Rendering Techniques '98 : Proceedings of the Eurographics Workshop in Vienna, Austria, June 29-July 1, 1998 /

Drettakis, George

Springer Vienna,
1998

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Monografía

Some of the best current research on realistic rendering is included in this volume. It emphasizes the current "hot topics" in this field: image based rendering, and efficient local and global-illumination calculations. In the first of these areas, there are several contributions on real-world model acquisition and display, on using image-based techniques for illumination and on efficient ways to parameterize and compress images or light fields, as well as on clever uses of texture and compositing hardware to achieve image warping and 3D surface textures. In global and local illumination, there are contributions on extending the techniques beyond diffuse reflections, to include specular and more general angle dependent reflection functions, on efficiently representing and approximating these reflection functions, on representing light sources and on approximating visibility and shadows. Finally, there are two contributions on how to use knowledge about human perception to concentrate the work of accurate rendering only where it will be noticed, and a survey of computer graphics techniques used in the production of a feature length computer-animated film with full 3D characters

Título: Rendering Techniques '98 Proceedings of the Eurographics Workshop in Vienna, Austria, June 29-July 1, 1998 edited by George Drettakis, Nelson Max

Editorial: Vienna Springer Vienna 1998

Descripción física: 1 online resource (xi, 339 pages 231 illustrations)

Mención de serie: Eurographics 0946-2767

Model -- Computing the Approximate Visibility Map, with Applications to Form Factors and Discontinuity Meshing -- Ray Tracing of Subdivision Surfaces -- Acquiring Input for Rendering at Appropriate Levels of Detail: Digitizing a Pietá -- Interactively Modeling with Photogrammetry -- Efficient View-Dependent Image-Based Rendering with Projective Texture-Mapping -- Uniformly Sampled Light Fields -- Forward Shadow Mapping -- Efficient Image Generation for Multiprojector and Multisurface Displays -- Per-Object Image Warping with Layered Impostors -- Interactive Volumetric Textures -- Efficiently Rendering Macro Geometric Surface Structures with Bi-Directional Texture Functions -- Point Sample Rendering -- Rendering Hyper-Sprites in Real Time -- Automatic Calculation of Soft Shadow Textures for Fast, High-Quality Radiosity -- Three Point Clustering for Radiance Computations -- The Visible Differences Predictor: Applications to Global Illumination Problems -- Fidelity of Graphics Reconstructions: A Psychophysical Investigation -- Global Ray-bundle Tracing with Hardware Acceleration -- Hierarchical Monte Carlo Radiosity -- Importance Driven Construction of Photon Maps -- Lazy Decompression of Surface Light Fields for Precomputed Global Illumination -- Canned Lightsources -- Image-Based Rendering for Non-Diffuse Synthetic Scenes -- Photosurrealism.-Appendix: Colour images

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ISBN: 9783709164532 electronic bk.) 3709164532 electronic bk.) 9783211832134 3211832130

Materia: Computer science Computer simulation Computer graphics Computer vision Computer graphics Computer science Computer simulation Computer vision

Autores: Max, Nelson

Enlace a formato físico adicional: Print version 9783211832134

Punto acceso adicional serie-Título: Eurographics
