

Learning Three Js The Javascript 3d Library For WebGL Second Edition

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Open-Source ESBs in Action - Tijs Rademakers
2008-08-31
Most modern business systems include independent applications that exchange information with each other-a technique

usually called enterprise integration. An architectural approach called the Enterprise Service Bus (ESB) offers developers a way to handle the messages between those independent a

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without creating a lot of custom code. While commercial ESB solutions can be quite expensive to implement and maintain, a set of high-quality open source ESB tools offer the same functionality at a substantially lower cost. Open Source ESBs in Action shows you how to implement and use two open source ESB implementations: Mule and ServiceMix. The authors introduce you to these freely-available ESB tools and present practical examples of how to use them in real-world scenarios. You will learn how the various features of an ESB such as transformation, routing, security, connectivity and more can be implemented using Mule and ServiceMix. You will also learn how to solve common enterprise integration problems using a structured approach. Beyond simply learning how Mule and Service Mix work, you'll learn the core techniques of ESB implementation such as

Process Choreography, or the implementation of complex business processes through an ESB, and Service Orchestration, or exposing a set of services as a single service. The book shows you the fundamentals of ESB-based event processing and Quality of Service concerns like security, reliable delivery, and transaction management. Working in integration projects is exciting, with new technologies and paradigms arriving every day. Open Source technologies like Mule and ServiceMix both offer lower-cost solutions and a higher degree of innovation than commercial ESB implementations. Open Source ESBs in Action will help you master ESB-driven integration techniques quickly and will provide you with knowledge you need to work effectively with Mule and ServiceMix. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from

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Manning. Also available is all code from the book.

Learning Three.js - the JavaScript 3D Library for WebGL - Second Edition

- Jos Dirksen
2015-03-31

If you know JavaScript and want to start creating 3D graphics that run in any browser, this book is a great choice for you. You don't need to know anything about math or WebGL; all that you need is general knowledge of JavaScript and HTML.

Learn ARCore - Fundamentals of Google ARCore

- Micheal Lanham
2018-03-30

Create next-generation Augmented Reality and Mixed Reality apps with the latest version of Google ARCore Key Features Harness the power of the Google's new augmented reality (AR) platform ARCore to build cutting-edge Augmented reality apps Learn core concepts of Environmental Understanding, Immersive Computing, and Motion Tracking with ARCore Extend your application

by combining ARCore with OpenGL, Machine Learning and more. Book

Description Are you a mobile developer or web developer who wants to create immersive and cool Augmented Reality apps with the latest Google ARCore platform? If so, this book will help you jump right into developing with ARCore and will help you create a step by step AR app easily. This book will teach you how to implement the core features of ARCore starting from the fundamentals of 3D rendering to more advanced concepts such as lighting, shaders, Machine Learning, and others. We'll begin with the basics of building a project on three platforms: web, Android, and Unity. Next, we'll go through the ARCore concepts of motion tracking, environmental understanding, and light estimation. For each core concept, you'll work on a practical project to use and extend the ARCore feature, from learning

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the basics of 3D rendering and lighting to exploring more advanced concepts. You'll write custom shaders to light virtual objects in AR, then build a neural network to recognize the environment and explore even grander applications by using ARCore in mixed reality. At the end of the book, you'll see how to implement motion tracking and environment learning, create animations and sounds, generate virtual characters, and simulate them on your screen. What you will learn Build and deploy your Augmented Reality app to the Android, Web, and Unity platforms Implement ARCore to identify and visualize objects as point clouds, planes, surfaces, and/or meshes Explore advanced concepts of environmental understanding using Google ARCore and OpenGL ES with Java Create light levels from ARCore and create a C# script to watch and propagate

lighting changes in a scene Develop graphics shaders that react to changes in lighting and map the environment to place objects in Unity/C# Integrate motion tracking with the Web ARCore API and Google Street View to create a combined AR/VR experience Who this book is for This book is for web and mobile developers who have broad programming knowledge on Java or JavaScript or C# and want to develop Augmented Reality applications with Google ARCore. To follow this book no prior experience with AR development, 3D, or 3D math experience is needed.

WebGL Programming Guide

- Kouichi Matsuda

2013-07-04

Using WebGL®, you can create sophisticated interactive 3D graphics inside web browsers, without plug-ins. WebGL makes it possible to build a new generation of 3D web games, user interfaces, and information visualization solutions

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that will run on any standard web browser, and on PCs, smartphones, tablets, game consoles, or other devices. WebGL Programming Guide will help you get started quickly with interactive WebGL 3D programming, even if you have no prior knowledge of HTML5, JavaScript, 3D graphics, mathematics, or OpenGL. You'll learn step-by-step, through realistic examples, building your skills as you move from simple to complex solutions for building visually appealing web pages and 3D applications with WebGL. Media, 3D graphics, and WebGL pioneers Dr. Kouichi Matsuda and Dr. Rodger Lea offer easy-to-understand tutorials on key aspects of WebGL, plus 100 downloadable sample programs, each demonstrating a specific WebGL topic. You'll move from basic techniques such as rendering, animating, and texturing triangles, all the way to advanced techniques such as fogging, shadowing, shader

switching, and displaying 3D models generated by Blender or other authoring tools. This book won't just teach you WebGL best practices, it will give you a library of code to jumpstart your own projects. Coverage includes:

