

Programming Interactivity A Designers Guide To Processing Arduino And Openframeworks Joshua Noble

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Learning Processing Daniel Shiffman 2015-09-09 Learning Processing, Second Edition, is a friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages. Requiring no previous experience, this book is for the true programming beginner. It teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization. Step-by-step examples, thorough explanations, hands-on exercises, and sample code, supports your learning curve. A unique lab-style manual, the book gives graphic and web designers, artists, and illustrators of all stripes a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of select advanced techniques. The book has been developed with a supportive learning experience at its core. From algorithms and data mining to rendering and debugging, it teaches object-oriented programming from the ground up within the fascinating context of interactive visual media. This book is ideal for graphic designers and visual artists without programming background who want to learn programming. It will also appeal to students taking college and graduate courses in interactive media or visual computing, and for self-study. A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages No previous experience required—this book is for the true programming beginner! Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve

Symbiotic Interaction Luciano Gamberini 2017-04-21 This book is published open access under a CC BY license. This book constitutes the proceedings of the 5th International Workshop on Symbiotic Interaction, Symbiotic 2016, held in Padua, Italy, in October 2016. The 12 full papers and 3 short papers presented in this volume were carefully reviewed and selected from 23 submissions. The idea of symbiotic systems put forward in this workshop capitalizes on the computers' ability to implicitly detect the users goals, preferences or/and psycho-physiological states and thereby enhancing human-computer interaction (HCI). The papers present an overview of the symbiotic relationships between humans and computers with emphasis on user-driven research on symbiotic systems, adaptive systems, implicit input data, physiological computing and BCI, but also on understanding the nature of the interdependence and agency between computers and humans more broadly.

Special and Gifted Education: Concepts, Methodologies, Tools, and Applications Management Association, Information Resources 2016-04-25 Diverse learners with exceptional needs require a specialized curriculum that will help them to develop socially and intellectually in a way that traditional pedagogical practice is unable to fulfill. As educational technologies and theoretical approaches to learning continue to advance, so do the opportunities for exceptional children. Special and Gifted Education: Concepts, Methodologies, Tools, and Applications is an exhaustive compilation of emerging research, theoretical concepts, and real-world examples of the ways in which the education of special needs and exceptional children is evolving. Emphasizing pedagogical innovation and new ways of looking at contemporary educational practice, this multi-volume reference work is ideal for inclusion in academic libraries for use by pre-service and in-service teachers, graduate-level students, researchers, and educational software designers and developers.

Foundations in Sound Design for Embedded Media Michael Filimowicz 2019-06-25 This volume provides a comprehensive introduction to foundational topics in sound design for embedded media, such as physical computing; interaction design; auditory displays and data sonification; speech synthesis; wearables; smart objects and instruments; user experience; toys and playful tangible objects; and the new sensibilities entailed in expanding the concept of sound design to encompass the totality of our surroundings. The reader will gain a broad understanding of the key concepts and practices that define sound design for its use in computational products and design. The chapters are written by international authors from diverse backgrounds who provide multidisciplinary perspectives on sound in its many embedded forms. The volume is designed as a textbook for students and teachers, as a handbook for researchers in sound, programming and design, and as a survey of key trends and ideas for practitioners interested in exploring the boundaries of their profession.

User Interface Design for Programmers Avram Joel Spolsky 2008-01-01 Most programmers' fear of user interface (UI) programming comes from their fear of doing UI design. They think that UI design is like graphic design—the mysterious process by which creative, latte-drinking, all-black-wearing people produce cool-looking, artistic pieces. Most programmers see themselves as analytic, logical thinkers instead—strong at reasoning, weak on artistic judgment, and incapable of doing UI design. In this brilliantly readable book, author Joel Spolsky proposes simple, logical rules that can be applied without any artistic talent to improve any user interface, from traditional GUI applications to websites to consumer electronics. Spolsky's primary axiom, the importance of bringing the program model in line with the user model, is both rational and simple. In a fun and entertaining way, Spolsky makes user interface design easy for programmers to grasp. After reading User Interface Design for Programmers, you'll know how to design interfaces with the user in mind. You'll learn the important principles that underlie all good UI design, and you'll learn how to perform usability testing that works.

