive**

Fundamentals of Game Development

Jones & Bartlett Learning **Written by veterans who are currently working in the game industry, Fundamentals of Game Development is unique because it provides the practical aspects of the processes involved in developing and completing game projects. Using examples and exercises, this book provides a hands-on approach that walks the reader through the entire process of developing a game from concept to completion. Ideal for introductory game development and game production courses the book covers history, game genre, design, story-telling, character creation, pre-production, code release, career descriptions, and more.**

Video Game Design Foundations - Powerpoint Presentations-individual License

Goodheart-Willcox Pub **Helps to teach and visually reinforce the key concepts from each chapter. Includes chapter objectives, definitions of new terms, and ample discussion questions.**

Rules of Play

Game Design Fundamentals

MIT Press **An impassioned look at games and game design that offers the most ambitious framework for understanding them to date. As pop culture, games are as important as film or television—but game design has yet to develop a theoretical framework or critical vocabulary. In Rules of Play Katie Salen and Eric Zimmerman present a much-needed primer for this emerging field. They offer a unified model for looking at all kinds of games, from board games and sports to computer and video games. As active participants in game culture, the authors have written Rules of Play as a catalyst for innovation, filled with new concepts, strategies, and methodologies for creating and understanding games. Building an aesthetics of interactive systems, Salen and Zimmerman define core concepts like "play," "design," and "interactivity." They look at games through a series of eighteen "game design schemas," or conceptual frameworks, including games as systems of emergence and information, as contexts for social play, as a storytelling medium, and as sites of cultural resistance. Written for game scholars, game developers, and interactive designers, Rules of Play is a textbook, reference book, and theoretical guide. It is the first comprehensive attempt to establish a solid theoretical framework for the emerging discipline of game design.**

Video Game Design Composition

Software Design Guide

Goodheart-Willcox Pub **Video Game Design Composition provides students specific coverage of video game design in a second-year curriculum. This turnkey curriculum is a complete guide to immersion in the field, from beginning each game build project through completion, integration, and marketing. Video Game Design Composition is specifically designed for a high school second-year video game design class. Content and game builds are age appropriate, and learning is focused on the skills students need to prepare for college and career. Multimedia Fusion 2 (MMF2) is FREE to schools with purchase of the Student Textbook. The Software Design Guide (SDG) provides the hands-on application of the theory presented in the textbook. The SDG should be considered an integral part of the curriculum. It is where students take the theory learned in the textbook and use that knowledge to build video games. Working in simulated design teams, students will experience all aspects of video game design, from the planning stages, through the design and programming, and concluding with a capstone project. Each chapter in the SDG is correlated to the textbook chapter. There are several activities for each chapter. The last chapter in the SDG is a capstone project that requires students to apply all of the knowledge acquired in the textbook and SDG. Includes game Engine Software.**

Foundations of Game Engine Development, Volume 2

Rendering

Character-Driven Game Design

A Design Approach and Its Foundations in Character Engagement

Taik Books **How do game characters contribute to shaping the playing experience? What kinds of design tools are available for character-based games that utilize methods from dramatic writing and game research? Writer Petri Lankoski has a theory for this. There is a need to tether character design to game design more tightly than has been the case in the past, as well as to pay attention to social networks of characters by the means of finding useful design patterns. "The use of Lajos Egri's bone structure for a three dimensional-character and of Murray Smith's three levels of imaginative engagement with characters allows the candidate to expose the full complexity of the imaginary persons represented and controlled in a single-player game. What makes his design-center approach even more interesting is that game play is an integral part of it." Comments Bernard Perron, Associate Professor of Université de Montréal on Lankoski´s work.**