- WebGL's origin, core concepts, features, advantages, and integration with other web standards
- How and basic WebGL functions work together to deliver 3D graphics
- Shader development with OpenGL ES Shading Language (GLSL ES)
- 3D scene drawing: representing user views, controlling space volume, clipping, object creation, and perspective
- Achieving greater realism through lighting and hierarchical objects
- Advanced techniques: object manipulation, heads-up displays, alpha blending, shader switching, and more
- Valuable reference appendixes covering key issues ranging from coordinate systems to matrices and shader

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loading to web browser settings This is the newest text in the OpenGL Technical Library, Addison-Wesley's definitive collection of programming guides and reference manuals for OpenGL and its related technologies. The Library enables programmers to gain a practical understanding of OpenGL and the other Khronos application-programming libraries including OpenGL ES and OpenCL. All of the technologies in the OpenGL Technical Library evolve under the auspices of the Khronos Group, the industry consortium guiding the evolution of modern, open-standards media APIs.

The Visualization Toolkit - Will Schroeder 1998

This Java-built "Visualization Toolkit (VTK)" will enable readers to represent any set of data--medical, scientific, or financial--in 3D. Users will learn to build 3D Java applets with the

VTK software on the CD-ROM. The book covers Web applications like VRML, Java, and Java3D. *Beginning WebGL for HTML5* - Brian Danchilla 2012-10-10

Beginning WebGL for HTML5 gets you rapidly up to speed with WebGL, a powerful new graphics language within the browser. You'll render realistic scenes with advanced lighting models, shadows, blending and textures. You'll also use mathematics to model fractals and particle systems. Going beyond that, *Beginning WebGL for HTML5* presents advanced vertex and fragment shader usage for creating stunning, top-end results. You'll benefit from using modern frameworks to rapidly develop complex scenes, and make use of many tools to help improve rendering performance and debugging. *Beginning WebGL for HTML5* builds your critical WebGL development skills while being enjoyable at each step of the way. Quickly

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get up to speed with WebGL Render realistic scenes Work faster with frameworks Improve rendering performance *Using SVG with CSS3 and HTML5* - Amelia Bellamy-Royds 2017-10-17 Using Scalable Vector Graphics (SVG) for illustrations only scratches the surface of this format's potential on the web. With this practical guide, you'll learn how to use SVG not only for illustrations but also as graphical documents that you can integrate into complex HTML5 web pages, and style with custom CSS. Web developers will discover ways to adapt designs by adding data based graphics, dynamic styles, interaction, or animation. Divided into five parts, this book includes: SVG on the web: Understand how SVG works with HTML, CSS, and JavaScript to define graphics Drawing with markup: Learn the vector language of x and y coordinates that let SVG create basic and custom shapes Putting graphics in their place: Use the

coordinate system to draw SVG shapes and text at different scales and positions Artistic touches: Explore how color is used, how strokes are created and manipulated, and how graphical effects like filters, clipping, and masking are applied SVG as an application: Make your graphic more accessible to humans and computers, and learn how to make it interactive or animated

Learning Web-based Virtual Reality -

Srushtika Neelakantam 2017-03-02

Create web-based VR applications and deploy them to GitHub pages with this short, practical tutorial crammed with hands-on examples. This book covers topics such as VR, the WebVR API, and A-Frame. In Learning Web-based Virtual Reality, you will build a number of 3D VR-based applications. In these apps, you will be able to test the VR environments, walk through the virtual world, interact with the

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objects, and perceive these virtual realities with the help of Google Cardboard. By the end of the book, you will have a complete understanding of what WebVR is, knowledge of what VR devices are available, and the requirements to start working on WebVR. You will also be comfortable in using A-Frame and its various components to build your own VR projects. What You Will Learn

Experience WebVR, the WebVR API, and WebVR libraries Make use of various pieces of VR hardware See popular WebVR projects Use A-Frame to build your own WebVR projects Who This Book Is For Developers who want to build and deploy web-based virtual reality technology. Understanding of HTML5, JavaScript, and CSS is required.

Learning Three.js: The JavaScript 3D Library for WebGL - Jos Dirksen
2013-10-17

"Learning Three.js is a hands-on guide which provides everything you need to start working

with the powerful JavaScript library, and start creating awesome in-browser visualizations". Learning Three.js is written for anyone looking to get started with Three.js, or looking to improve their skills with the popular js library. The book assumes some knowledge of javascript, but you don't need any knowledge of Three.js itself to follow the book.