Designing Data-Intensive Applications Martin Kleppmann 2017-03-16 Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

Encyclopedia of Human Computer Interaction Ghaoui, Claude 2005-12-31 Esta enciclopedia presenta numerosas experiencias y discernimientos de profesionales de todo el mundo sobre discusiones y perspectivas de la la interacción hombre-computadoras

Processing Ira Greenberg 2013-05-13 Processing: Creative Coding and Generative Art in Processing 2 is a fun and creative approach to learning programming. Using the easy to learn Processing programming language, you will quickly learn how to draw with code, and from there move to animating in 2D and 3D. These basics will then open up a whole world of graphics and computer entertainment. If you've been curious about coding, but the thought of it also makes you nervous, this book is for you; if you consider yourself a creative person, maybe worried programming is too non-creative, this book is also for you; if you want to learn about the latest Processing 2.0 language release and also start making beautiful code art, this book is also definitely for you. You will learn how to develop interactive simulations, create beautiful visualizations, and even code image-manipulation applications. All this is taught using hands-on creative coding projects. Processing 2.0 is the latest release of the open-source Processing language, and includes exciting new features, such as OpenGL 2 support for enhanced 3D graphics performance. Processing: Creative Coding and Generative Art in Processing 2 is designed for independent learning and also as a primary text for an introductory computing class. Based on research funded by the National Science Foundation, this book brings together some of the most engaging and successful approaches from the digital arts and computer science classrooms. Teaches you how to program using a fun and creative approach. Covers the latest release of the Processing 2.0 language. Presents a research based approach to learning computing. *The SparkFun Guide to Processing* Derek Runberg 2015-08-01 Processing is a free, beginner-friendly programming language designed to help non-programmers create interactive art with code. The SparkFun

Guide to Processing, the first in the SparkFun Electronics series, will show you how to craft digital artwork and even combine that artwork with hardware so that it reacts to the world around you. Start with the basics of programming and animation as you draw colorful shapes and make them bounce around the screen. Then move on to a series of hands-on, step-by-step projects that will show you how to: -Make detailed pixel art and scale it to epic proportions -Write a maze game and build a MaKey MaKey controller with fruit buttons -Play, record, and sample audio to create your own soundboard -Fetch weather data from the Web and build a custom weather dashboard -Create visualizations that change based on sound, light, and temperature readings With a little imagination and Processing as your paintbrush, you'll be on your way to coding your own gallery of digital art in no time! Put on your artist's hat, and begin your DIY journey by learning some basic programming and making your first masterpiece with The SparkFun Guide to Processing. The code in this book is compatible with Processing 2 and Processing 3.

Experimentalisms in Practice Ana R. Alonso-Minutti 2018-01-02 Experimentalisms in Practice explores the multiple sites in which experimentalism emerges and becomes meaningful beyond Eurocentric interpretative frameworks. Challenging the notion of experimentalism as defined in conventional narratives, contributors take a broad approach to a wide variety of Latin@ and Latin American music traditions conceived or perceived as experimental. The conversation takes as starting point the 1960s, a decade that marks a crucial political and epistemological moment for Latin America; militant and committed aesthetic practices resonated with this moment, resulting in a multiplicity of artistic and musical experimental expressions. Experimentalisms in Practice responds to recent efforts to reframe and reconceptualize the study of experimental music in terms of epistemological perspective and geographic scope, while also engaging traditional scholarship. This book contributes to the current conversations about music experimentalism while providing new points of entry to further reevaluate the field.

Programming Embedded Systems Michael Barr 2006 Authored by two of the leading authorities in the field, this guide offers readers the knowledge and skills needed to achieve proficiency with embedded software.

Contextual Design Hugh Beyer 1998 Contextual design is a state-of-the-art approach to designing products directly from an understanding of how the customer works and what the customer needs. Based on a method developed and taught by the authors, this is a practical, hands-on guide that articulates the underlying principles of contextual design and shows how to use them to address different problems, constraints, and organizational situations.

