

1. Record Nr.	UNINA9910790494503321
Titolo	OpenGL insights // edited by Patrick Cozzi and Christophe Riccio
Pubbl/distr/stampa	Boca Raton, Fla. : , : CRC Press, , 2013
ISBN	0-429-11289-0 1-4398-9377-2
Edizione	[1st edition]
Descrizione fisica	1 online resource (708 p.)
Altri autori (Persone)	CozziPatrick RiccioChristophe
Disciplina	006.6/8
Soggetti	Computer graphics Rendering (Computer graphics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	An A K Peters book.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Front Cover; Dedication; Contents; Foreword; Preface; Tips; I. Discovering; 1. Teaching Computer Graphics Starting with Shader-Based OpenGL; 2. Transitioning Students to Post-Deprecation OpenGL; 3. WebGL for OpenGL Developers; 4. Porting Mobile Apps to WebGL; 5. The GLSL Shader Interfaces; 6. An Introduction to Tessellation Shaders; 7. Procedural Textures in GLSL; 8. OpenGL SC Emulation Based on OpenGL and OpenGL ES; 9. Mixing Graphics and Compute with Multiple GPUs; II. Rendering Techniques; 10. GPU Tessellation: We Still Have a LOD of Terrain to Cover 11. Antialiased Volumetric Lines Using Shader-Based Extrusion 12. 2D Shape Rendering by Distance Fields; 13. Efficient Text Rendering in WebGL; 14. Layered Textures Rendering Pipeline; 15. Depth of Field with Bokeh Rendering; 16. Shadow Proxies; III. Bending the Pipeline; 17. Real-Time Physically Based Deformation Using Transform Feedback; 18. Hierarchical Depth Culling and Bounding-Box Management on the GPU; 19. Massive Number of Shadow-Casting Lights with Layered Rendering; 20. Efficient Layered Fragment Buffer Techniques; 21. Programmable Vertex Pulling 22. Octree-Based Sparse Voxelization Using the GPU Hardware Rasterizer IV. Performance; 23. Performance Tuning for Tile-Based Architectures; 24. Exploring Mobile vs. Desktop OpenGL Performance;

25. Improving Performance by Reducing Calls to the Driver; 26. Indexing Multiple Vertex Arrays; 27. Multi-GPU Rendering on NVIDIA Quadro; V. Transfers; 28. Asynchronous Buffer Transfers; 29. Fermi Asynchronous Texture Transfers; 30. WebGL Models: End-to-End; 31. In-Game Video Capture with Real-Time Texture Compression; 32. An OpenGL-Friendly Geometry File Format and Its Maya Exporter VI. Debugging and Profiling 33. ARB debug output: A Helping Hand for Desperate Developers; 34. The OpenGL Timer Query; 35. A Real-Time Profiling Tool; 36. Browser Graphics Analysis and Optimizations; 37. Performance State Tracking; 38. Monitoring Graphics Memory Usage; VII. Software Design; 39. The ANGLE Project: Implementing OpenGL ES 2.0 on Direct3D; 40. SceneJS: A WebGL-Based Scene Graph Engine; 41. Features and Design Choices in SpiderGL; 42. Multimodal Interactive Simulations on the Web; 43. A Subset Approach to Using OpenGL and OpenGL ES; 44. The Build Syndrome; About the Contributors

Sommario/riassunto

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
