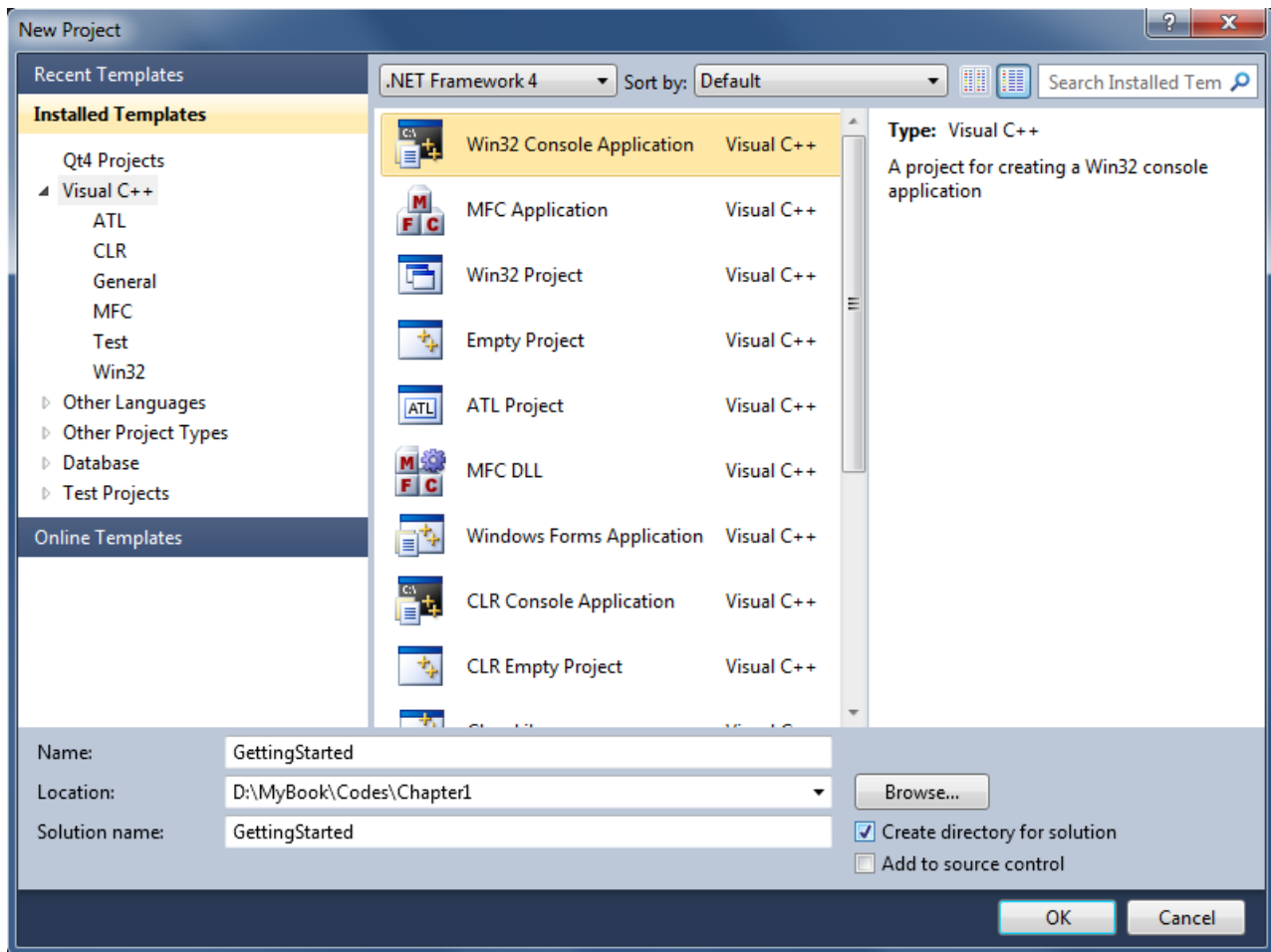
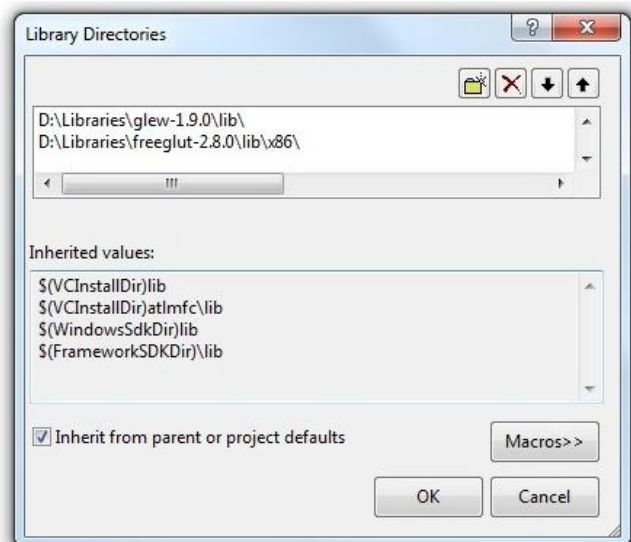
