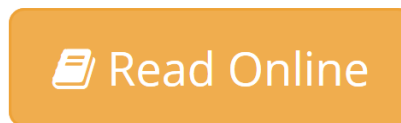




# OpenGL Game Development By Example

By Robert Madsen, Stephen Madsen



**OpenGL Game Development By Example** By Robert Madsen, Stephen Madsen

## Key Features

- Create 2D and 3D games completely, through a series of end-to-end game projects
- Learn to render high performance 2D and 3D graphics using OpenGL
- Implement a rudimentary game engine using step-by-step code

## Book Description

OpenGL is one of the most popular rendering SDKs used to develop games. OpenGL has been used to create everything from 3D masterpieces running on desktop computers to 2D puzzles running on mobile devices. You will learn to apply both 2D and 3D technologies to bring your game idea to life.

There is a lot more to making a game than just drawing pictures and that is where this book is unique! It provides a complete tutorial on designing and coding games from the setup of the development environment to final credits screen, through the creation of a 2D and 3D game.

The book starts off by showing you how to set up a development environment using Visual Studio, and create a code framework for your game. It then walks you through creation of two games—a 2D platform game called Roboracer 2D and a 3D first-person space shooter game—using OpenGL to render both 2D and 3D graphics using a 2D coordinate system. You'll create sprite classes, render sprites and animation, and navigate and control the characters. You will also learn how to implement input, use audio, and code basic collision and physics systems. From setting up the development environment to creating the final credits screen, the book will take you through the complete journey of creating a game engine that you can extend to create your own games.

## What you will learn

- Set up your development environment in Visual Studio using OpenGL
- Use 2D and 3D coordinate systems
- Implement an input system to handle the mouse and the keyboard
- Create a state machine to handle complex changes in the game
- Load, display, and manipulate both 2D and 3D graphics

- Implement collision detection and basic physics
- Discover the key components needed to complete a polished game
- Handle audio files and implement sound effects and music

### About the Author

**Robert Madsen** is an accomplished game programmer, with dozens of published games to his credit. He started programming in 1979, and he has been a programmer for all of his professional life. He entered the game industry in 2004, and he founded SynapticSwitch, LLC in 2010. As studio director, he continues to code while also managing the broader needs of an independent game development studio.

**Stephen Madsen** completed his degree in game development from Full Sail Real World Education in 2007, beginning his first job as a game programmer in 2008. He then joined SynapticSwitch, LLC as the lead software engineer in 2012. He has developed and published many titles on the mobile, console, and personal computer platforms with OpenGL being the foundational rendering technology for most of these platforms.

### Table of Contents

1. Building the Foundation
2. Your Point of View
3. A Matter of Character
4. Control Freak
5. Hit and Run
6. Polishing the Silver
7. Audio Adrenaline
8. Expanding Your Horizons
9. Super Models
10. Expanding Space
11. Heads Up
12. Conquer the Universe

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### Editorial Review

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