Foundations of 3D Scene Modeling

Recap

Cornerstones of image generation:

- **3D scene**
- Rendering algorithm
- Raster image

<IMAGE: high-level overview of three main components>

Where we are today

<IMAGE: tree-like structured knowledge of the course>

Introduction

Elements of any 3D scene:

- 3D model(s)
- Light source(s)
- Camera(s)

<IMAGE: high-level overview of three main components>

3D scene

- 3D scene modeling goes hand in hand with object oriented design.
- 3D scene representation has inherent tree-like structure thus often represented with so called **scene-graph**
  - Book: Foundations of Game Engine Development: Rendering (E. Lengyel)
  - Scene modeling tools: DCC examples

<IMAGE: COMPONENTS OF 3D SCENE AND SCENE GRAPH>

Complex scene

<IMAGE: An motivation image that we will understand by the end of the lecture.>

Literature

- https://github.com/lorentzo/IntroductionToComputerGraphics/wiki/Foundations-of-3D-scene-modeling