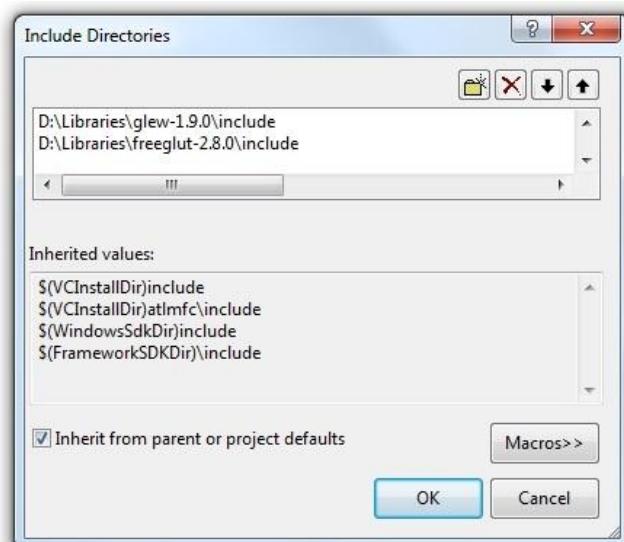
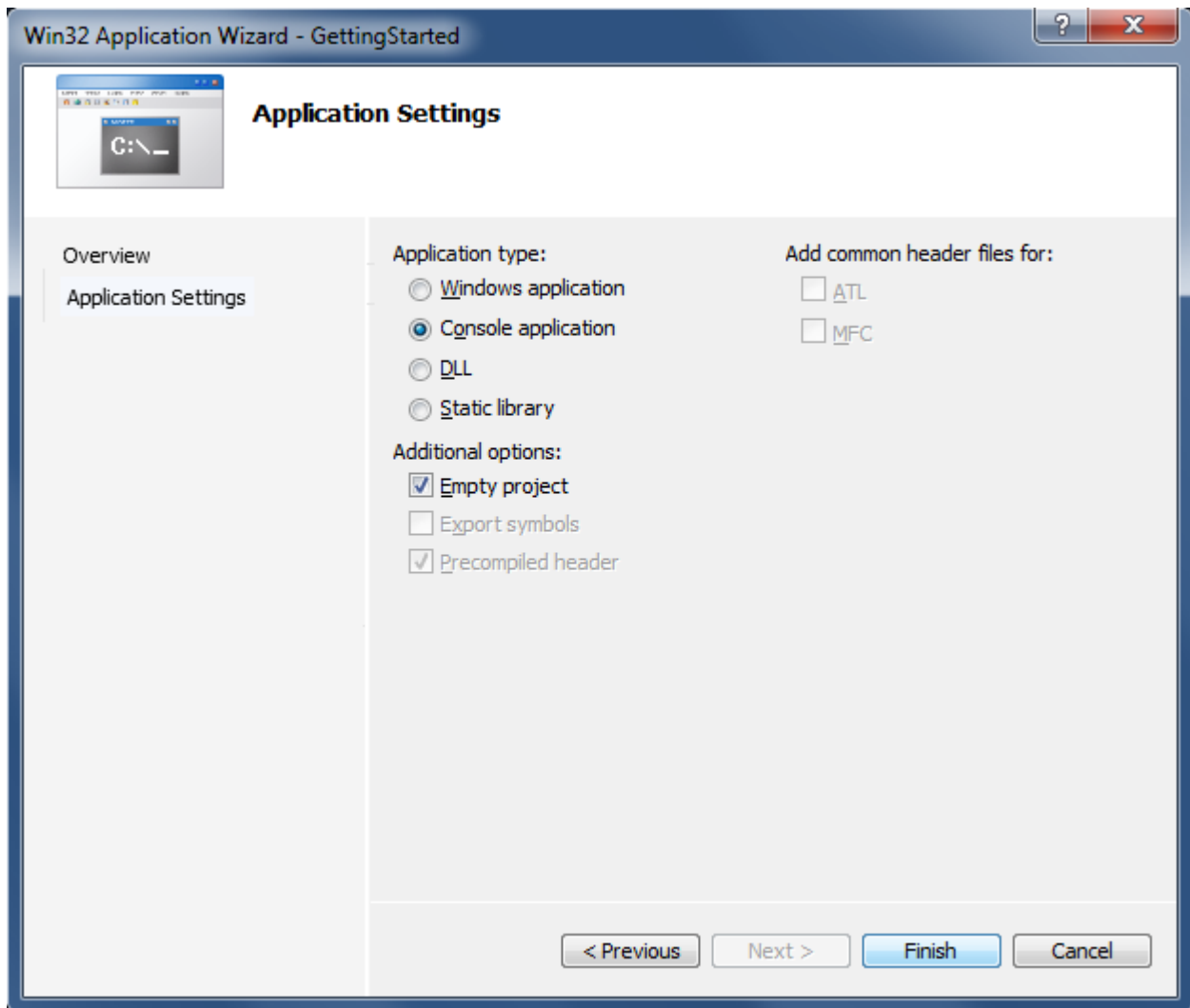
