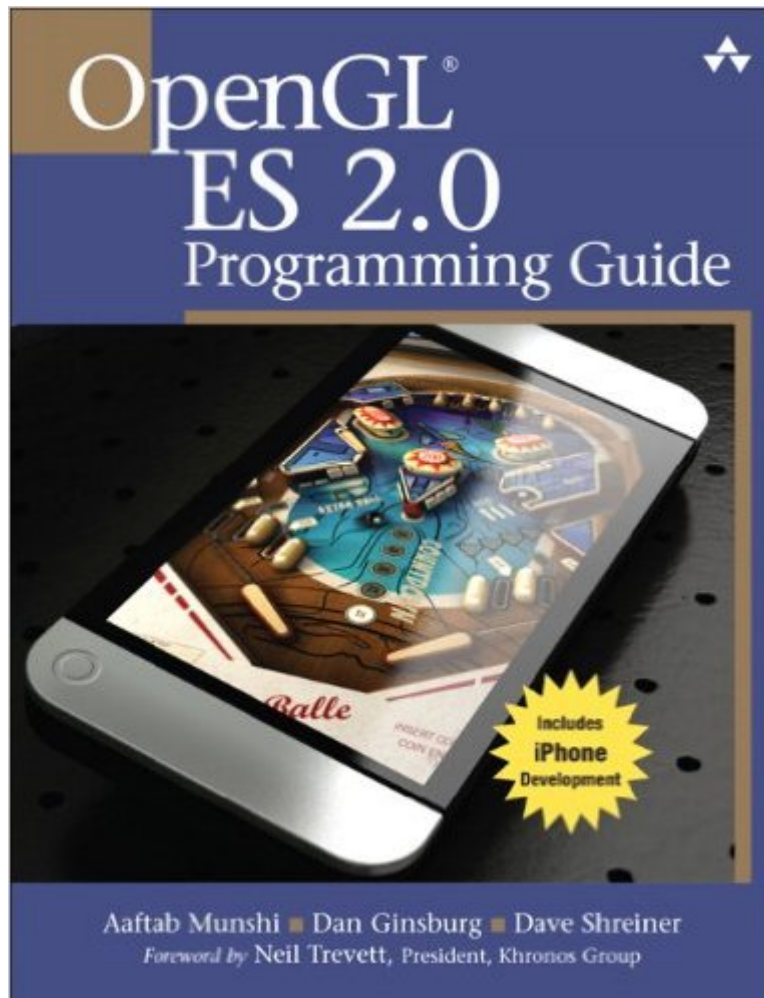# OpenGL ES 2.0 Programming Guide

Synopsis

OpenGL ES 2.0 is the industryâ ™s leading software interface and graphics library for rendering sophisticated 3D graphics on handheld and embedded devices. With OpenGL ES 2.0, the full programmability of shaders is now available on small and portable devicesâ ”including cell phones, PDAs, consoles, appliances, and vehicles. However, OpenGL ES differs significantly from OpenGL. Graphics programmers and mobile developers have had very little information about itâ ”until now.

In the OpenGLÂ® ES 2.0 Programming Guide , three leading authorities on the Open GL ES 2.0 interfaceâ ”including the specificationâ ™s editorâ ”provide start-to-finish guidance for maximizing the interfaceâ ™s value in a wide range of high-performance applications. The authors cover the entire API, including Khronos-ratified extensions. Using detailed C-based code examples, they demonstrate how to set up and program every aspect of the graphics pipeline. Youâ ™ll move from introductory techniques all the way to advanced per-pixel lighting, particle systems, and performance optimization.Â Coverage includes: Shaders in depth: creating shader objects, compiling shaders, checking for compile errors, attaching shader objects to program objects, and linking final program objects The OpenGL ES Shading Language: variables, types, constructors, structures, arrays, attributes, uniforms, varyings, precision qualifiers, and invariance Inputting geometry into the graphics pipeline, and assembling geometry into primitives Vertex shaders, their special variables, and their use in per-vertex lighting, skinning, and other applications Using fragment shadersâ ”including examples of multitexturing, fog, alpha test, and user clip planes Fragment operations: scissor test, stencil test, depth test, multisampling, blending, and dithering Advanced rendering: per-pixel lighting with normal maps, environment mapping, particle systems, image post-processing, and projective texturing Real-world programming challenges: platform diversity, C++ portability, OpenKODE, and platform-specific shader binaries

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Customer Reviews

I bought the Kindle version of this book. It is a good reference that one should read if they are going to program for OpenGL ES 2.0. It accurately describes the API calls for basic ES 2.0 programming. The code supplied on Google Code is clear in its application of the API and I consider it to be the most educational part of the book. Be sure to type out the code to reinforce the order and content of the API calls.The annotated code examples in the book explain the code somewhat and you can infer the authors' intent if you Google the terms they use and consult other references of the OpenGL programmable pipeline.Make no mistake, this is a difficult read. It requires prior OpenGL knowledge. The section "Intended Audience" is somewhat revealing about prerequisite knowledge. If you have no OpenGL experience, you will have to re-read every chapter several times, look up unfamiliar terms and follow unrelated tutorials available on the internet for the material to make sense (at least that's what I had to do). The last sentence of the "Intended Audience" section states, "After finishing the book, the reader will be ready to write OpenGL ES 2.0 applications that fully harness the programmable power of embedded graphics hardware." I found that statement to be inaccurate, unless by finishing the book they mean re-reading it several times along with other books that explain what they are talking about better.I wish the authors had provided working code to explain Chapter 12. They provide snippets in the book, but no working example. My main criticism of the book is the annotated code snippets in the book do not explain the concepts well. To be fair, their writing voice may speak to others better than it did to me.

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