Introduction to Computer Graphics - Frank Klawonn
2012-01-18

This book is an essential tool for second-year undergraduate students and above, providing clear and concise explanations of the basic concepts of computer graphics, and enabling the reader to immediately implement these concepts in Java 2D and/or 3D with only elementary knowledge of the programming language. Features: provides an ideal, self-contained introduction to computer graphics, with theory and practice

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presented in integrated combination; presents a practical guide to basic computer graphics programming using Java 2D and 3D; includes new and expanded content on the integration of text in 3D, particle systems, billboard behaviours, dynamic surfaces, the concept of level of detail, and the use of functions of two variables for surface modelling; contains many pedagogical tools, including numerous easy-to-understand example programs and end-of-chapter exercises; supplies useful supplementary material, including additional exercises, solutions, and program examples, at an associated website. *Eloquent JavaScript, 3rd Edition* - Marijn Haverbeke 2018-12-04 Completely revised and updated, this best-selling introduction to programming in JavaScript focuses on writing real applications. JavaScript lies at the heart of almost every modern web application, from social

apps like Twitter to browser-based game frameworks like Phaser and Babylon. Though simple for beginners to pick up and play with, JavaScript is a flexible, complex language that you can use to build full-scale applications. This much anticipated and thoroughly revised third edition of Eloquent JavaScript dives deep into the JavaScript language to show you how to write beautiful, effective code. It has been updated to reflect the current state of JavaScript and web browsers and includes brand-new material on features like class notation, arrow functions, iterators, async functions, template strings, and block scope. A host of new exercises have also been added to test your skills and keep you on track. As with previous editions, Haverbeke continues to teach through extensive examples and immerses you in code from the start, while

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and full-chapter projects give you hands-on experience with writing your own programs. You start by learning the basic structure of the JavaScript language as well as control structures, functions, and data structures to help you write basic programs. Then you'll learn about error handling and bug fixing, modularity, and asynchronous programming before moving on to web browsers and how JavaScript is used to program them. As you build projects such as an artificial life simulation, a simple programming language, and a paint program, you'll learn how to: - Understand the essential elements of programming, including syntax, control, and data - Organize and clarify your code with object-oriented and functional programming techniques - Script the browser and make basic web applications - Use the DOM effectively to interact with browsers -

Harness Node.js to build servers and utilities Isn't it time you became fluent in the language of the Web? * All source code is available online in an interactive sandbox, where you can edit the code, run it, and see its output instantly.

JavaScript Cookbook - Shelley Powers 2010-07-07

Why reinvent the wheel every time you run into a problem with JavaScript? This cookbook is chock-full of code recipes that address common programming tasks, as well as techniques for building web apps that work in any browser. Just copy and paste the code samples into your project—you'll get the job done faster and learn more about JavaScript in the process. You'll also learn how to take advantage of the latest features in ECMAScript 5 and HTML5, including the new cross-domain widget communication technique, HTML5's video and audio elements, and the

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drawing canvas. You'll find recipes for using these features with JavaScript to build high-quality application interfaces. Create interactive web and desktop applications Work with JavaScript objects, such as String, Array, Number, and Math Use JavaScript with Scalable Vector Graphics (SVG) and the canvas element Store data in various ways, from the simple to the complex Program the new HTML5 audio and video elements Implement concurrent programming with Web Workers Use and create jQuery plug-ins Use ARIA and JavaScript to create fully accessible rich internet applications Learn Pixi.js - Rex van der Spuy 2015-10-27 Create and display interactive graphics, build scenes and animated transitions, make cross-platform, responsive games and applications for multiple screen resolutions, and use Pixi.js's spectacular WebGL rendering effects. Learn how to create

applications for desktop and touch-screen devices, and how to use the best open-source plugins to extend Pixi.js's capabilities in a myriad of exciting ways. If you've ever wondered what you need to know to start making games, or what technology you need to build high-performance mobile apps, this book will show you the way. Learn Pixi.js is your one-stop shop for everything you need to know to quickly start making spectacular cross-platform interactive games and animations. Take a step-by-step tour of Pixi.js's features by building fun game projects. Learn how to use Pixi.js to make richly interactive graphics and all kind of cross-platform applications. Learn Pixi.js is a fun and practical brief introduction to using the powerful Pixi.js graphics-rendering engine for making websites, games and mobile apps. **Downloaded from**

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Expert Data

Visualization - Jos

Dirksen 2017-04-24

Breathe life into your data by learning how to use D3.js V4 to visualize information About This Book Create complex visualizations powered by D3.js and open data. Provides an extensive set of visualizations that explore all the functionality provided by D3.js V4. Shows how to set up an easy-to-use environment to create stunning visualizations. Who This Book Is For The typical target audience of this book is JavaScript developers, designers, and visual artists who have some basic JavaScript programming knowledge and who now want to master pro-level techniques to create interactive data visualizations using web standards which work on desktop as well as mobile devices. What You Will Learn Learn how D3.js works to declaratively define visualizations. Create charts from scratch by

using SVG and the D3.js APIs See how to prepare data for easy visualization using D3.js. Visualize hierarchical data using chart types provided by D3.js Explore the different options provided by D3.js to visualize linked data such as graphs. Spice up your visualizations by adding interactivity and animations. Learn how to use D3.js to visualize and interact with Geo- and Gis-related information sources. Create visualization by streaming data over WebSockets In Detail Do you want to make sense of your data? Do you want to create interactive charts, data trees, info-graphics, geospatial charts, and maps efficiently? This book is your ideal choice to master interactive data visualization with D3.js V4. The book includes a number of extensive examples that to help you hone your skills with data visualization. Throughout nine chapters these examples will help

