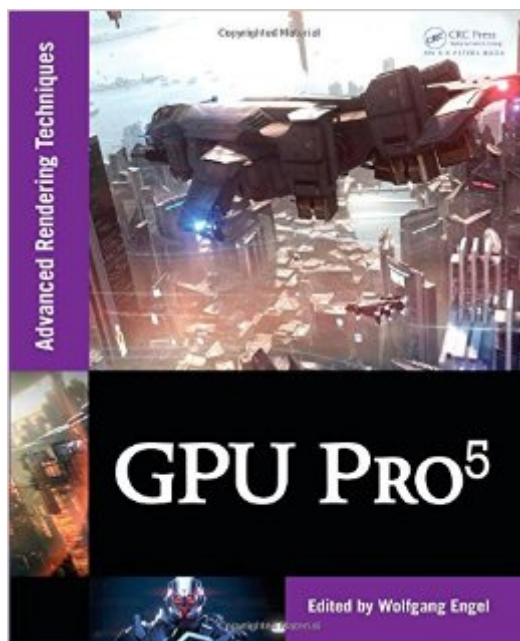# GPU Pro 5: Advanced Rendering Techniques

Synopsis

In GPU Pro5: Advanced Rendering Techniques, section editors Wolfgang Engel, Christopher Oat, Carsten Dachsbacher, Michal Valient, Wessam Bahnassi, and Marius Bjorge have once again assembled a high-quality collection of cutting-edge techniques for advanced graphics processing unit (GPU) programming.   Divided into six sections, the book covers rendering, lighting, effects in image space, mobile devices, 3D engine design, and compute. It explores rasterization of liquids, ray tracing of art assets that would otherwise be used in a rasterized engine, physically based area lights, volumetric light effects, screen-space grass, the usage of quaternions, and a quadtree implementation on the GPU. It also addresses the latest developments in deferred lighting on mobile devices, OpenCL optimizations for mobile devices, morph targets, and tiled deferred blending methods. In color throughout, GPU Pro5 is the only book that incorporates contributions from more than 50 experts who cover the latest developments in graphics programming for games and movies. It presents ready-to-use ideas and procedures that can help solve many of your daily graphics programming challenges. Example programs with source code are provided on the bookâ ™s CRC Press web page.

Book Information

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Customer Reviews

Top algorithms, insights, and experience from the trench, Not many books on computer graphics lately, and this one is very high quality thanks to all the authors/contributors/editors.A reference, only if for those two: Physically Base Area Lights is sort of reference for the current hot topic in cg,

Hi-Z Screen-Space Cone-Traced Reflections is a very thoroughly detailed and interesting technique with lots of insights.Only 2 of the 23 chapter lacks technicality, astc & gltf, but still at least give a start on those topic.But all other chapters are really worth the read (and re-read), and are always interesting and elightening, reflecting the current top techniques of the field, with insights, tips, tricks and useful experience shared here.

The GPU Pro series remains a strong contender within the field of real-time graphics rendering. In this field, technology evolves at a staggering pace, unlocking new and better rendering techniques. GPU Pro 5 offers awesome insight on these new techniques. As with its predecessors, the book is divided into a set of major sections: rendering, lighting & shading, image space, mobile devices, 3D engine design, and compute. Each of these sections are filled with different chapters dedicated to specific techniques written by various authors . All the authors are renown and credible within the field.This book provides great details on what is currently possible within the field of real-time rendering. As the book-cover states, the whole book covers "advanced rendering techniques". The book does not hold your hand and expects the reader to have strong fundamental understanding of the 3D rendering pipeline, linear algebra, and the commonly used APIs (DirectX, OpenGL). Shader code snippets are provided along the way to better understand the gritty details of each technique. Of course many of the demos presented in the book also have their source-code available from the web-materials.I have greatly enjoyed the book and I greatly recommend it if you are looking for technical insights on how to implement novel rendering techniques.

What sets the GPU Pro series apart for me is that it provides the reader with a good understanding of shipped solutions to problems faced during the development of several AAA games.I recommend this book to readers working in/interested in the field of advanced real-time graphics. It provides the reader with well written articles on some of the advanced techniques currently used in real-time rendering. Each article provides the reader with a clear description of the problem and goes into detail in how to implement the technique that is used to solve it. To give the reader a better understanding of the implementation of a technique; articles are generally accompanied by snippets of shader code. For many of the articles source code is available through the website.For me it proved to be a great work of reference for tinkering and keeping myself up to date with the some of the new techniques that are currently used in real-time rendering.

Half hearted and incomplete.

GPU Pro 7: Advanced Rendering Techniques GPU Pro 6: Advanced Rendering Techniques GPU Pro 5: Advanced Rendering Techniques ShaderX3: Advanced Rendering with DirectX and OpenGL (Charles River Media Graphics) Advanced Health Assessment of Women, Third Edition: Clinical Skills and Procedures (Advanced Health Assessment of Women: Clinical Skills and Pro) CUDA by Example: An Introduction to General-Purpose GPU Programming CUDA Programming: A Developer's Guide to Parallel Computing with GPUs (Applications of Gpu Computing) CUDA Handbook: A Comprehensive Guide to GPU Programming, The Programming Massively Parallel Processors: A Hands-on Approach (Applications of GPU Computing Series) Fantasy Artist's Figure Drawing Bible: Ready-to-Draw Characters and Step-by-Step Rendering Techniques Rendering in Pen and Ink: The Classic Book On Pen and Ink Techniques for Artists, Illustrators, Architects, and Designers Scientific Illustration: A Guide to Biological, Zoological, and Medical Rendering Techniques, Design, Printing and Display The Elements of Landscape Oil Painting: Techniques for Rendering Sky, Terrain, Trees, and Water Real-Time Rendering Tricks and Techniques in DirectX (Premier Press Game Development (Software)) Realistic Architectural Rendering with 3ds Max and mental -Ray (Autodesk Media and Entertainment Techniques) 101 Textures in Oil & Acrylic: Practical Techniques for Rendering a Variety of Surfaces Advanced Software Testing - Vol. 3, 2nd Edition: Guide to the ISTQB Advanced Certification as an Advanced Technical Test Analyst Advanced Software Testing - Vol. 2, 2nd Edition: Guide to the ISTQB Advanced Certification as an Advanced Test Manager The Ultimate Guide to Pro Hockey Teams (Ultimate Pro Team Guides (Sports Illustrated for Kids)) Superstars of Pro Tennis (Pro Sports Superstars)