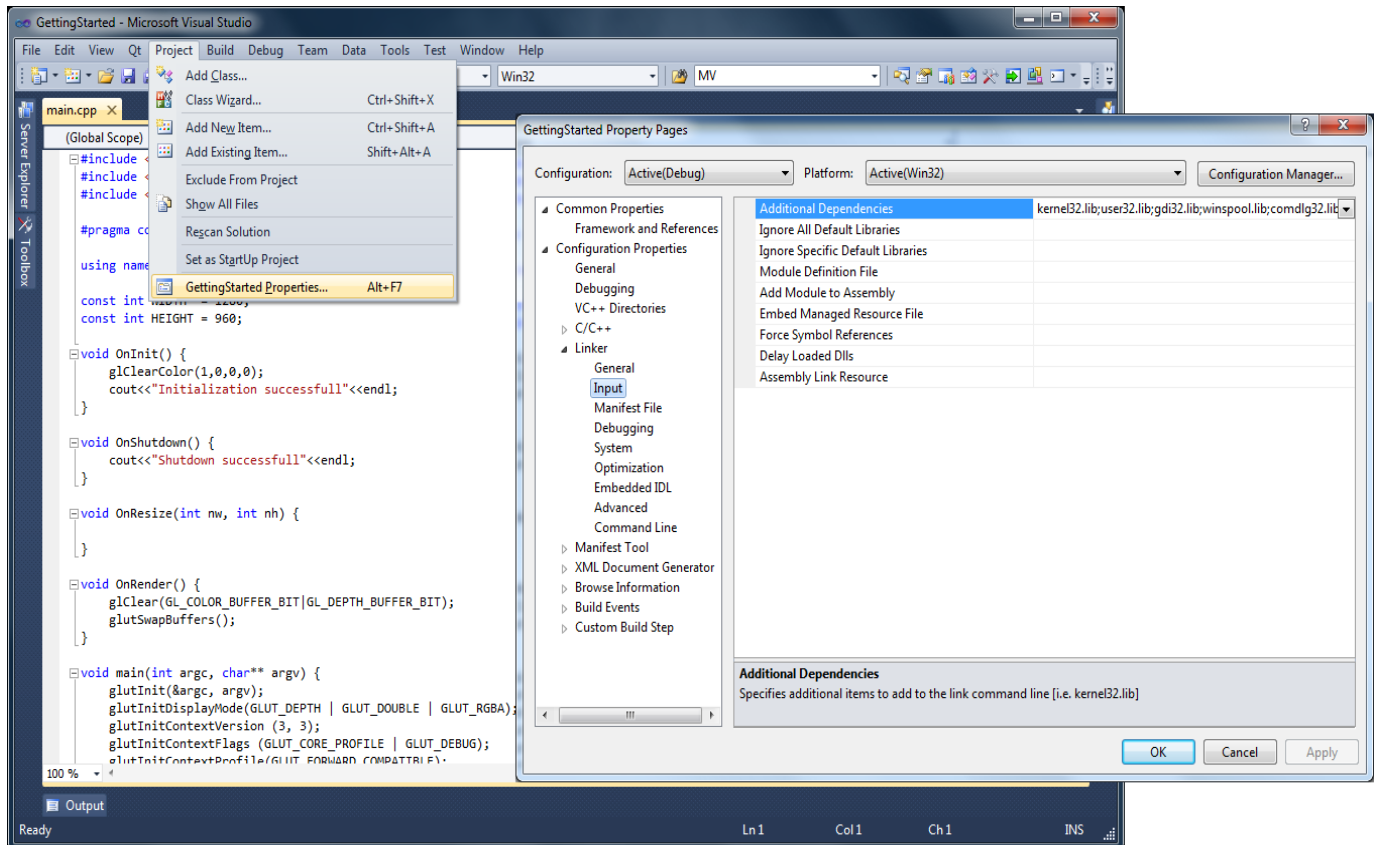
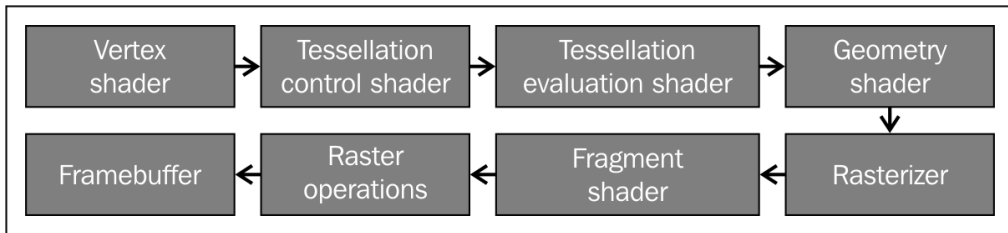


