Computer Graphics Practice(1)

2022-1

Dept. of Game Software
Yejin Kim

Class Introduction

- Computer Graphics Practice(1)
  - Place: B409 (Online)
  - Time: Tu2 (10:00~11:00), Fr23 (10:00~12:00)
- Instructor
  - Yejin Kim (yejkim@hongik.ac.kr)
  - Office: B230
  - Office hours: Tu 13:00~15:00 (Online)
- Students
  - Game software major (3rd year, major selective)
  - Prerequisites: C++, Linear Algebra (coordinate system, vector, matrix)
- Notifications, class slides, assignments, QnA
  - Use ClassRoom

Class Objectives

- Learn basics of 3D computer graphic techniques
  - Fundamental concepts in 3D object rendering
  - 3D math, rendering pipeline, geometry transformation, texturing, lighting, camera, etc.
- Create a 3D interactive application using DirectX SDK
  - Develop a simple framework in steps
  - Utilize the given examples into a project

Class Objectives

- Tutorials for Computer Graphics Practices (1), 2022-1
  - Framework setup
  - Buffers, shaders, and HLSL
  - Texturing
  - 3D model rendering
  - Lighting
  - Basic interactions
- Tutorials for Computer Graphics Practices (2), 2022-2
  - 2D Rendering
  - Timing
  - Advanced interactions
  - Multi-texturing
  - Visibility culling
  - Character animation
  - Visual effects (Environment mapping, billboard, particles, etc.)

Microsoft® DirectX®

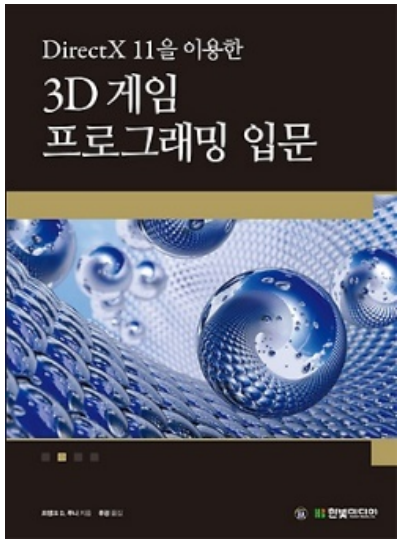
[Referenced from www.rastertek.com]

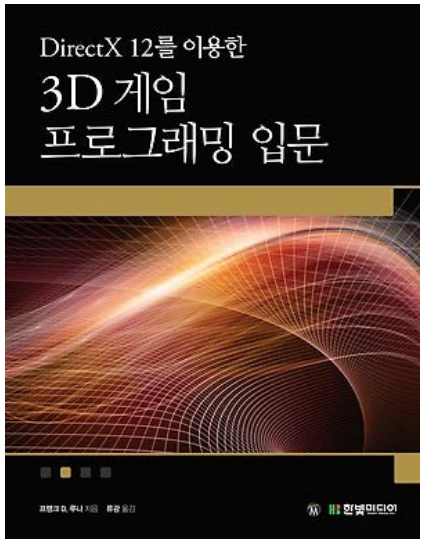
Class Evaluation

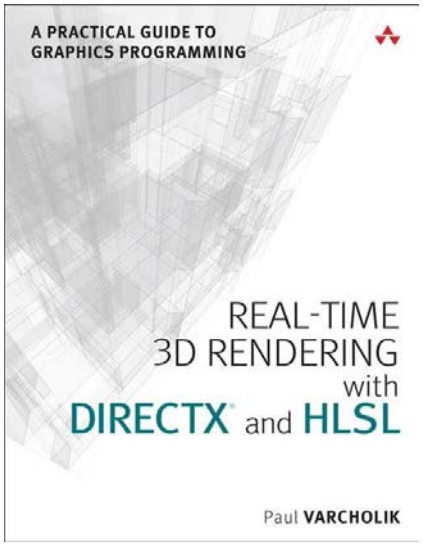
- Grade
  - Project: 70% (individual)
    - Plan proposal
    - Progress checks
    - Final demonstration
  - Exam: 20%
  - Attendance: 10%
- Grade cautions (class failure)
  - 1/3 or more of total absences
  - Lower than 30% of total scores
  - Any form of cheating on exams or assignments
  - Not taking exams or completing a project
  - Low class participation

Reference Books

- Introduction to 3D Game Programming with DirectX 11
  - Frank D. Luna (2011), ~~한글판 (류광, 2015)~~
- Introduction to 3D Game Programming with DirectX 12
  - Frank D. Luna (2016), 한글판 (류광, 2017)
- Real-Time 3D Rendering with DirectX and HLSL
  - Paul Varcholik (2014)







온라인 수업 참고 사항

- 온라인 수업 참여
  - 클래스룸 → 주차별 학습 활동 → 실시간원격강의 링크
  - **마이크** 사용: 수업 질의, 과제물 시연
- 출석
  - **전자출석** 사용
  - 지각한 경우 수업 **종료** 후 개인별 공지
- 수업 방식
  - 비대면/대면은 유동적일 수 있음

Q & A