The Design and Use of Simulation Computer Games in Education

Sense Pub **This volume presents a collection of empirical and theoretical work relating to simulation computer games, exploring the interrelationships between the instructional design and the educational use of these materials. The authors explore the interrelationships between design and use--success in both are critical to achieve the desired ends of facilitating learning--and provide a scholarly treatment of a topics frequently handled in an anecdotal, "pop science" manner. While there is a broad literature in the design of instructional materials and in the implementation or use of those materials, the design and use of educational simulation computer games is significantly different. The overwhelming majority of traditional instructional materials are designed to be used primarily as a teacher guides a learner. However, the vast majority of computer simulation games are designed to be used directly by the learner, without much mediation. A better understanding of these issues is critical for effective game-based learning. Chapters range from different approaches to design and different subject matter to the different types of technology-based environments. This book does not provide a "complete" perspective of any depth within cognitive science and computer science technology, nor does it "unmask the myth" of computer simulation games in education, as other volumes claim to do. Instead, this book provides a breadth of perspectives that move from "what we think" to "what we know" about simulation computer games in education, and gives an up-to-the-moment picture of "where we're at" in the theory, design and use of simulation computer games. A series of well argued but surprisingly entertaining articles go far to set the very foundations ofthe field of digital game based learning. This book is absolutely essential reading for anyone interested in games and learning and will be for years to come." James Paul Gee, Mary Lou Fulton Presidential Professor of Literacy Studies, Arizona State University Learning from serious games generates emotional discussions about the feasibility of games as effective learning devices. It is refreshing that the authors are committed to taking an empirical approach to the study of games and education - one of research and grounded theory, rather than advocacy. This volume in an important step in beginning to move beyond hype to a more firm foundation for the use of serious games. M. David Merrill, Instructional Effectiveness Consultant, Visiting Professor Florida State University This volume shows that serious inquiry into serious games is a real and valid pursuit. The book conveys that what we can gather about how people learn within computer-based games, and using games, contributes to how we go about designing new educational games, and using games in more formal learning environments. It offers a convergence of thoughts, perspectives, and ideals...that may not always agree, but lays all the cards on the table. It's very useful to get all these perspectives in one place. The authors further substantiate that research into this emerging area is one of promise and one that yields important results--providing impact across industry and academia. Clark Aldrich, Author of Simulations and the Future of Learning and Learning by Doing.**

Introduction to Game Systems Design

Game Design As games grow more complex and gamers' expectations soar, the discipline of game systems design becomes ever more important. Game systems designers plan a game's rules and balance, its characters' attributes, most of its data, and how its AI, weapons, and objects work and interact. Introduction to Game Systems Design is the first complete beginner's guide to this crucial discipline. Writing for all aspiring game professionals, even those with absolutely no experience, leading game designer and instructor Dax Gazaway presents a step-by-step, hands-on approach to designing game systems with industry-standard tools. Drawing on his experience building AAA-level game systems (including games in the Star Wars and Marvel franchises), Gazaway covers all this, and more: Exploring the essentials of game design and its emerging subdisciplines Asking the essential questions at the heart of all design Getting started with modern game system design tools, including the spreadsheets most professionals now use Creating systems and data from a blank page Populating and quantifying a world of data into a game Tuning and balancing game systems Testing game systems and data Leveraging communication, psychology, and rewards within your games Balancing game probability within systems Whether you're a college freshman entering a game design program, an indie developer using Unreal or Unity, a Dungeon Master, or anyone who wants to really understand modern games, this guide will help you get where you want to go.

Foundations in Sound Design for Interactive Media

A Multidisciplinary Approach

Routledge This volume provides a comprehensive introduction to foundational topics in sound design for interactive media, such as gaming and virtual reality; compositional techniques; new interfaces; sound spatialization; sonic cues and semiotics; performance and installations; music on the web; augmented reality applications; and sound producing software design. The reader will gain a broad understanding of the key concepts and practices that define sound design for its use in computational media and design. The chapters are written by international authors from diverse backgrounds who provide multidisciplinary perspectives on sound in its interactive forms. The volume is designed as a textbook for students and teachers, as a handbook for researchers in sound, design and media, and as a survey of key trends and ideas for practitioners interested in exploring the boundaries of their profession.

Foundations of Game Engine Development, Volume 2

Rendering

Character-Driven Game Design

A Design Approach and Its Foundations in Character Engagement

Unity From Zero to Proficiency (Foundations)

A step-by-step guide to creating your first game with Unity

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

Foundation Game Design with Flash

Apress We've all sneaked the odd five minutes here or there playing the latest Flash game that someone sent round the office, but creating those games is trickier than it looks. The aim of Foundation Game Design with Flash is to take you, even if you've minimal multimedia or programming experience, through a series of step-by-step examples and detailed case studies to the point where you'll have the skills to independently design any conceivable 2D game using Flash and ActionScript. The book is a non-technical one-stop-shop for all the most important skills and techniques a beginner game designer needs to build games with Flash from scratch. Whether you're creating quick blasts of viral amusement, or more in-depth action or adventure titles, this book is for you. Focused and friendly introduction to designing games with Flash and ActionScript Five detailed case studies of Flash games Essential techniques for building games, with each chapter gently building on the skills of preceding chapters

