CS4515 - Blender Exercises

TU Delft - Computer Graphics and Visualization

2024-Q1

Practical Exercise

Goal: Create a small scene by modeling (very!) basic objects. You can model whatever you feel like but to get results, here are some proposals. Don't be disappointed if your results look like a 3D scene from the early 80s, that's how everybody starts.

Modelling/Scene setup

- Remove everything from the scene.
- Add a plane (ground).
- Add a cylinder and a sphere, scale and arrange them into a simple "tree" (possibly add several trees with different shapes by duplicating and scaling). Maybe play around with the trunk, make it a crooked tree or whatever you can think of.
- Add two cubes and deform one of them into a rooftop. Arrange the two objects into a simple "house".
- Add/model other objects that could fit in that scene.
- Use the Sculpt Mode to add details to one object.

Materials

- Add materials to the objects in your scene.
- Give them appropriate names and appearance (color and shader, e. g. a brown tree trunk and a green top).
- You can add a procedural noise texture ("Clouds" for example) to the "leafs part" (the sphere) of the tree.

Camera

- Add a camera to your scene and set it up so it faces your scene.

Lights

- Add a light of the type "point" and position it in your scene.
- Render the image (you should render whenever you want to see the result of changes you make which are not immediately visible in the 3D viewport).
- Change the point light into the type "sun" and set it up nicely, for example into an afternoon sun (low angle, slightly orange). (Maybe enable the sky simulation for nicer renders.)
- Enable ambient occlusion.

Animation

- Add a sphere and let it bounce through your scene. For this, add a keyframe (I), advance the time a few frames (in the "Timeline" window) and move the sphere to its new position. Then, add another keyframe. Do this until you have an animation of approx. 100 frames.
- Possibly use the "Graph Editor" to refine the animation.
- Set the output format to be a movie in the "Render" tab under "Output". The resulting movie will be put into the given directory.

Rendering

- Preview in 3D View with Eevee and Cycles.
- Render desired camera view with FHD resolution and 256 samples per pixel.
- Share rendered/cool images in the Brightspace discussions.