Learning Web Design Jennifer Robbins 2018-05-11 Do you want to build web pages but have no prior experience? This friendly guide is the perfect place to start. You'll begin at square one, learning how the web and web pages work, and then steadily build from there. By the end of the book, you'll have the skills to create a simple site with multicolumn pages that adapt for mobile devices. Each chapter provides exercises to help you learn various techniques and short quizzes to make sure you understand key concepts. This thoroughly revised edition is ideal for students and professionals of all backgrounds and skill levels. It is simple and clear enough for beginners, yet thorough enough to be a useful reference for experienced developers keeping their skills up to date. Build HTML pages with text, links, images, tables, and forms Use style sheets (CSS) for colors, backgrounds, formatting text, page layout, and even simple animation effects Learn how JavaScript works and why the language is so important in web design Create and optimize web images so they'll download as quickly as possible NEW! Use CSS Flexbox and Grid for sophisticated and flexible page layout NEW! Learn the ins and outs of Responsive Web Design to make web pages look great on all devices NEW! Become familiar with the command line, Git, and other tools in the modern web developer's toolkit NEW! Get to know the super-powers of SVG graphics

Processing, second edition Casey Reas 2014-12-19 The new edition of an introduction to computer programming within the context of the visual arts, using the open-source programming language Processing; thoroughly updated throughout. The visual arts are rapidly changing as media moves into the web, mobile devices, and architecture. When designers and artists learn the basics of writing software, they develop a new form of literacy that enables them to create new media for the present, and to imagine future media that are beyond the capacities of current software tools. This book introduces this new literacy by teaching computer programming within the context of the visual arts. It offers a comprehensive reference and text for Processing (www.processing.org), an open-source programming language that can be used by students, artists, designers, architects, researchers, and anyone who wants to program images, animation, and interactivity. Written by Processing's cofounders, the book offers a definitive reference for students and professionals. Tutorial chapters make up the bulk of the book; advanced professional projects from such domains as animation, performance, and installation are discussed in interviews with their creators. This second edition has been thoroughly updated. It is the first book to offer in-depth coverage of Processing 2.0 and 3.0, and all examples have been updated for the new syntax. Every chapter has been revised, and new chapters introduce new ways to work with data and geometry. New "synthesis" chapters offer discussion and worked examples of such topics as sketching with code, modularity, and algorithms. New interviews have been added that cover a wider range of projects. "Extension" chapters are now offered online so they can be updated to keep pace with technological developments in such fields as computer vision and electronics. Interviews SUE.C, Larry Cuba, Mark Hansen, Lynn Hershman Leeson, Jürg Lehni, LettError, Golan Levin and Zachary Lieberman, Benjamin Maus, Manfred Mohr, Ash Nehru, Josh On, Bob Sabiston, Jennifer Steinkamp, Jared Tarbell, Steph Thirion, Robert Winter

Collaborative and Distributed Processes in Contemporary Music-Making Richard Glover 2020-04-09 This volume represents the second proceedings of the Royal Musical Association's (RMA) Music and/as Process Study Group. It is not surprising that a large number of the contributors to the Music and/as Process Study Group are active practitioners in the performance and composition of contemporary music. The collaborations documented here represent the bringing together of disciplines, joint work between practitioners who contribute their own specific areas of expertise to a composite creative activity, and work that crosses disciplines in order to make a critical comment in each of them. In this collection, these three types of collaborative work describe an increasing amount of contemporary music practice. In addition to the increasing involvement of practice in research, the understanding and prevalence of practice methodologies in the form of practice research has also increased in musicology. This volume reflects these concerns through contributions from authors who are all active practitioners in their respective fields of music performance, composition, improvisation, and conducting. The diversity of these contributions shows the variety of processes and practices that are currently being undertaken by proponents of the field of contemporary music. These essays provide a snapshot of the current collaborative and distributed processes that are employed by today's contemporary music practitioners. The chapters contained in this volume reveal the varied nature of the approaches to creativity in music making, and the ways that these are distributed across its practitioners during each stage of the development of musical works.

Designing Interfaces Jenifer Tidwell 2005-11-21 Provides information on designing easy-to-use interfaces.

Design Games for Architecture Aaron Westre 2013-10-08 Design Games for Architecture teaches you how to create playful software tools based on your architectural design processes, whether or not you are familiar with game design technology. The book combines the fun and engaging aspects of video games to ease the sometimes complex process of learning software development. By working through exercises illustrated with screen shots and code, you acquire knowledge about each step required to build useful tools you can use to accomplish design tasks. Steps include analysing design processes to identify their logic, translating that logic into a collection of objects and functions, then encoding the design procedure into a working software tool. Examples presented in the book are design games---tools that a designer "plays" like video games---that span a wide range of design activities. These software tools are built using Unity, free, innovative, and industry-leading software for video game development. Unity speeds up the process of software creation, offers an interface that will be familiar to you, and includes very advanced tools for creating forms, effects, and interactivity. If you are looking to add cutting-edge skills to your repertoire, then Design Games will help you sharpen your design thinking and allow you to specialize in this new territory while you learn more about your own design processes.