Basic Math for Game Development with Unity 3D

A Beginner's Guide to Mathematical Foundations

Apress **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 developmentApply mathematical concepts to modern video game functionality, such as spherical and box collidersImplement 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**

Serious Games

Foundations, Concepts and Practice

Springer **This textbook provides an introduction to the fundamentals of serious games, which differ considerably from computer games that are meant for pure entertainment. Undergraduate and graduate students from various disciplines who want to learn about serious games are one target group of this book. Prospective developers of serious games are another, as they can use the book for self-study in order to learn about the distinctive features of serious game design and development. And ultimately, the book also addresses prospective users of serious game technologies by providing them with a solid basis for judging the advantages and limitations of serious games in different application areas such as game-based learning, training and simulation or games for health. To cater to this heterogeneous readership and wide range of interests, every effort was made to make the book flexible to use. All readers are expected to study Chapter 1, as it provides the necessary basics and terminology that will be used in all subsequent chapters. The eleven chapters that follow cover the creation of serious games (design, authoring processes and tools, content production), the runtime context of serious games (game engines, adaptation mechanisms, game balancing, game mastering, multi-player serious games), the effects of serious games and their evaluation (player experience, assessment techniques, performance indicators), and serious games in practice (economic aspects, cost-benefit analysis, serious game distribution). To familiarize the readers with best practice in this field, the final chapter presents more than 30 selected examples of serious games illustrating their characteristics and showcasing their practical use. Lecturers can select chapters in a sequence that is most suitable for their specific course or seminar. The book includes specific suggestions for courses such as "Introduction to Serious Games", "Entertainment Technology", "Serious Game Design", "Game-based Learning", and "Applications of Serious Games".**

Developing 2D Games with Unity

Independent Game Programming with C#

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

Fundamentals of Sports Game Design

New Riders **You understand the basic concepts of game design: gameplay, user interfaces, core mechanics, character design, and storytelling. Now you want to know how to apply them to the sports game genre. This focused guide gives you exactly what you need. It walks you through the process of designing for the sports game genre and shows you how to use the right techniques to create fun and challenging experiences for your players.**

Role-Playing Game Studies

Transmedia Foundations

Routledge **This handbook collects, for the first time, the state of research on role-playing games (RPGs) across disciplines, cultures, and media in a single, accessible volume. Collaboratively authored by more than 50 key scholars, it traces the history of RPGs, from wargaming precursors to tabletop RPGs like Dungeons & Dragons to the rise of live action role-play and contemporary computer RPG and massively multiplayer online RPG franchises, like Fallout and World of Warcraft. Individual chapters survey the perspectives, concepts, and findings on RPGs from key disciplines, like performance studies, sociology, psychology, education, economics, game design, literary studies, and more. Other chapters integrate insights from RPG studies around broadly significant topics, like transmedia worldbuilding, immersion, transgressive play, or player–character relations. Each chapter includes definitions of key terms and recommended readings to help fans, students, and scholars new to RPG studies find their way into this new interdisciplinary field.**

Gamification at Work

Designing Engaging Business Software

Gamification is becoming a common buzzword in business these days. In its November 2012 press release, Gartner predicts that "by 2015, 40% of Global 1000 organizations will use gamification as the primary mechanism to transform business operations." In the same report, they also predict that "by 2014, 80% of current gamified applications will fail to meet business objectives, primarily due to poor design." What is gamification? Does it belong in the workplace? Are there design best practices that can increase the efficacy of enterprise gamification efforts? Janaki Kumar and Mario Herger answer these questions and more in this book Gamification @ Work. They caution against taking a "chocolate covered broccoli" approach of simply adding points and badges to business applications and calling them gamified. They outline a methodology called Player Centered Design which is a practical guide for user experience designers, product managers and developers to incorporate the principles of gamification into their business software. Player Centered Design involves the following five steps: 1. Know your player 2. Identify the mission 3. Understand human motivation 4. Apply mechanics 5. Manage, monitor and measure Kumar and Herger provide examples of enterprise gamification, introduce legal and ethical considerations, and provide pointers to other resources to continue your journey in designing gamification that works! Keywords: Gamification, Enterprise Gamification, Gamification of business software, enterprise software, business software, User experience design, UX, Design, Engagement, Motivation.

