DirectX 11.1 Game Programming

A step-by-step guide to creating 3D applications and interactive games in Windows 8

Pooya Eilmandar
DirectX 11 is packed with features to meet the demands of modern gamers, multi-core processors, and the latest Microsoft operating systems. This tutorial gives you access to all that with an example-led, user-friendly approach. Overview

Learn new features in Direct3D 11.1
Discover how to develop a multithreaded pipeline game engine
Understand shader model 5 and learn how to create an editor for the game

In Detail

DirectX is designed to create eye-popping 3-D visuals and immersive sound effects found in many of today’s PC games. DirectX 11.1 includes numerous improvements from its previous version. It’s designed to be more efficient, leverage the power of today’s multi-core processors, and provide support for sophisticated shading and texturing techniques such as tessellation. DirectX 11.1 Game Programming brings unprecedented power and flexibility to programmers who want to excel in graphical programs.

DirectX 11.1 Game Programming is an introduction to creating interactive computer graphics and games, using Direct3D 11.1. You would be guided through the new features of Direct3D along with XAML to build an extensible multithreaded framework for creating 3D applications and games on the Windows 8 metro style platform. DirectX 11.1 Game Programming explores the techniques to set up a 3D multithreaded framework for metro style graphics programs. You would be guided through the process of extending your framework to utilize the advantages of Direct3D 11.1. We would then explore Visual Studio Model editor for loading and editing your assets and learn how to render them with the Direct3D pipeline. We will also explore the supporting inputs such as keyboards, pointers, Xbox controllers, and how to render the complete 3D scene using camera, sound, billboard, tessellation, post processors, and parallel libraries, along with supporting XAML. You would also learn the different techniques of debugging the program and would be well equipped with everything you need to start programming 3D applications and games with DirectX 11.1 on Windows 8 platforms.

What you will learn from this book

Loading and rendering mesh using the output format of Visual Studio Model Editor
Draw geometry with texture and compiled shaders
Load and render meshes using the output format of the Visual Studio Model editor
Implementing asynchronous resource loading
Displaying performance data
Add collision detection, sound, bump mapping, specular mapping, and a billboard system to the framework
Use tessellation for improving material surfaces
Compose XAML and Direct3D
Add post processing and parallel collision detection using C++Amp

Approach

Written in step-by-step tutorial format, we will explore the creation of 3D applications and games through the development of a Windows 8 metro style game. Who this book is written for

DirectX 11.1 Game Programming
Written for developers with knowledge of C++ essentials and 3D mathematics who would want to create metro style game on the Windows 8
platform. DirectX 11.1 Game Programming explores Direct3D 11.1 and Microsoft C++ component extensions along with introducing C++ accelerated massive parallelism.

**Book Information**

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#52 in Books > Computers & Technology > Programming > Graphics & Multimedia > DirectX  
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**Customer Reviews**

This book is a practical guide that introduce DirectX 11.1 technology in order to develop Windows 8 Store App. Pooya Eimandar (the author) in about 150 pages will show how to utilize DirectX 11.1, XAML and C++/CX in order to develop graphical applications. As prerequisite, the reader should have basic knowledge of C++/CX programming and some experience of DirectX 10/11 programming may be useful but not is not required. If you don't have a good C++/CX coding skill but you master C++/CLI don't worry, the syntax is similar ;) Chapter One, Say Hello to DirectX 11.1, covers the new features of Windows 8, DirectX 11.1, and the new extension of C++ called C++/CX. This chapter also covers how to set up a framework and initialize the Direct3D device. Chapter Two, Getting Started with HLSL, provides you with a preliminary knowledge of the new features of HLSL in DirectX 11.1 and explains how to interact with buffers in Direct3D. It also introduces the new additions of Direct2D for Windows 8. Chapter Three, Rendering a 3D Scene, presents the details of system usages and how to use the Visual Studio Model Editor to render models. This chapter also covers how to handle inputs, cameras, and finally integrate XAML and Direct3D. Chapter Four, Tessellation, introduces the tessellation stages. It also outlines how to use the graphics debugging feature in Visual Studio 2012. Chapter Five, Multithreading, introduces the C++ AMP library and the Compute Shader stage and compares the performances of both. I really appreciate this chapter, I
think that C++ AMP library can help many developer not only in game development and should utilized to improve own application’s performance.

In conclusion...

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