Encyclopedia of Video Games: A-L Mark J. P. Wolf 2012 This encyclopedia collects and organizes theoretical and historical content on the topic of video games, covering the people, systems, technologies, and theoretical concepts as well as the games themselves. * More than 300 A-Z cross-referenced and integrated entries, from Atari to Zelda * Dozens of screenshots and photographs * A "Further Reading" bibliography section is included with many entries

Programming Interactivity Joshua Noble 2012-01-23 Looks at the techniques of interactive design, covering such topics as 2D and 3D graphics, sound, computer vision, and geolocation.

End-User Development Volkmar Pipek 2009-02-24 Work practices and organizational processes vary widely and evolve constantly. The technological infrastructure has to follow, allowing or even supporting these changes. Traditional approaches to software engineering reach their limits whenever the full spectrum of user requirements cannot be anticipated or the frequency of changes makes software reengineering cycles too clumsy to address all the needs of a specific field of application. Moreover, the increasing importance of 'infrastructural' aspects, particularly the mutual dependencies between technologies, usages, and domain competencies, calls for a differentiation of roles beyond the classical user-designer dichotomy. End user development (EUD) addresses these issues by offering lightweight, use-time support which allows users to configure, adapt, and evolve their software by themselves. EUD is understood as a set of methods, techniques, and tools that allow users of software systems who are acting as non-professional software developers to 1 create, modify, or extend a software artifact. While programming activities by non-professional actors are an essential focus, EUD also investigates related activities such as collective understanding and sense-making of use problems and solutions, the interaction among end users with regard to the introduction and diffusion of new configurations, or delegation patterns that may also partly involve professional designers.

Designing Embedded Hardware John Catsoulis 2002 Intelligent readers who want to build their own embedded computer systems-- installed in everything from cell phones to cars to handheld organizers to refrigerators-- will find this book to be the most in-depth, practical, and up-to-date guide on the market. Designing Embedded Hardware carefully steers between the practical and philosophical aspects, so developers can both create their own devices and gadgets and customize and extend off-the-shelf systems. There are hundreds of books to choose from if you need to learn programming, but only a few are available if you want to learn to create hardware. Designing Embedded Hardware provides software and hardware engineers with no prior experience in embedded systems with the necessary conceptual and design building blocks to understand the architectures of embedded systems. Written to provide the depth of coverage and real-world examples developers need, Designing Embedded Hardware also provides a road-map to the pitfalls and traps to avoid in designing embedded systems. Designing Embedded Hardware covers such essential topics as: The principles of developing computer hardware Core hardware designs Assembly language concepts Parallel I/O Analog-digital conversion Timers (internal and external) UART Serial Peripheral Interface Inter-Integrated Circuit Bus Controller Area Network (CAN) Data Converter Interface (DCI) Low-power operation This invaluable and eminently useful book gives you the practical tools and skills to develop, build, and program your own application-specific computers.

Computer Music Instruments Victor Lazzarini 2017-09-26 This book is divided into three elements. Part I provides a broad introduction to the foundations of computer music instruments, covering some key points in digital signal processing, with rigorous but approachable mathematics, and programming examples, as well as an overview of development environments for computer instruments. In Part II, the author presents synthesis and processing, with chapters on source-filter models, summation formulae, feedback and adaptive systems, granular methods, and frequency-domain techniques. In Part III he explains application development approaches, in particular communication protocols and user interfaces, and computer music platforms. All elements are fully illustrated with programming examples using Csound, Python, and Faust. The book is suitable for advanced undergraduate and postgraduate students in music and signal processing, and for practitioners and researchers.