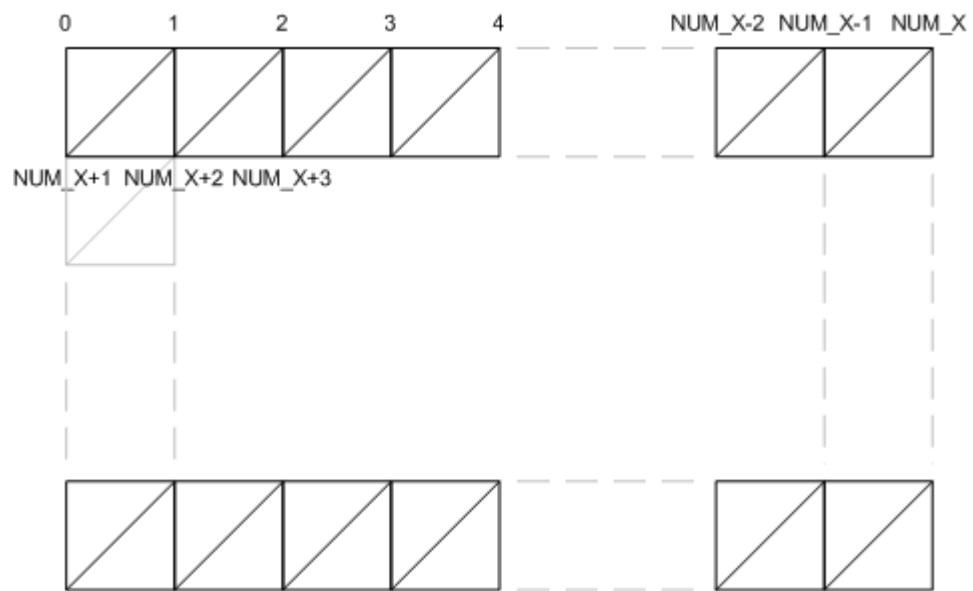
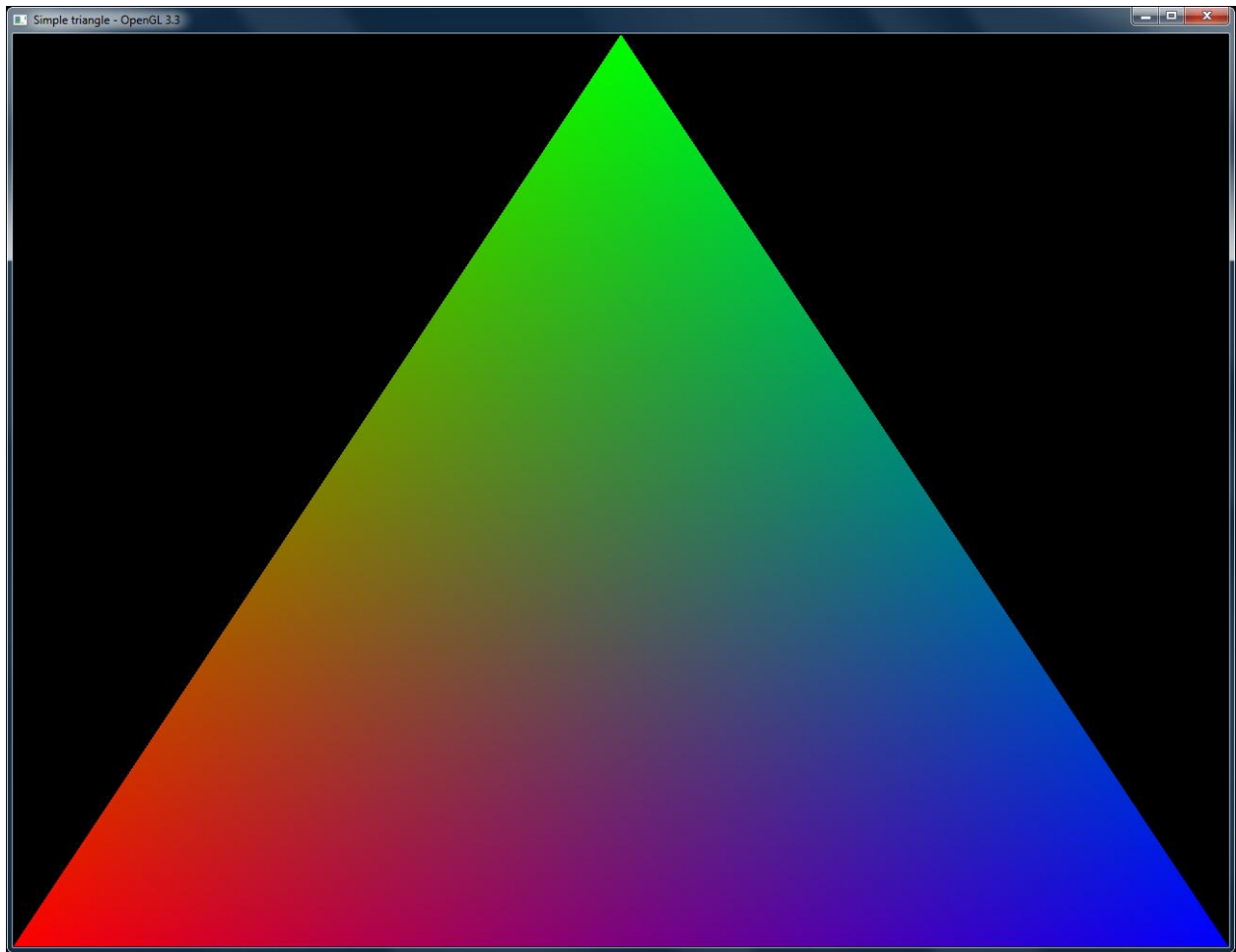
