Computer Graphics: Rendering (INFR11246)

Tutorial 1: Coursework 1 prep

Setup

1. Make sure to set the "Render Engine" in the "Render" tab to "Cycles"
2. Go to the section below called "Sampling" and reduce the "Max Samples" value in the "Viewport" and "Render" tabs to something lower. The default values are excessive for our purposes and will make render time much longer. 32 for viewport and 128 for render works well enough.

Ex1. Model a Duracell battery

Using your knowledge of 3D modeling, create a mesh in the shape of a Duracell battery - Automagic's sponsors.

Ex2. Assign a texture to a mesh

Create a new mesh or use the battery from exercise 1. Find a texture online and assign it to the mesh so that the texture is displayed on the mesh when rendered. Modify the UV projection of the texture until you're satisfied with the results.

Helpful video on that topic: https://www.youtube.com/watch?v=mURA2g1rOSc

Ex3. Cast shadows on a shadow catcher

Shadow catchers are meshes that are meant to only render the shadows that fall on them rather than the mesh itself. You can designate an object as a shadow catcher via object properties > Visibility > Shadow Catcher. In order to prove that it works, create a simple scene with the shadow catcher, a light source, and any object between the two that will cast a shadow.

Helpful video on that topic: https://www.youtube.com/watch?v=lXJca9D_TRM

Ex4. Cast shadows from an invisible object

When placing your virtual object inside a scene of your choosing, you will likely be required to simulate a shadow from a real-life object falling on your virtual object. However you don't want to

render the mesh representing the real-life object itself. Therefore create a simple scene where an object casts a shadow on another object, but the former is invisible.

Hint: Simply disabling the render visibility in your project hierarchy will not do, as it removes the shadow as well!

Ex5. Create a reflective surface

Create a new mesh (preferably a plane) and go into the shader editor. Create a new material and make it reflective. Render an image where the plane reflects a different object in your scene.

Helpful video on that topic: https://www.youtube.com/watch?v=SLChjoLf5jg