Designing Web Navigation James Kalbach 2007-08-28 Thoroughly rewritten for today's web environment, this bestselling book offers a fresh look at a fundamental topic of web site development: navigation design. Amid all the changes to the Web in the past decade, and all the hype about Web 2.0 and various "rich" interactive technologies, the basic problems of creating a good web navigation system remain. Designing Web Navigation demonstrates that good navigation is not about technology-it's about the ways people find information, and how you guide them. Ideal for beginning to intermediate web designers, managers, other non-designers, and web development pros looking for another perspective, Designing Web Navigation offers basic design principles, development techniques and practical advice, with real-world examples and essential concepts seamlessly folded in. How does your web site serve your business objectives? How does it meet a user's needs? You'll learn that navigation design touches most other aspects of web site development. This book: Provides the foundations of web navigation and offers a framework for navigation design Paints a broad picture of web navigation and basic human information behavior Demonstrates how navigation reflects brand and affects site credibility Helps you understand the problem you're trying to solve before you set out to design Thoroughly reviews the mechanisms and different types of navigation Explores "information scent" and "information shape" Explains "persuasive" architecture and other design concepts Covers special contexts, such as navigation design for web applications Includes an entire chapter on tagging While Designing Web Navigation focuses on creating navigation systems for large, information-rich sites serving a business purpose, the principles and techniques in the book also apply to small sites. Well researched and cited, this book serves as an excellent reference on the topic, as well as a superb teaching guide. Each chapter ends with suggested reading and a set of questions that offer exercises for experiencing the concepts in action.

Entertainment Computing - ICEC 2011 Junia Anacleto 2011-11-17 This book constitutes the refereed proceedings of the 10th International Conference on Entertainment Computing, ICEC 2011, held in Vancouver, Canada, in October 2011, under the auspices of IFIP. The 20 revised long papers, 18 short papers and 24 poster papers and demos presented were carefully reviewed and selected from 94 initial submissions. The papers cover all main domains of entertainment computing, from interactive music to games, taking a wide range of scientific domains from aesthetic to computer science. The papers are organized in topical sections on story, active games, player experience, camera and 3D, educational entertainment, game development, self and identity, social and mobile entertainment; plus the four categories: demonstrations, posters, workshop, and tutorial.

Coding Art Yu Zhang 2021-01-07 Finally, a book on creative programming, written directly for artists and designers! Rather than following a computer science curriculum, this book is aimed at creatives who are working in the intersection of design, art, and education. In this book you'll learn to apply computation into the creative process by following a four-step process, and through this, land in the cross section of coding and art, with a focus on practical examples and relevant work structures. You'll follow a real-world use case of computation art and see how it relates back to the four key pillars, and addresses potential pitfalls and challenges in the creative process. All code examples are presented in a fully integrated Processing example library, making it easy for readers to get started. This unique and finely balanced approach between skill acquisition and the creative process and development makes Coding Art a functional reference book for both creative programming and the creative process for professors and students alike. What You'll Learn Review ideas and approaches from creative programming to different professional domains Work with computational tools like the Processing language Understand the skills needed to move from static elements to animation to interaction Use interactivity as input to bring creative concepts closer to refinement and depth Simplify and extend the design of aesthetics, rhythms, and smoothness with data structures Leverage the diversity of art code on other platforms like the web or mobile applications Understand the end-to-end process of computation art through real world use cases Study best practices, common pitfalls, and challenges of the creative process Who This Book Is For Those looking to see what computation and data can do for their creative expression; learners who want to integrate computation and data into their practices in different perspectives; and those who already know how to program, seeking creativity and inspiration in the context of computation and data.

Entertainment Computing - ICEC 2012 Marc Herrlich 2012-08-30 This book constitutes the refereed proceedings of the 11th International Conference on Entertainment Computing, ICEC 2012, held in Bremen, Germany, in September 2012. The 21 full papers, 13 short papers, 16 posters, 8 demos, 4 workshops, 1 tutorial and 3 doctoral consortium submissions presented were carefully reviewed and selected from 115 submissions. The papers are organized in topical sections on story telling; serious games (learning and training); self and identity, interactive performance; mixed reality and 3D worlds; serious games (health and social); player experience; tools and methods; user interface; demonstrations; industry demonstration; harnessing collective intelligence with games; game development and model-driven software development; mobile gaming, mobile life - interweaving the virtual and the real; exploring the challenges of ethics, privacy and trust in serious gaming; open source software for entertainment.

