Synopsis

Supported with code examples and the authors’ real-world experience, this book offers the first guide to engine design and rendering algorithms for virtual globe applications like Google Earth and NASA World Wind. The content is also useful for general graphics and games, especially planet and massive-world engines. With pragmatic advice throughout, it is essential reading for practitioners, researchers, and hobbyists in these areas, and can be used as a text for a special topics course in computer graphics. Topics covered include: Rendering globes, planet-sized terrain, and vector data Multithread resource management Out-of-core algorithms Shader-based renderer design

Book Information

File Size: 156492 KB
Print Length: 520 pages
Publisher: A K Peters/CRC Press; 1 edition (June 24, 2011)
Publication Date: June 24, 2011
Sold by: Digital Services LLC
Language: English
ASIN: B00888KM9K
Text-to-Speech: Not enabled
X-Ray: Not Enabled
Word Wise: Not Enabled
Lending: Not Enabled
Enhanced Typesetting: Not Enabled

Customer Reviews

If you don't want to read my short novel below, just buy the book! As a lifelong amateur astronomer and software engineer, with 3D graphics simulation being my hobby, I always wanted to write a 3D simulation allowing a user to fly around the solar system and buzz the canyons of our rocky planets or navigate through the rings of Saturn. But even with many years of OpenGL programming, I had no idea how to achieve what I have conceived in my head (check out the Outtera website to get an idea, absolutely stunning!). 3D Engine Design for Virtual Globes is just what I needed. The book
presents a complete API for rendering globes, massive amounts of terrain, vector data (GIS) and the techniques required for a seamless and smooth transition from orbit down to your front yard. The API is called OpenGlobe and it is built on top of OpenTK which facilitates writing OpenGL programs with C#/Net (yeah!). To end on a good note, I’ll mention the con’s first: I can’t praise this book enough for finally making this topic clear to me. With that said, be forewarned: The OpenGlobe API is not a plug-n-play solar system/planetary simulator. Literally all of the example programs demonstrate their purpose in isolation to the example. For example, the globe rendering examples render a single globe in its own space. If you want to render several planets, you will need to rip out the globe rendering example code and roll your own multi-planet solar system. This also means there is no scene management. But the authors do gloss over multi-frustum rendering for large volume scenes that cover distances from one meter to 100,000,000 meters or more.

Download to continue reading...

3D Engine Design for Virtual Globes
Virtual Law: Navigating the Legal Landscape of Virtual Worlds
Colonografía por TC: Principios y práctica de la colonoscopia virtual: Principios y práctica de la colonoscopia virtual (Spanish Edition)
Real Virtual in the Esthetic and the Theory of the Arts (Paidos Estetica / Ethetics) (Spanish Edition)
Small Engine Repair - Quick and Simple Tips to Get Your Small Engine Running Again
They Made America: From the Steam Engine to the Search Engine: Two Centuries of Innovators
Little Engine Shaped Board Books: Trevor the Steam Train; Sally the Sea Ferry; Harriet the Helicopter; Freddy the Fire Engine
Engine Out Survival Tactics: Fighter Pilot Tactics for General Aviation Engine Loss
Emergencies
Celebrating Snow Globes (Collectibles)
Performance Automotive Engine Math (Sa Design-Pro)
Feng Shui: Wellness and Peace- Interior Design, Home Decorating and Home Design
(Making Virtual Worlds: Linden Lab and Second Life)
Virtual Reality - die digitale Welt wird zur Wirklichkeit: Augmented Reality, VR-Brillen, Cardboards, Cyberspace (German Edition)
Augmented Reality for Beginners!: Principles & Practices for Augmented Reality & Virtual Computers
Haptics for Virtual Reality and Teleoperation (Intelligent Systems, Control and Automation: Science and Engineering)
The State of Play: Law, Games, and Virtual Worlds (Ex Machina: Law, Technology, and Society)
Interact and Engage!: 50+ Activities for Virtual Training, Meetings, and Webinars
Exploring Web 2.0: Second Generation Interactive Tools - Blogs, Podcasts, Wikis, Networking, Virtual Words, And More
Openswan: Building and Integrating Virtual Private Networks Distributed Virtual Worlds

Dmca