C++ 3D Assignment 2 (2.5 pts) – Transforms & Hierarchies

Learning goal 2: Applying basic knowledge of the OpenGL *transformation* pipeline (*see lecture 2*)

Getting started

- Download the Micro Game Engine;
- Download the lecture slides and examples;
- Get the lecture samples & MGE working in your IDE as described in the lecture.

Assignment

Implement a moving nested structure in the MGE with a follow cam.

Grading criteria

- To **pass** this course, each assignment needs to be **finished at the 'mediocre' level at least**, and all assignments together need to result in a minimum grade of **at least 5.5 points** (e.g. 1 'mediocre' + 3 'averages').
- To **pass** a level for a specific rubric you also need to pass all the '**lower**' levels in that rubric ***and be able to explain all your implementation changes.***

Mediocre (1 pts):

You have implemented a basic nested structure using the default .obj files provided with the MGE.
You have used at least 2 different meshes, 2 shaders (colour and texture), 2 colours and 2 textures.
Your structure is movable through a single KeyBehaviour.
Your camera follows your nested structure using a fixed angle and offset. The camera **does not** rotate with the object.

Average (1.5 pts):

You can orbit the camera from left to right and top to bottom around your target while pressing the mouse button.
You can control the rotation speed via uniforms.
You can the basic class structure of the MGE.

Good (2 pts):

You can zoom the camera using the middle mouse button or other form of input.
You limited the vertical angle between -45 and +45 degrees.
You have used a custom .obj file with textures from an online source.

Excellent (2.5 pts):

Your camera movements use basic easing.
You have implemented a custom wobble shader that makes all the vertices of one of your objects wobble from the centre.
You can explain the structure and the MGE requirements of an .obj file.