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you acquire a clear practical understanding of the various techniques, tools and functionality provided by D3.js. You will first setup your D3.JS development environment and learn the basic patterns needed to visualize your data. After that you will learn techniques to optimize different processes such as working with selections; animating data transitions; creating graphs and charts, integrating external resources (static as well as streaming); visualizing information on maps; working with colors and scales; utilizing the different D3.js APIs; and much more. The book will also guide you through creating custom graphs and visualizations, and show you how to go from the raw data to beautiful visualizations. The extensive examples will include working with complex and realtime data streams, such as seismic data, geospatial

data, scientific data, and more. Towards the end of the book, you will learn to add more functionality on top of D3.js by using it with other external libraries and integrating it with EcmaScript 6 and Typescript Style and approach This book will have a real-world, case-study approach, where you will be given data sets from different domains. These data sets will have different visualization goals; some might need 2D or 3D charts, some might need automated workflows, others might require interactive maps. While you fulfill these goals, you will learn different techniques and best practices, which will enable you to perform data visualization tasks on your own

Real-Time 3D Graphics with WebGL 2 - Farhad Ghayour 2018-10-31

A comprehensive guide with 80+ examples on 3D programming in WebGL 2, covering computer graphics topics such as rendering, 3D math, camera, and more. Key

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Features Create visually stunning, high-performance 3D applications for the web with WebGL 2 A complete course on 3D computer graphics: rendering, 3D math, lighting, cameras, and more Unlock a variety of new and advanced features offered in WebGL 2 Book Description As highly interactive applications have become an increasingly important part of the user experience, WebGL is a unique and cutting-edge technology that brings hardware-accelerated 3D graphics to the web. Packed with 80+ examples, this book guides readers through the landscape of real-time computer graphics using WebGL 2. Each chapter covers foundational concepts in 3D graphics programming with various implementations. Topics are always associated with exercises for a hands-on approach to learning. This book presents a clear roadmap to learning real-time 3D computer graphics with

WebGL 2. Each chapter starts with a summary of the learning goals for the chapter, followed by a detailed description of each topic. The book offers example-rich, up-to-date introductions to a wide range of essential 3D computer graphics topics, including rendering, colors, textures, transformations, framebuffers, lights, surfaces, blending, geometry construction, advanced techniques, and more. With each chapter, you will "level up" your 3D graphics programming skills. This book will become your trustworthy companion in developing highly interactive 3D web applications with WebGL and JavaScript. What you will learn Understand the rendering pipeline provided in WebGL Build and render 3D objects with WebGL Develop lights using shaders, 3D math, and the physics of light reflection Create a camera and use it to navigate a 3D scene Use texturing, lighting, and shading techniques to

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render realistic 3D scenes Implement object selection and interaction in a 3D scene Cover advanced techniques for creating immersive and compelling scenes Learn new and advanced features offered in WebGL 2 Who this book is for This book is intended for developers who are interested in building highly interactive 3D applications for the web. A basic understanding of JavaScript is necessary; no prior computer graphics or WebGL knowledge is required.

Real-Time Rendering -

Tomas Akenine-Möller

2019-01-18

Thoroughly revised, this third 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 other applications. It also presents a solid theoretical framework and relevant mathematics for the field of interactive computer graphics, all in an approachable style. The authors have made the figures used in the book available for download for fair use.:Download Figures. Reviews Rendering has been a required reference for professional graphics practitioners for nearly a decade. This latest edition is as relevant as ever, covering topics from essential mathematical foundations to advanced techniques used by today's cutting edge games. -- Gabe Newell, President, Valve, May 2008 Rendering ... has been completely revised and revamped for its updated third edition, which focuses on modern techniques used to generate three-dimensional images in a fraction of the time old processes took. From practical rendering for games to math and

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details for better interactive applications, it's not to be missed. -- The Bookwatch, November 2008 You'll get brilliantly lucid explanations of concepts like vertex morphing and variance shadow mapping—as well as a new respect for the incredible craftsmanship that goes into today's PC games. -- Logan Decker, PC Gamer Magazine , February 2009

Moodle 3.x Developer's Guide - Ian Wild

2017-06-29

Effortlessly ensure your application's code quality from day 1 About This Book Customize your Moodle 3.x app. Leverage the new features of Moodle 3.x by diving deep into the Moodle development eco-system. Cater to heavy user traffic, customize learning requirements and create custom third party plugins. Who This Book Is For This book is for Moodle developers who are familiar with the basic Moodle functionality and have an understanding of the types of scenarios in

which the Moodle platform can be usefully employed. You must have medium-level PHP programming knowledge. You should be familiar with HTML and XML protocols. You do not need to have prior knowledge of Moodle-specific terminology What You Will Learn Work with the different types of custom modules that can be written for Moodle 3.x Understand how to author custom modules so they conform to the agreed Moodle 3.x development guidelines Get familiar with the Moodle 3.x architecture—its internal and external APIs Customize Moodle 3.x so it can integrate seamlessly with third-party applications of any kind Build a new course format to specify the layout of a course Implement third-party graphics libraries in your plugins Build plugins that can be themed easily Provide custom APIs that will provide the means to automate Moodle 3 in real time In Detail The

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new and revamped Moodle is the top choice for developers to create cutting edge e-learning apps that cater to different user's segments and are visually appealing as well. This book explains how the Moodle 3.x platform provides a framework that allows developers to create a customized e-learning solution. It begins with an exploration of the different types of plugin.. We then continue with an investigation of creating new courses. You will create a custom plugin that pulls in resources from a third-party repository. Then you'll learn how users can be assigned to courses and granted the necessary permissions. Furthermore, you will develop a custom user home. At the end of the book, we'll discuss the Web Services API to fully automate Moodle 3.x in real time. Style and approach This book takes a step-by-step practical approach with every step explained in

great detail using practical examples. You will create custom plugins from scratch with the examples shown and create new modules as well as extensions with the examples presented.