Foundations of Game Engine Development, Volume 1

Mathematics

Crash Course in Gaming

ABC-CLIO Video games aren't just for kids anymore. This book will describe the "why" and "how" to start or expand a video gaming program in the library, including some specific examples of how to target adult and female gamer patrons.

Real-Time Collision Detection

CRC Press Written by an expert in the game industry, Christer Ericson's new book is a comprehensive guide to the components of efficient real-time collision detection systems. The book provides the tools and know-how needed to implement industrial-strength collision detection for the highly detailed dynamic environments of applications such as 3D games, virtual reality applications, and physical simulators. Of the many topics covered, a key focus is on spatial and object partitioning through a wide variety of grids, trees, and sorting methods. The author also presents a large collection of intersection and distance tests for both simple and complex geometric shapes. Sections on vector and matrix algebra provide the background for advanced topics such as Voronoi regions, Minkowski sums, and linear and quadratic programming. Of utmost importance to programmers but rarely discussed in this much detail in other books are the chapters covering numerical and geometric robustness, both essential topics for collision detection systems. Also unique are the chapters discussing how graphics hardware can assist in collision detection computations and on advanced optimization for modern computer architectures. All in all, this comprehensive book will become the industry standard for years to come.

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

CRC Press 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 authors teach you 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 the fundamentals of coordinate spaces, vectors, and matrices. It also covers orientation in three dimensions, calculus and dynamics, graphics, and parametric curves.

Game Design Workshop

A Playcentric Approach to Creating Innovative Games, Third Edition

CRC Press Create the Digital Games You Love to Play Discover an exercise-driven, non-technical approach to game design without the need for programming or artistic expertise using Game Design Workshop, Third Edition. Author Tracy Fullerton demystifies the creative process with a clear and accessible analysis of the formal and dramatic systems of game design. Examples of popular games, illustrations of design techniques, and refined exercises strengthen your understanding of how game systems function and give you the skills and tools necessary to create a compelling and engaging game. The book puts you to work prototyping, playtesting, and revising your own games with time-tested methods and tools. It provides you with the foundation to advance your career in any facet of the game industry, including design, producing, programming, and visual design.

Foundation Game Design with ActionScript 3.0

Apress In response to the success of the first edition of Foundation Game Design with Flash, Rex van der Spuy has revised and updated all the code to meet current programming best practices, and the focus is now on accurate ActionScript 3.0, regardless of the IDE that you use. We've all sneaked the odd five minutes here or there playing the latest Flash game that someone sent around the office, but creating those games is trickier than it looks. The aim of Foundation Game Design with ActionScript 3.0 is to take you, even if you've minimal multimedia or programming experience, through a series of step-by-step examples and detailed case studies—to the point where you'll have the skills to independently design any conceivable 2D game using Flash and ActionScript. Foundation Game Design with ActionScript 3.0 is a non-technical one-stop shop for all the most important skills and techniques a beginning game designer needs to build games with Flash from scratch. Whether you're creating quick blasts of viral amusement, or more in-depth action or adventure titles, this is the book for you. Focused and friendly introduction to designing games with Flash and ActionScript Detailed case studies of Flash games Essential techniques for building games, with each chapter gently building on the skills of preceding chapters Modern best practices and new content on ActionScript 3.0 Also covers asset creation in Photoshop and Illustrator

Aesthetics and Design for Game-based Learning

Routledge Aesthetics and Design for Game-based Learning provides learning designers with insight into how the different elements that comprise game aesthetics can inform the design of game-based learning. Regardless of the cognitive complexities involved, games are essentially entertainment media, and aesthetics play a large role in how they are experienced. Yet too often the role of aesthetics in the research about game-based learning has been relegated to a surface discussion of graphics or neglected altogether. Aesthetics and Design for Game-based Learning begins by addressing the broad context of game aesthetics, then addresses specific elements with chapters focusing on: player positioning game mechanics narrative design environment design character design. Each chapter includes research and guidelines for design, and a conclusion addresses aesthetics in the research of game-based learning.

