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of Many Lights on the GPU -- Part 5: Denoising and Filtering -- Chapter 19. Cinematic Rendering in UE4 with Real-Time Ray Tracing and Denoising -- Chapter 20. Texture Level of Detail Strategies for Real-Time Ray Tracing -- Chapter 21. Simple Environment Map Filtering Using Ray Cones and Ray Differentials -- Chapter 22. Improving Temporal Antialiasing with Adaptive Ray Tracing -- Part 6: Hybrid Approaches and Systems -- Chapter 23. Interactive Light Map and Irradiance Volume Preview in Frostbite -- Chapter 24. Real-Time Global Illumination with Photon Mapping -- Chapter 25. Hybrid Rendering for Real-Time Ray Tracing -- Chapter 26. Deferred Hybrid Path Tracing -- Chapter 27. Interactive Ray Tracing Techniques for High-Fidelity Scientific Visualization -- Part 7: Global Illumination -- Chapter 28. Ray Tracing Inhomogeneous Volumes -- Chapter 29. Efficient Particle Volume Splatting in a Ray Tracer -- Chapter 30. Caustics Using Screen Space Photon Mapping -- Chapter 31. Variance Reduction via Footprint Estimation in the Presence of Path Reuse -- Chapter 32. Accurate Real-Time Specular Reflections with Radiance Caching -- .

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### Sommario/riassunto

This book is a must-have for anyone serious about rendering in real time. With the announcement of new ray tracing APIs and hardware to support them, developers can easily create real-time applications with ray tracing as a core component. As ray tracing on the GPU becomes faster, it will play a more central role in real-time rendering. Ray Tracing Gems provides key building blocks for developers of games, architectural applications, visualizations, and more. Experts in rendering share their knowledge by explaining everything from nitty-gritty techniques that will improve any ray tracer to mastery of the new capabilities of current and future hardware. What you'll learn: The latest ray tracing techniques for developing real-time applications in multiple domains Guidance, advice, and best practices for rendering applications with Microsoft DirectX Raytracing (DXR) How to implement high-performance graphics for interactive visualizations, games, simulations, and more Who is this book for: Developers who are looking to leverage the latest APIs and GPU technology for real-time rendering and ray tracing Students looking to learn about best practices in these areas Enthusiasts who want to understand and experiment with their new GPUs.

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