Innovation in Music Russ Hepworth-Sawyer 2019-06-25 Innovation in Music: Performance, Production,

Technology and Business is an exciting collection comprising of cutting-edge articles on a range of topics, presented under the main themes of artistry, technology, production and industry. Each chapter is written by a leader in the field and contains insights and discoveries not yet shared. Innovation in Music covers new developments in standard practice of sound design, engineering and acoustics. It also reaches into areas of innovation, both in technology and business practice, even into cross-discipline areas. This book is the perfect companion for professionals and researchers alike with an interest in the Music industry. Chapter 31 of this book is freely available as a downloadable Open Access PDF under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license.

https://tandfbis.s3-us-west-2.amazonaws.com/rt-files/docs/Open+Access+Chapters/9781138498211_oachapter31.pdf

Ubiquitous Music Ecologies Victor Lazzarini 2020-11-27 Ubiquitous music is an interdisciplinary area of research that lies at the intersection of music and computer science. Initially evolving from the related concept of ubiquitous computing, today ubiquitous music offers a paradigm for understanding how the everyday presence of computers has led to highly diverse music practices. As we move from desktop computers to mobile and internet-based multi-platform systems, new ways to participate in creative musical activities have radically changed the cultural and social landscape of music composition and performance. This volume explores how these new systems interact and how they may transform our musical experiences. Emerging out of the work of the Ubiquitous Music Group, an international research network established in 2007, this volume provides a snapshot of the ecologically grounded perspectives on ubiquitous music that share the concept of ecosystem as a central theme. Covering theory, software and hardware design, and applications in educational and artistic settings, each chapter features in-depth descriptions of exploratory and cutting-edge creative practices that expand our understanding of music making by means of digital and analogue technologies.

Encyclopedia of Video Games: The Culture, Technology, and Art of Gaming, 2nd Edition [3 volumes] Mark J. P. Wolf 2021-05-24 Now in its second edition, the Encyclopedia of Video Games: The Culture, Technology, and Art of Gaming is the definitive, go-to resource for anyone interested in the diverse and expanding video game industry. This three-volume encyclopedia covers all things video games, including the games themselves, the companies that make them, and the people who play them. Written by scholars who are exceptionally knowledgeable in the field of video game studies, it notes genres, institutions, important concepts, theoretical concerns, and more and is the most comprehensive encyclopedia of video games of its kind, covering video games throughout all periods of their existence and geographically around the world. This is the second edition of Encyclopedia of Video Games: The Culture, Technology, and Art of Gaming, originally published in 2012. All of the entries have been revised to accommodate changes in the industry, and an additional volume has been added to address the recent developments, advances, and changes that have occurred in this ever-evolving field. This set is a vital resource for scholars and video game aficionados alike. Explores games, people, events, and ideas that are influential in the industry, rather than simply discussing the history of video games Offers a detailed understanding of the variety of video games that have been created over the years Includes contributions from some of the most important scholars of video games Suggests areas of further exploration for students of video games

Refactoring Martin Fowler 1999 Users can dramatically improve the design, performance, and manageability of object-oriented code without altering its interfaces or behavior. "Refactoring" shows users exactly how to spot the best opportunities for refactoring and exactly how to do it, step by step.

ICT Education Salah Kabanda 2018-12-31 This book constitutes the refereed proceedings of the 47th Annual Conference of the Southern African Computer Lecturers' Association on ICT Education, SACLA 2018, held in Gordon's Bay, South Africa, in June 2018. The 23 revised full papers presented together with an extended abstract of a keynote paper were carefully reviewed and selected from 79 submissions. The papers are organized in topical sections: playfulness, media and classrooms, academia and careers, teaching programming, adaptation and learning, teamwork and projects, learning systems, topic teaching.

Processing Ira Greenberg 2007-12-31 First Processing book on the market Processing is a nascent technology rapidly increasing in popularity Links with the creators of Processing will help sell the book

openFrameworks Essentials Denis Perevalov 2015-04-23 If you are a programmer, visual artist, or designer with experience in creative coding, and want to use openFrameworks to create fun, stunning, and interactive applications, this is the book for you. Basic knowledge of programming languages, such as C++, Java, Python, or JavaScript, will be enough to proceed with the book.