The Art of Computer Game Design

Reflections of a Master Game Designer

McGraw-Hill/Glencoe **Discusses the elements of games, surveys the various types of computer games, and describes the steps in the process of computer game development**

Advanced Lighting and Materials with Shaders

Wordware Publishing, Inc. **The world around us is filled with subtle lighting effects, but until recently it was not possible to duplicate these real-world effects in computer games because of the limits of consumer graphics hardware. Advanced Lighting and Materials with Shaders explains the principles of lighting theory and discusses how to create realistic lighting that takes full advantage of the capabilities of modern hardware. Topics include the physics of light, raytracing and related techniques, objects and materials, lighting and reflectance models, implementing lights in shaders, spherical harmonic lighting, spherical harmonics in DirectX, and real-time radiosity.Upon reading this text, you will understand the underlying physics of light and energy; learn about the visual features of different materials and how they can be modeled for real-time graphics; find out about the different lighting models; discover how real-time techniques compare to ray tracing; learn to use the provided shader implementations to implement lights and realistic materials in real time.Accompanying CD-ROM includes all the code in the book with resources (models, textures, probes, etc.) needed to run the programs, along with the SDKs and libraries needed to build the programs and luminance Radiosity Studio, an advanced radiosity program.**

Multiagent Systems

Algorithmic, Game-Theoretic, and Logical Foundations

Cambridge University Press **Multiagent systems combine multiple autonomous entities, each having diverging interests or different information. This overview of the field offers a computer science perspective, but also draws on ideas from game theory, economics, operations research, logic, philosophy and linguistics. It will serve as a reference for researchers in each of these fields, and be used as a text for advanced undergraduate or graduate courses. The authors emphasize foundations to create a broad and rigorous treatment of their subject, with thorough presentations of distributed problem solving, game theory, multiagent communication and learning, social choice, mechanism design, auctions, cooperative game theory, and modal logics of knowledge and belief. For each topic, basic concepts are introduced, examples are given, proofs of key results are offered, and algorithmic considerations are examined. An appendix covers background material in probability theory, classical logic, Markov decision processes and mathematical programming.**

Algorithm Design

Foundations, Analysis, and Internet Examples

John Wiley & Sons **Michael Goodrich and Roberto Tamassia, authors of the successful, Data Structures and Algorithms in Java, 2/e, have written Algorithm Engineering, a text designed to provide a comprehensive introduction to the design, implementation and analysis of computer algorithms and data structures from a modern perspective. This book offers theoretical analysis techniques as well as algorithmic design patterns and experimental methods for the engineering of algorithms. Market: Computer Scientists; Programmers.**

Handbook of Game-Based Learning

MIT Press **A comprehensive introduction to the latest research and theory on learning and instruction with computer games. This book offers a comprehensive introduction to the latest research on learning and instruction with computer games. Unlike other books on the topic, which emphasize game development or best practices, Handbook of Game-Based Learning is based on empirical findings and grounded in psychological and learning sciences theory. The contributors, all leading researchers in the field, offer a range of perspectives, including cognitive, motivational, affective, and sociocultural. They explore research on whether (and how) computer games can help students learn educational content and academic skills; which game features (including feedback, incentives, adaptivity, narrative theme, and game mechanics) can improve the instructional effectiveness of these games; and applications, including games for learning in STEM disciplines, for training cognitive skills, for workforce learning, and for assessment. The Handbook offers an indispensable reference both for readers with practical interests in designing or selecting effective game-based learning environments and for scholars who conduct or evaluate research in the field. It can also be used in courses related to play, cognition, motivation, affect, instruction, and technology. Contributors Roger Azevedo, Ryan S. Baker, Daphne Bavelier, Amanda E. Bradbury, Ruth C. Clark, Michele D. Dickey, Hamadi Henderson, Bruce D. Homer, Fengfeng Ke, Younsu Kim, Charles E. Kinzer, Eric Klopfer, James C. Lester, Kristina Loderer, Richard E. Mayer, Bradford W. Mott, Nicholas V. Mudrick, Brian Nelson, Frank Nguyen, V. Elizabeth Owen, Shashank Pawar, Reinhard Pekrun, Jan L. Plass, Charles Raffale, Jonathon Reinhardt, C. Scott Rigby, Jonathan P. Rowe, Richard M. Ryan, Ruth N. Schwartz, Quinnipiac Valerie J. Shute, Randall D. Spain, Constance Steinkuehler, Frankie Tam, Michelle Taub, Meredith Thompson, Steven L. Thorne, A. M. Tsaasan**

