

# Menger4

## Operations

Rotation is achieved via click and dragging the mouse. There is a right click menu which will allow access to all features. In addition to that, the following is a list of keyboard functions:

- Dragging the mouse will move the camera around the center sponge object.

Changing the shear, rotation, and scale factor can be achieved via the right click menu. The input is accepted in the terminal as a float.

## Implementation

I chose to use JavaScript Object Notation (JSON) to implement the scene graph. There must be four main objects in the root node:

- camera
- objects
- animations
- lights

All but the “camera” must be arrays.

In the project file are the only objects which are currently accepted. All keys are needed except the ambient, diffuse, and specular for “Sphere” classes (those have default values they can assume, but this is not recommended).

To read the JSON files, I used the open source project jsoncpp.