

OpenGL programming Guide

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OpenGL® Programming Guide, Sixth Edition

OpenGL is a powerful software interface used to produce high-quality, computergenerated images and interactive applications using 2D and 3D objects, bitmaps, and color images.

The OpenGL® Programming Guide, Sixth Edition, provides definitive and comprehensive information on OpenGL and the OpenGL Utility Library. The previous edition covered OpenGL through Version 2.0. This sixth edition of the best-selling "red book" describes the latest features of OpenGL Version 2.1. You will find clear explanations of OpenGL functionality and many basic computer graphics techniques, such as building and rendering 3D models; interactively viewing objects from different perspective points; and using shading, lighting, and texturing effects for greater realism. In addition, this book provides in-depth coverage of advanced techniques, including texture mapping, antialiasing, fog and atmospheric effects, NURBS, image processing, and more. The text also explores other key topics such as enhancing performance, OpenGL extensions, and cross-platform techniques.

This sixth edition has been updated to include the newest features of OpenGL Version 2.1, including:

Using server-side pixel buffer objects for fast pixel rectangle download and retrieval

Discussion of the sRGB texture format

Expanded discussion of the OpenGL Shading Language

This edition continues the discussion of the OpenGL Shading Language (GLSL) and explains the mechanics of using this language to create complex graphics effects and boost the computational power of OpenGL.

The OpenGL Technical Library provides tutorial and reference books for OpenGL. The Library enables programmers to gain a practical understanding of OpenGL and shows them how to unlock its full potential. Originally developed by SGI, the Library continues to evolve under the auspices of the OpenGL Architecture Review Board (ARB) Steering Group (now part of the Khronos Group), an industry consortium responsible for guiding the evolution of OpenGL and related technologies.