WebGL Insights - Patrick Cozzi 2015-08-06

Given its ubiquity, plugin-free deployment, and ease of development, the adoption of WebGL is on the rise. Skilled WebGL developers provide organizations with the ability to develop and implement efficient and robust solutions-creating a growing demand for skilled WebGL developers. WebGL Insights shares experience-backed lessons learned by the WebGL

Programming 3D

Applications with HTML5 and WebGL - Tony Parisi 2014-02-13

Create high-performance, visually stunning 3D applications for the Web, using HTML5 and related technologies such as CSS3 and WebGL-the emerging web graphics standard. With

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this book, you'll learn how to use the tools, frameworks, and libraries for building 3D models and animations, mind-blowing visual effects, and advanced user interaction in both desktop and mobile browsers. In two parts—Foundations and Application Development Techniques—author Tony Parisi provides a thorough grounding in theory and practice for designing everything from a simple 3D product viewer to immersive games and interactive training systems. Ideal for developers with Javascript and HTML experience. Explore HTML5 APIs and related technologies for creating 3D web graphics, including WebGL, Canvas, and CSS Work with the popular JavaScript 3D rendering and animation libraries Three.js and Tween.js Delve into the 3D content creation pipeline, and the modeling and animation tools for creating killer 3D content Look

into several game engines and frameworks for building 3D applications, including the author's Vizi framework Create 3D environments with multiple objects and complex interaction, using examples and supporting code Examine the issues involved in building WebGL-based 3D applications for mobile browsers

Programming the Mobile

Web - Maximiliano Firtman 2010-07-23 Today's market for mobile apps goes beyond the iPhone to include BlackBerry, Nokia, Windows Phone, and smartphones powered by Android, webOS, and other platforms. If you're an experienced web developer, this book shows you how to build a standard app core that you can extend to work with specific devices. You'll learn the particulars and pitfalls of building mobile apps with HTML, CSS, and other standard web tools. You'll also explore platform variations, f

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mobile browsers, Ajax design patterns for mobile, and much more. Before you know it, you'll be able to create mashups using Web 2.0 APIs in apps for the App Store, App World, OVI Store, Android Market, and other online retailers. Learn how to use your existing web skills to move into mobile development Discover key differences in mobile app design and navigation, including touch devices Use HTML, CSS, JavaScript, and Ajax to create effective user interfaces in the mobile environment Learn about technologies such as HTML5, XHTML MP, and WebKit extensions Understand variations of platforms such as Symbian, BlackBerry, webOS, Bada, Android, and iOS for iPhone and iPad Bypass the browser to create offline apps and widgets using web technologies

AR and VR Using the WebXR API - Rakesh

Baruah 2020-12-01

Gain an in-depth knowledge in immersive web development to

create augmented reality (AR) and virtual reality (VR) applications inside web browsers using WebXR API, WebGL, Three.js, and A-Frame. This project-based book will provide the practice and portfolio content to make the most of what the futures of spatial computing and immersive technology have to offer. Beginning with technical analysis of how web browsers function, the book covers programming languages such as WebGL, JavaScript, and HTML, with an eye on a complete understanding of the WebXR lifecycle. You'll then explore how contemporary web browsers work at the code level and see how to set up a local development server and use it with the Visual Studio Code IDE to create 3D animation in the WebGL programming language. With a familiarity of the web-rendering pipeline in place, you'll venture on to WebGL abstractions such as the Three.js JavaScript library and

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Mozilla's A-Frame XR Framework, which use WebXR to create high-end visual effects. In the final projects of the book, you'll create an augmented reality web session for an Android phone device, and create a VR scene in A-Frame (built on Three.js) to demo essential components of the WebXR API pertaining to user positioning and interaction. Game engines have become common-place for the creation of mixed reality content. However, developers not interested in learning entirely new workflows may be better suited to work within a medium almost universally open to all-the web; AR and VR Using the WebXR API will show you the way. What You'll Learn Master the creation of virtual reality and augmented reality features for web page Prepare to work as an immersive web developer with a portfolio of projects in sought-after technologies Review the fundamentals of writing

shaders in WebGL Experience the unity between client, server, and cloud architecture as it applies to location-based AR Who This Book Is For Aspiring immersive web developers and developers already familiar with the fundamentals of web development who want to further explore topics such as spatial computing, computer vision, spatial anchors, and cloud-computing for multi-user social experiences.

OpenGL Programming Guide

- Dave Shreiner

2013-03-19

Includes Complete Coverage of the OpenGL® Shading Language! Today's OpenGL software interface enables programmers to produce extraordinarily high-quality computer-generated images and interactive applications using 2D and 3D objects, color images, and programmable shaders.

