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Nota di contenuto	Cover -- Half Title -- Title Page -- Copyright Page -- Contents -- Preface -- Editor -- List of Contributors -- Section I: The Medium of VR -- 1 VR as a Medium -- 2 VR and Media of Attraction: Design Lessons from History -- Section II: VR with Game Engines -- 3 Getting Started with SteamVR and Unity -- 4 UniCAVE: A Distributed Rendering System for Unity3D -- 5 Using the Kinect for Head-Tracked Perspective and Pointing in Stationary VR Displays -- 6 The Vehicle Pattern for Simplifying Cross-Platform Virtual Reality Development -- 7 WebXR: Virtual Reality... in the Browser -- 8 Greyhouse: Building the Neighborhood Coffee Shop in Unreal Engine for VR -- 9 Bridging Scientific Visualization and Unreal VR -- Section III: Interaction -- 10 Brownboxing: The Secret to Rapid VR Prototyping -- 11 Bi-Manual Interaction for Manipulation, Volume Selection, and Travel: Using the Leap Motion, Game Controllers and Mobile Devices -- 12 Effortless 3D

Selection through Progressive Refinement -- 13 Travel in Virtual Reality -- 14 From Painting to Widgets, 6-DOF and Bimanual Input Beyond Pointing -- Section IV: Agents & Avatars -- 15 Making Virtual Reality Social: Getting Virtual Humans into Your Virtual Environment -- 16 Building a Social VR App -- 17 Avatar Embodiment, Behavior Replication, and Kinematics in Virtual Reality -- Section V: Third Person POV Cameras -- 18 Recording and Replaying Virtual Environments for Development and Diagnosis -- 19 Capturing Cinematic Shots of Virtual Reality Scenes in Unity -- 20 A Stereoscopic 3D View for Virtual Reality Spectators -- Section VI: Virtual Worlds -- 21 The Utility of Virtual Reality for Science and Engineering -- 22 Immersion and Visualizing Artistic Spaces in Virtual Reality -- 23 Embodied Montage: Constructing Meaning in Virtual Reality -- Section VII: Advanced Rendering for VR. 24 Omnidirectional Stereoscopic Projections for VR -- 25 Volume Lenses for VR -- Section VIII: Perception for Immersion -- 26 Check Your Work: Evaluating VE Effectiveness Using Presence -- 27 Misperception of Self-motion and Its Compensation in Virtual Reality -- 28 Exploring Large Environments with Redirected Walking -- Section IX: DIY VR Hardware -- 29 Building and Interfacing Input and Output Devices -- 30 A Tinkerer's Perspective on VR Displays -- 31 Environmental Feedback for VR Systems -- Section X: Building the Infrastructure of VR -- 32 Virtual Reality System Concepts Illustrated Using OSVR -- 33 Perspective Projection for VR -- 34 Fast and Easy Collision Detection for Rigid and Deformable Objects -- Index.

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## Sommario/riassunto

This book takes the practicality of other "Gems" series such as "Graphics Gems" and "Game Programming Gems" and provide a quick reference for novice and expert programmers alike to swiftly track down a solution to a task needed for their VR project. Reading the book from cover to cover is not the expected use case, but being familiar with the territory from the Introduction and then jumping to the needed explanations is how the book will mostly be used. Each chapter (other than Introduction) will contain between 5 to 10 "tips", each of which is a self-contained explanation with implementation detail generally demonstrated as pseudo code, or in cases where it makes sense, actual code. Key Features Sections written by veteran virtual reality researchers and developers Usable code snippets that readers can put to immediate use in their own projects. Tips of value both to readers entering the field as well as those looking for solutions that expand their repertoire.

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