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Edizione	[1st edition]
Descrizione fisica	1 online resource (462 p.)
Collana	Morgan Kaufmann series in computer graphics
Altri autori (Persone)	PulliKari
Disciplina	006.686
Soggetti	Computer graphics Computer drawing Smartphones Three-dimensional display systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Contents; Preface; About the Authors; Acknowledgments; Chapter 1. Introduction; 1.1 About This Book; 1.2 Graphics on Handheld Devices; 1.3 Mobile Graphics Standards; Part I: Anatomy of a Graphics Engine; Chapter 2. Linear Algebra for 3D Graphics; 2.1 Coordinate Systems; 2.2 Matrices; 2.3 Affine Transformations; 2.4 Eye Coordinate System; 2.5 Projections; 2.6 Viewport and 2D Coordinate Systems; Chapter 3. Low-Level Rendering; 3.1 Rendering Primitives; 3.2 Lighting; 3.3 Culling and Clipping; 3.4 Rasterization; 3.5 Per-Fragment Operations; 3.6 Life Cycle of a Frame; Chapter 4. Animation 4.1 Keyframe Animation4.2 Deforming Meshes; Chapter 5. Scene Management; 5.1 Triangle Meshes; 5.2 Scene Graphs; 5.3 Retained Mode Rendering; Chapter 6. Performance and Scalability; 6.1 Scalability; 6.2 Performance Optimization; 6.3 Changing and Querying the State; 6.4 Model Data; 6.5 Transformation Pipeline; 6.6 Lighting; 6.7 Textures; Part II: OpenGL ES and EGL; Chapter 7. Introducing OpenGL ES; 7.1 Khronos Group and OpenGL ES; 7.2 Design Principles; 7.3 Resources; 7.4 API Overview; 7.5 Hello, OpenGL ES!; Chapter 8. OpenGL ES Transformation and Lighting; 8.1 Drawing Primitives

8.2 Vertex Transformation Pipeline
8.3 Colors and Lighting; Chapter 9. OpenGL ES Rasterization and Fragment Processing; 9.1 Back-Face Culling; 9.2 Texture Mapping; 9.3 Fog; 9.4 Antialiasing; 9.5 Pixel Tests; 9.6 Applying Fragments to the Color Buffer; Chapter 10. Miscellaneous OpenGL ES Features; 10.1 Frame Buffer Operations; 10.2 State Queries; 10.3 Hints; 10.4 Extensions; Chapter 11. EGL; 11.1 API Overview; 11.2 Configuration; 11.3 Surfaces; 11.4 Contexts; 11.5 Extensions; 11.6 Rendering into Textures; 11.7 Writing High-Performance EGL Code; 11.8 Mixing OpenGL ES and 2D Rendering
11.9 Optimizing Power Usage
11.10 Example on EGL Configuration Selection; Part III: M3G; Chapter 12. Introducing M3G; 12.1 Overview; 12.2 Design Principles and Conventions; 12.3 M3G 1.1; Chapter 13. Basic M3G Concepts; 13.1 Graphics3D; 13.2 Image2D; 13.3 Matrices and Transformations; 13.4 Object3D; 13.5 Importing Content; Chapter 14. Low-Level Modeling in M3G; 14.1 Building Meshes; 14.2 Adding Color and Light: Appearance; 14.3 Lights and Camera; 14.4 2D Primitives; Chapter 15. The M3G Scene Graph; 15.1 Scene Graph Basics: Node, Group, and World; 15.2 Mesh Objects; 15.3 Transforming Objects
15.4 Layering and Multi-Pass Effects
15.5 Picking; 15.6 Optimizing Performance; Chapter 16. Animation in M3G; 16.1 Keyframe Animation: KeyframeSequence; 16.2 Animation Targets: AnimationTrack; 16.3 Timing and Speed: AnimationController; 16.4 Animation Execution; 16.5 Advanced Animation; Part IV: Appendix; Appendix A. Fixed-Point Mathematics; A.1 Fixed-Point Methods in C; A.2 Fixed-Point Methods in Assembly Language; A.3 Fixed-Point Methods in Java; Appendix B. Java Performance Tuning; B.1 Virtual Machines; B.2 Bytecode Optimization; B.3 Garbage Collection; B.4 Memory Accesses; B.5 Method Calls
Appendix C. Glossary

Sommario/riassunto

Graphics and game developers must learn to program for mobility. This book will teach you how. "This book - written by some of the key technical experts...provides a comprehensive but practical and easily understood introduction for any software engineer seeking to delight the consumer with rich 3D interactive experiences on their phone. Like the OpenGL ES and M3G standards it covers, this book is destined to become an enduring standard for many years to come." - Lincoln Wallen, CTO, Electronic Arts, Mobile
This book is an escalator, which takes the field to new levels. T