Learning JavaScript Design Patterns Addy Osmani 2012-07-08 With Learning JavaScript Design Patterns, you'll learn how to write beautiful, structured, and maintainable JavaScript by applying classical and modern design patterns to the language. If you want to keep your code efficient, more manageable, and up-to-date with the latest best practices, this book is for you. Explore many popular design patterns, including Modules, Observers, Facades, and Mediators. Learn how modern architectural patterns—such as MVC, MVP, and MVVM—are useful from the perspective of a modern web application developer. This book also walks experienced JavaScript developers through modern module formats, how to namespace code effectively, and other essential topics. Learn the structure of design patterns and how they are written Understand different pattern categories, including creational, structural, and behavioral Walk through more than 20 classical and modern design patterns in JavaScript Use several options for writing modular code—including the Module pattern, Asynchronous Module Definition (AMD), and CommonJS Discover design patterns implemented in the jQuery library Learn popular design patterns for writing maintainable jQuery plug-ins "This book should be in every JavaScript developer's hands. It's the go-to book on JavaScript patterns that will be read and referenced many times in the future."—Andrée Hansson, Lead Front-End Developer, presis!

Game Programming Patterns Robert Nystrom 2014-11-03 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 Interactivity Joshua Noble 2012-01-12 Ready to create rich interactive experiences with your artwork, designs, or prototypes? This is the ideal place to start. With this hands-on guide, you'll explore several themes in interactive art and design—including 3D graphics, sound, physical interaction, computer vision, and geolocation—and learn the basic programming and electronics concepts you need to implement them. No previous experience is necessary. You'll get a complete introduction to three free tools created specifically for artists and designers: the Processing programming language, the Arduino microcontroller, and the openFrameworks toolkit. You'll also find working code samples you can use right away, along with the background and technical information you need to design, program, and build your own projects. Learn cutting-edge techniques for interaction design from leading artists and designers Let users provide input through buttons, dials, and other physical controls Produce graphics and animation, including 3D images with OpenGL Use sounds to interact with users by providing feedback, input, or an element they can control Work with motors, servos, and appliances to provide physical feedback Turn a user's gestures and movements into meaningful input, using Open CV

Code as Creative Medium Golan Levin 2021-02-02 An essential guide for teaching and learning computational art and design: exercises, assignments, interviews, and more than 170 illustrations of creative work. This book is an essential resource for art educators and practitioners who want to explore code as a creative medium, and serves as a guide for computer scientists transitioning from STEM to STEAM in their syllabi or practice. It provides a collection of classic creative coding prompts and assignments, accompanied by annotated examples of both classic and contemporary projects, and more than 170 illustrations of creative work, and features a set of interviews with leading educators. Picking up where standard programming guides leave off, the authors highlight alternative programming pedagogies suitable for the art- and design-oriented classroom, including teaching approaches, resources, and community support structures.

Public Space and Relational Perspectives Chiara Tornaghi 2014-12-05 Traditional approaches to understand space tend to view public space mainly as a shell or container, focussing on its morphological structures and functional uses. That way, its ever-changing meanings, contested or challenged uses have been largely ignored, as well as the contextual and on-going dynamics between social actors, their cultures, and struggles. The key role of space in enabling spatial opportunities for social action, the fluidity of its social meaning and the changing degree of "publicness" of a space remain unexplored fields of academic inquiry and professional practice. Public Space and Relational Perspectives offers a different understanding of public spaces in the city. The aim of the book is to (re)introduce the lived experiences in public life into the teaching curricula of those academic disciplines which deal with public space and the built environment, such as architecture, planning and urban design, as well as the social sciences. The book presents conceptual,

practical and research challenges and brings together findings from activists, practitioners and theorists. The editors provide eight educational challenges that educators can endorse when training future practitioners and researchers to accept and to engage with the social relations that unfold in and through public space. Cover image: KARO*

Programming Interactivity Joshua Noble 2009-07-21 Make cool stuff. If you're a designer or artist without a lot of programming experience, this book will teach you to work with 2D and 3D graphics, sound, physical interaction, and electronic circuitry to create all sorts of interesting and compelling experiences -- online and off. Programming Interactivity explains programming and electrical engineering basics, and introduces three freely available tools created specifically for artists and designers: Processing, a Java-based programming language and environment for building projects on the desktop, Web, or mobile phones Arduino, a system that integrates a microcomputer prototyping board, IDE, and programming language for creating your own hardware and controls OpenFrameworks, a coding framework simplified for designers and artists, using the powerful C++ programming language BTW, you don't have to wait until you finish the book to actually make something. You'll get working code samples you can use right away, along with the background and technical information you need to design, program, build, and troubleshoot your own projects. The cutting

edge design techniques and discussions with leading artists and designers will give you the tools and inspiration to let your imagination take flight.

Rules of Play Katie Salen Tekinbas 2003-09-25 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.