OpenGL® Programming Guide: The Official Guide to Learning

OpenGL®, Version 4.3

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Eighth Edition, has been almost completely rewritten and provides definitive, comprehensive information on OpenGL and the OpenGL Shading Language. This edition of the best-selling "Red Book" describes the features through OpenGL version 4.3. It also includes updated information and techniques formerly covered in OpenGL® Shading Language (the "Orange Book"). For the first time, this guide completely integrates shader techniques, alongside classic, functioncentric techniques. Extensive new text and code are presented, demonstrating the latest in OpenGL programming techniques. OpenGL® Programming Guide, Eighth Edition, provides clear explanations of OpenGL functionality and techniques, including processing geometric objects with vertex, tessellation, and geometry shaders using geometric transformations and

viewing matrices; working with pixels and texture maps through fragment shaders; and advanced data techniques using framebuffer objects and compute shaders. New OpenGL features covered in this edition include Best practices and sample code for taking full advantage of shaders and the entire shading pipeline (including geometry and tessellation shaders) Integration of general computation into the rendering pipeline via compute shaders Techniques for binding multiple shader programs at once during application execution Latest GLSL features for doing advanced shading techniques Additional new techniques for optimizing graphics program performance *Learning HTML5 Game Programming* - James Lamar Williams 2012 Presents practical instruction and theory for using the features of HTML5 to create a online gaming applications. **Downloaded from**

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WebGL Beginner's Guide -
Diego Cantor 2012-01-01
Become a master of 3D
web programming in WebGL
and JavaScript.

Node.js Design Patterns
- Mario Casciaro
2016-07-18
Get the best out of
Node.js by mastering its
most powerful components
and patterns to create
modular and scalable
applications with ease
About This Book Create
reusable patterns and
modules by leveraging
the new features of
Node.js . Understand the
asynchronous single
thread design of node
and grasp all its
features and patterns to
take advantage of
various functions. This
unique guide will help
you get the most out of
Node.js and its
ecosystem. Who This Book
Is For The book is meant
for developers and
software architects with
a basic working
knowledge of JavaScript
who are interested in
acquiring a deeper
understanding of how to
design and develop
enterprise-level Node.js
applications. Basic

knowledge of Node.js is
also helpful to get the
most out of this book.
What You Will Learn
Design and implement a
series of server-side
JavaScript patterns so
you understand why and
when to apply them in
different use case
scenarios Become
comfortable with writing
asynchronous code by
leveraging constructs
such as callbacks,
promises, generators and
the async-await syntax
Identify the most
important concerns and
apply unique tricks to
achieve higher
scalability and
modularity in your
Node.js application
Untangle your modules by
organizing and
connecting them
coherently Reuse well-
known techniques to
solve common design and
coding issues Explore
the latest trends in
Universal JavaScript,
learn how to write code
that runs on both
Node.js and the browser
and leverage React and
its ecosystem to
implement universal
applications

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Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration.

Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing it's asynchronous single-threaded architecture and the main design

patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all the necessary concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps.

Three.Js Essentials - Jos Dirksen 2014-07-10 This book is an easy-to-follow guide that shows the essential parts of Three.js through a set of extensive examples.

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Through the explanation of these examples, you'll learn everything you need to know about Three.js. If you already know JavaScript and want to quickly learn the essentials of Three.js, this book is for you. No prior knowledge of Three.js, WebGL, 3D modelling, or Maths is required.

Learning Virtual Reality
- Tony Parisi 2015-10-26
Annotation Get an introduction to the technologies, tools, and techniques for programming virtual reality on the latest generation of desktop and mobile VR hardware. With this hands-on guide, you'll learn essential development and production concepts, including UI design, stereo rendering, 3D input, and programming VR applications for native desktop, mobile and the web. You don't have to be a game development wizard or have 3D graphics experience to get started. If you have basic programming skills and some familiarity

with mobile development, this book will help you gain a working knowledge of virtual reality through clear and simple examples.

WebGL: Up and Running - Tony Parisi 2012-08-15
Presents an introduction to WebGL development and production concepts to create full 3D applications.

HTML5 Canvas - Steve Fulton 2013-04-11
Flash is fading fast as Canvas continues to climb. The second edition of this popular book gets you started with HTML5 Canvas by showing you how to build interactive multimedia applications. You'll learn how to draw, render text, manipulate images, and create animation—all in the course of building an interactive web game throughout the book. Updated for the latest implementations of Canvas and related HTML5 technologies, this edition includes clear and reusable code examples to help you quickly pick up the basics—whether you

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currently use Flash, Silverlight, or just HTML and JavaScript. Discover why HTML5 is the future of innovative web development. Create and modify 2D drawings, text, and bitmap images Use algorithms for math-based movement and physics interactions Incorporate and manipulate video, and add audio Build a basic framework for creating a variety of games Use bitmaps and tile sheets to develop animated game graphics Go mobile: build web apps and then modify them for iOS devices Explore ways to use Canvas for 3D and multiplayer game applications

Data Visualization with D3 and AngularJS -

Christoph Körner
2015-04-27

If you are a web developer with experience in AngularJS and want to implement interactive visualizations using D3.js, this book is for you. Knowledge of SVG or D3.js will give you an edge to get the most out of this book.

