

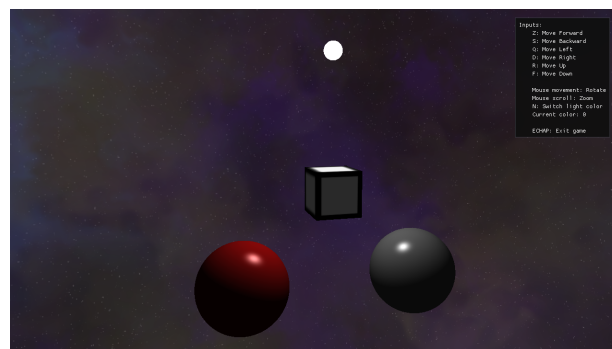
# OpenGL Scene

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## C++ classes

- Game
  - Handles OpenGL initialization
  - Stores camera, shaders, file paths
  - Implements OpenGL callback functions
  - Implements scene core methods
- Shader
  - Convert shader code from file to OpenGL Shaders
  - Stores shader id for mesh drawing
  - Implements methods to modify shader variables
- Camera
  - Stores camera data (position, rotation, ...)
  - Implements keyboard inputs methods
  - Can return view matrix
  - Handles ImGui HUD content
- Mesh
  - Implements Vertex, Texture and Material structures
  - Stores vertices, indices and texture / material data
  - Calls OpenGL drawing methods with mesh data
  - Draws mesh based on textures or materials, sets its position, rotation and scale
  - Adds methods to read texture from image and to load cubemap texture
- Cube & Sphere
  - Derived from Mesh, constructors fill vertices and indices with cube and sphere data

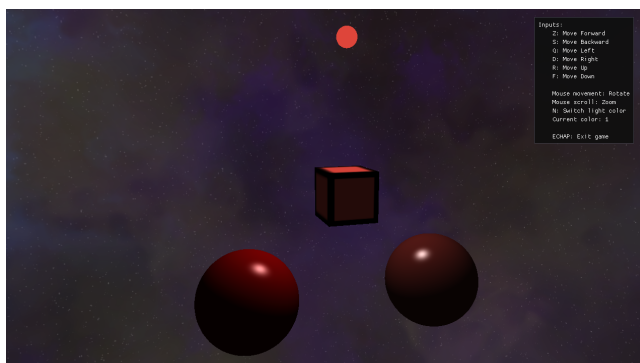
## Scene



Both red and grey spheres have a material and are drawn with the *material shader*. The cube has a texture stored in data/textures and is drawn with the *texture shader*. The top sphere is the light source. It has a texture and is drawn with the *light source shader*.

You can change the light color by pressing N. It cycles between white, red and green light.

### Red



### Green