Illustrator Foundations

The Art of Vector Graphics, Design, and Illustration in Illustrator

Taylor & Francis **Whether you are creating a catchy and fun cartoon, designing a print banner advertisement, or developing content for a mobile game, save time and money with expert techniques, trips and tricks from by Adobe Certified Expert, Rafiq Elmansy with Illustrator Foundations. With practical applications and step by step tutorials, solve problems quickly to develop creative projects on time and to budget. Want to hone your Illustrator skills so you can remain competitive in a diverse market while concentrating on your vector graphics projects? Then Illustrator Foundations is for you! With real-world professional projects you'll discover how to: develop mobile applications, work with layers, masks, vector images and many more tips and tricks not found anywhere else! Harness the full Creative Suite software package with tips on how to integrate Illustrator with Photoshop and After Effects. This book is a goldmine of artistic inspiration, timesaving practical tips, tricks and step-by-step walkthroughs; you'll wonder how you survived this long without it. Put the Adobe Illustrator CS6 techniques to the test with the fully updated companion website with downloadable Illustrator source files, examples and video tutorials. Conquer the complexities of the Adobe Illustrator software package and explore the myriad of tips and tricks based on real-world working methods to help you work faster and more efficiently and to budget! Gain the best possible results from problem to the solution for your advertisements, websites, cartoons or mobile application development and remain competitive in a diverse market with the tried and true methods of a professional graphic designer and illustrator. Adapt Illustrator techniques to your own Adobe Creative Suite workflow with coverage on integrating After Effects, Flash and Photoshop with Illustrator. Put the Adobe Illustrator CS6 cheats to the test with the fully updated companion website with downloadable Illustrator source files, examples and video tutorials. Enhance your creative toolkit with the Illustrator CS6 cheats and examples featuring practical solutions for the busy artist with extensive coverage of HTML-5, mobile and web content development, blob brush, bristle brush and perspective grid, color palettes and more!**

Debugging Game History

A Critical Lexicon

MIT Press **Essays discuss the terminology, etymology, and history of key terms, offering a foundation for critical historical studies of games. Even as the field of game studies has flourished, critical historical studies of games have lagged behind other areas of research. Histories have generally been fact-by-fact chronicles; fundamental terms of game design and development, technology, and play have rarely been examined in the context of their historical, etymological, and conceptual underpinnings. This volume attempts to "debug" the flawed historiography of video games. It offers original essays on key concepts in game studies, arranged as in a lexicon—from "Amusement Arcade" to "Embodiment" and "Game Art" to "Simulation" and "World Building." Written by scholars and practitioners from a variety of disciplines, including game development, curatorship, media archaeology, cultural studies, and technology studies, the essays offer a series of distinctive critical "takes" on historical topics. The majority of essays look at game history from the outside in; some take deep dives into the histories of play and simulation to provide context for the development of electronic and digital games; others take on such technological components of games as code and audio. Not all essays are history or historical etymology—there is an analysis of game design, and a discussion of intellectual property—but they nonetheless raise questions for historians to consider. Taken together, the essays offer a foundation for the emerging study of game history. Contributors Marcelo Aranda, Brooke Belisle, Caetlin Benson-Allott, Stephanie Boluk, Jennifer deWinter, J. P. Dyson, Kate Edwards, Mary Flanagan, Jacob Gaboury, William Gibbons, Raiford Guins, Erkki Huhtamo, Don Ihde, Jon Ippolito, Katherine Isbister, Mikael Jakobsson, Steven E. Jones, Jesper Juul, Eric Kaltman, Matthew G. Kirschenbaum, Carly A. Kocurek, Peter Krapp, Patrick LeMieux, Henry Lowood, Esther MacCallum-Stewart, Ken S. McAllister, Nick Monfort, David Myers, James Newman, Jenna Ng, Michael Nitsche, Laine Nooney, Hector Postigo, Jas Purewal, Reneé H. Reynolds, Judd Ethan Ruggill, Marie-Laure Ryan, Katie Salen Tekinbaş, Anastasia Salter, Mark Sample, Bobby Schweizer, John Sharp, Miguel Sicart, Rebecca Elisabeth Skinner, Melanie Swalwell, David Thomas, Samuel Tobin, Emma Witkowski, Mark J.P. Wolf**