OpenGL Insights -

Patrick Cozzi 2012-07-23

Get Real-World Insight from Experienced Professionals in the OpenGL Community With OpenGL, OpenGL ES, and WebGL, real-time rendering is becoming available everywhere, from AAA games to mobile phones to web pages. Assembling contributions from experienced developers, vendors, researchers, and educators, OpenGL Insights presents real-world techniques for intermediate and advanced OpenGL, OpenGL ES, and WebGL developers. Go Beyond the Basics The book thoroughly covers a range of topics, including OpenGL 4.2 and recent extensions. It explains how to optimize for mobile devices, explores the design of WebGL libraries, and discusses OpenGL in the classroom. The contributors also examine asynchronous buffer and texture transfers, performance state tracking, and programmable ~~vertex~~

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pulling. Sharpen Your Skills Focusing on current and emerging techniques for the OpenGL family of APIs, this book demonstrates the breadth and depth of OpenGL. Readers will gain practical skills to solve problems related to performance, rendering, profiling, framework design, and more.

Three.js Cookbook - Jos Dirksen 2015-01-30

This book is ideal for anyone who already knows JavaScript and would like to get a broad understanding of Three.js quickly, or for those of you who have a basic grasp of using Three.js but want to really make an impact with your 3D visualizations by learning its advanced features. To apply the recipes in this book you don't need to know anything about WebGL; all you need is some general knowledge about JavaScript and HTML.

Webgl Game Development - Sumeet Arora 2014-03

This book is set-by-step, example-based

tutorial that provides details on gaming logic using Web GL. If you are a programmer who wants to transform the skill of blending imagination and throughput in games, this is the book for you. You need to have a good understanding of object-oriented programming, JavaScript, and vector and matrix operations.

Learn Three.js - Jos Dirksen 2018-08-31

Create and animate stunning 3D browser based graphics with Three.js JavaScript library Key Features Enhance your 3D graphics with light sources, shadows, advanced materials, and textures Load models from external sources, and visualize and animate them directly from JavaScript Create your own custom WebGL shader and explore the postprocessing feature of Three.js Book Description WebGL makes it possible to create 3D graphics in the browser without having to use plugins such as Flash and Java. Programming

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WebGL, however, is difficult and complex. With Three.js, it is possible to create stunning 3D graphics in an intuitive manner using JavaScript, without having to learn WebGL. With this book, you'll learn how to create and animate beautiful looking 3D scenes directly in your browser—utilizing the full potential of WebGL and modern browsers. It starts with the basic concepts and building blocks used in Three.js.

Learn Three.js - Jos Dirksen 2018-08-31
Create and animate stunning 3D browser based graphics with Three.js JavaScript library
Key Features
Enhance your 3D graphics with light sources, shadows, advanced materials, and textures
Load models from external sources, and visualize and animate them directly from JavaScript
Create your own custom WebGL shader and explore the postprocessing feature of Three.js
Book Description
WebGL makes

it possible to create 3D graphics in the browser without having to use plugins such as Flash and Java. Programming WebGL, however, is difficult and complex. With Three.js, it is possible to create stunning 3D graphics in an intuitive manner using JavaScript, without having to learn WebGL. With this book, you'll learn how to create and animate beautiful looking 3D scenes directly in your browser—utilizing the full potential of WebGL and modern browsers. It starts with the basic concepts and building blocks used in Three.js. From there on, it will expand on these subjects using extensive examples and code samples. You will learn to create, or load, from externally created models, realistic looking 3D objects using materials and textures. You'll find out how to easily control the camera using the Three.js built-in in camera controls, which will enable you to fly or walk around the 3D

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scene you created. You will then use the HTML5 video and canvas elements as a material for your 3D objects and to animate your models. Finally, you will learn to use morph and skeleton-based animation, and even how to add physics, such as gravity and collision detection, to your scene. After reading this book, you'll know everything that is required to create 3D animated graphics using Three.js. What you will learn Work with the different types of materials in Three.js and see how they interact with your 3D objects and the rest of the environment Implement the different camera controls provided by Three.js to effortlessly navigate around your 3D scene Work with vertices directly to create snow, rain, and galaxy-like effects Import and animate models from external formats, such as OBJ, STL, and COLLADA Create and run animations using morph

targets and bones animations Explore advanced textures on materials to create realistic looking 3D objects by using bump maps, normal maps, specular maps, and light maps Interact directly with WebGL by creating custom vertex and fragment shaders Who this book is for The ideal target audience for this book would be JavaScript developers who who want to learn how to use the Three.js library

SOA Governance in Action
- Jos Dirksen 2012-07-26

Summary SOA Governance in Action is a hands-on guide for developers and technology leads who need to develop and implement policies for SOA projects. This book introduces the fundamentals of good governance, the best practices for implementing them, and how to support governance using various open source tools. You'll follow an extensive case study that addresses the areas of service design

