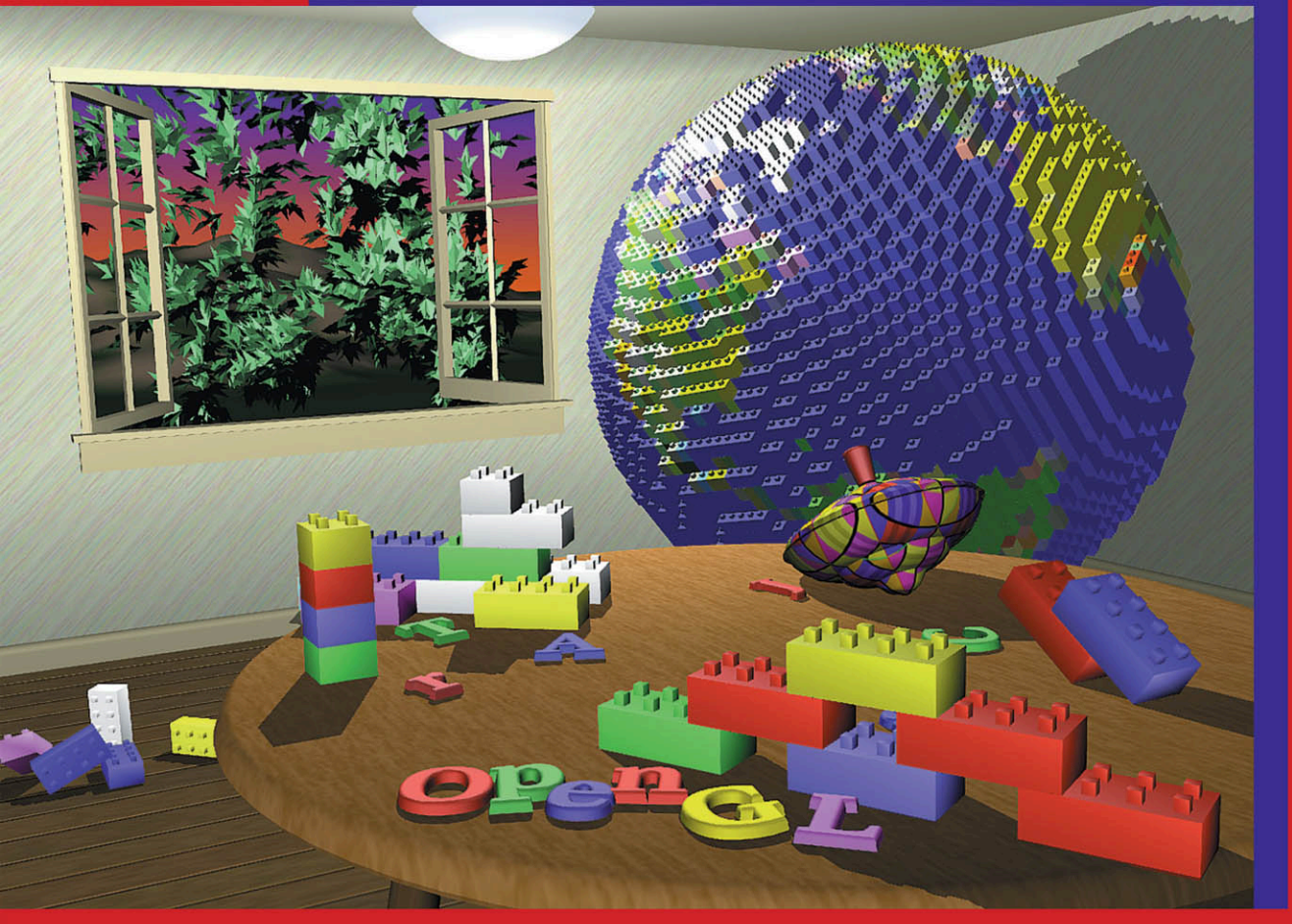
OpenGL® Programming Guide

Ninth Edition

The Official Guide to Learning OpenGL®, Version 4.5 with SPIR-V



John Kessenich • Graham Sellers • Dave Shreiner

The Khronos OpenGL ARB Working Group

Praise for previous editions of OpenGL® Programming Guide

"Wow! This book is basically one-stop shopping for OpenGL information. It is the kind of book that I will be reaching for a lot. Thanks to Dave, Graham, John, and Bill for an amazing effort."

—Mike Bailey, professor, Oregon State University

"The most recent Red Book parallels the grand tradition of OpenGL; continuous evolution towards ever-greater power and efficiency. The eighth edition contains up-to-the minute information about the latest standard and new features, along with a solid grounding in modern OpenGL techniques that will work anywhere. The Red Book continues to be an essential reference for all new employees at my simulation company. What else can be said about this essential guide? I laughed, I cried, it was much better than Cats—I'll read it again and again."

—Bob Kuehne, president, Blue Newt Software

"OpenGL has undergone enormous changes since its inception twenty years ago. This new edition is your practical guide to using the OpenGL of today. Modern OpenGL is centered on the use of shaders, and this edition of the Programming Guide jumps right in, with shaders covered in depth in Chapter 2. It continues in later chapters with even more specifics on everything from texturing to compute shaders. No matter how well you know it or how long you've been doing it, if you are going to write an OpenGL program, you want to have a copy of the *OpenGL® Programming Guide* handy."

—Marc Olano, associate professor, UMBC

"If you are looking for the definitive guide to programming with the very latest version of OpenGL, look no further. The authors of this book have been deeply involved in the creation of OpenGL 4.3, and everything you need to know about the cutting edge of this industry-leading API is laid out here in a clear, logical, and insightful manner."

—Neil Trevett, president, Khronos Group

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