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Testing, performance,
and the cloud PART 3
RUNTIME POLICIES Using
tools for runtime
governance Lifecycle
support and discovering
resources Integrating
SOA governance tools
with existing tools and
technologies
APPENDIX Installing
tools, libraries, and
frameworks
*Build your own 2D Game
Engine and Create Great
Web Games* - Kelvin Sung
2015-09-30
Build Your Own 2D Game
Engine and Create Great
Web Games teaches you
how to develop your own
web-based game engine
step-by-step, allowing
you to create a wide
variety of online
videogames that can be
played in common web
browsers. Chapters
include examples and
projects that gradually
increase in complexity
while introducing a
ground-up design
framework, providing you
with the foundational
concepts needed to build
fun and engaging 2D
games. By the end of
this book you will have
created a complete

prototype level for a
side scrolling action
platform game and will
be prepared to begin
designing additional
levels and games of your
own. This book isolates
and presents relevant
knowledge from software
engineering, computer
graphics, mathematics,
physics, game
development, game
mechanics, and level
design in the context of
building a 2D game
engine from scratch. The
book then derives and
analyzes the source code
needed to implement the
e concepts based on
HTML5, JavaScript, and
WebGL. After completing
the projects you will
understand the core-
concepts and
implementation details
of a typical 2D game
engine and you will be
familiar with a design
and prototyping
methodology you can use
to create game levels
and mechanics that are
fun and engaging for
players. You will gain
insights into the many
ways software design and
creative design must
work together to deliver

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the best game experiences, and you will have access to a versatile 2D game engine that you can expand upon or utilize directly to build your own 2D games that can be played online from anywhere. • Assists the reader in understanding the core-concepts behind a 2D game engine • Guides the reader in building a functional game engine based on these concepts • Leads the reader in exploring the interplay between technical design and game experience design • Teaches the reader how to build their own 2D games that can be played across internet via popular browsers

Game Development with Three.js - Isaac Sukin
2013-10-24

A step-by-step, example-based guide to building immersive 3D games on the Web using the Three.js graphics library. This book is for people interested in programming 3D games for the Web. Readers are expected to have basic knowledge of JavaScript

syntax and a basic understanding of HTML and CSS. This book will be useful regardless of prior experience with game programming, whether you intend to build casual side projects or large-scale professional titles.

HTML5 in Action - Greg Wanish
2014-02-09

Summary HTML5 in Action provides a complete introduction to web development using HTML5. You'll explore every aspect of the HTML5 specification through real-world examples and code samples. It's much more than just a specification reference, though. It lives up to the name HTML5 in Action by giving you the practical, hands-on guidance you'll need to use key features. About the Technology HTML5 is not a few new tags and features added to an old standard—it's the foundation of the modern web, enabling its interactive services, single-page UI, interactive games, and complex business applications. With

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support for standards-driven mobile app development, powerful features like local storage and WebSockets, superb audio and video APIs, and new layout options using CSS3, SVG, and Canvas, HTML5 has entered its prime time. About the Book HTML5 in Action provides a complete introduction to web development using HTML5. It explores the HTML5 specification through real-world examples and code samples. It earns the name "in Action" by giving you the practical, hands-on guidance you'll need to confidently build the sites and applications you—and your clients—have been wanting for years. This book concentrates on new HTML5 features and assumes you are familiar with standard HTML. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside New semantic elements and form input types Single-

page application design
Creating interactive graphics
Mobile web apps
About the Authors
Rob Crowther is a web developer and blogger and the author of Manning's Hello! HTML5 & CSS3. Joe Lennon is an enterprise mobile application developer. Ash Blue builds award-winning interactive projects. Greg Wanish is an independent web and eCommerce developer.

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SVG: responsive in-browser graphics
Video and audio: playing media in

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the browser WebGL: 3D application development Plus 10 Appendixes Deep Learning with JavaScript - Stanley Bileschi 2020-01-24 Summary Deep learning has transformed the fields of computer vision, image processing, and natural language applications. Thanks to TensorFlow.js, now JavaScript developers can build deep learning apps without relying on Python or R. Deep Learning with JavaScript shows developers how they can bring DL technology to the web. Written by the main authors of the TensorFlow library, this new book provides fascinating use cases and in-depth instruction for deep learning apps in JavaScript in your browser or on Node. Foreword by Nikhil Thorat and Daniel Smilkov. About the technology Running deep learning applications in the browser or on Node-based backends opens up exciting possibilities for smart web

applications. With the TensorFlow.js library, you build and train deep learning models with JavaScript. Offering uncompromising production-quality scalability, modularity, and responsiveness, TensorFlow.js really shines for its portability. Its models run anywhere JavaScript runs, pushing ML farther up the application stack. About the book In Deep Learning with JavaScript, you'll learn to use TensorFlow.js to build deep learning models that run directly in the browser. This fast-paced book, written by Google engineers, is practical, engaging, and easy to follow. Through diverse examples featuring text analysis, speech processing, image recognition, and self-learning game AI, you'll master all the basics of deep learning and explore advanced concepts, like retraining existing models for transfer learning and image generation. What's inside - Image and

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language processing in the browser - Tuning ML models with client-side data - Text and image creation with generative deep learning - Source code samples to test and modify About the reader For JavaScript programmers interested in deep learning. About the author Shangling Cai, Stanley Bileschi and Eric D. Nielsen are software engineers with experience on the Google Brain team, and were crucial to the development of the high-level API of TensorFlow.js. This book is based in part on the classic, Deep Learning with Python by François Chollet. TOC: PART 1 - MOTIVATION AND BASIC CONCEPTS 1 • Deep learning and JavaScript PART 2 - A GENTLE INTRODUCTION TO

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