Chapter 1: Introduction to Modern OpenGL

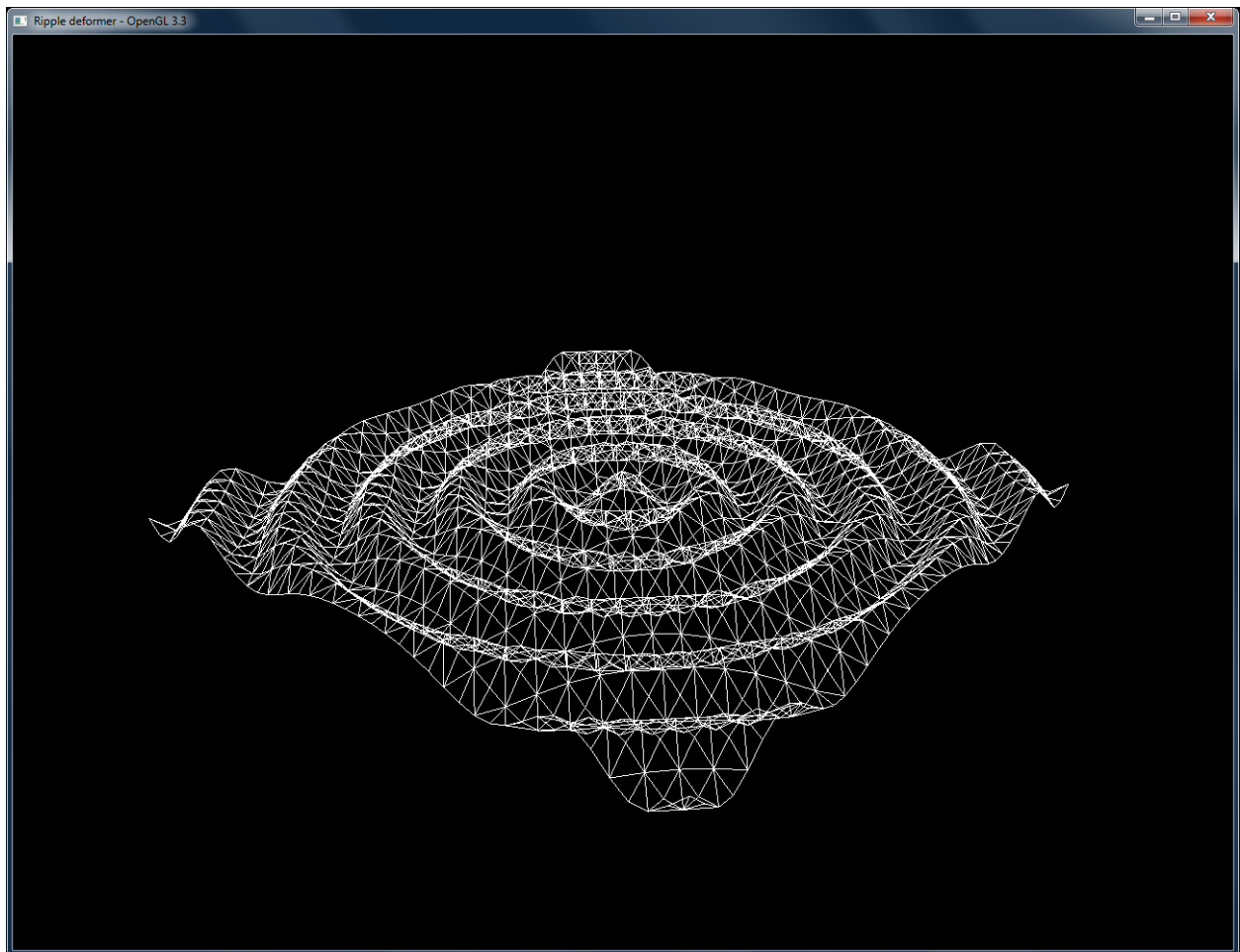
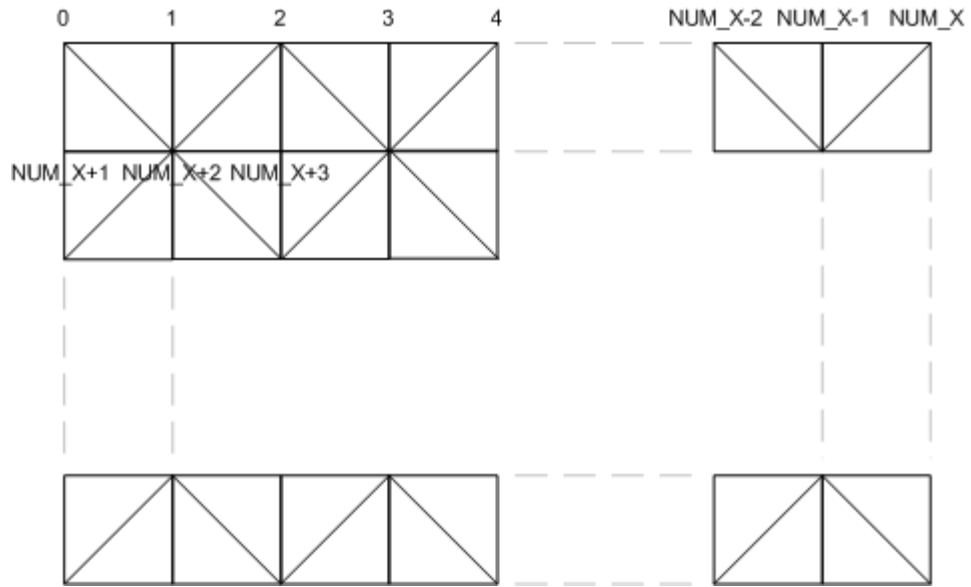


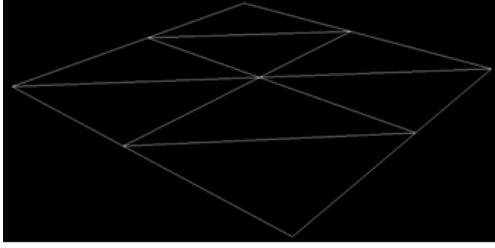




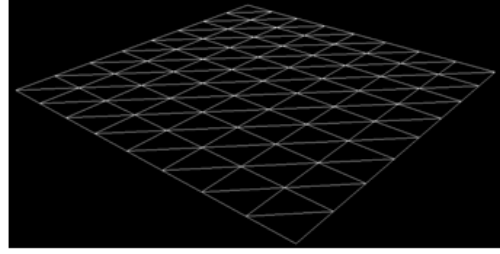




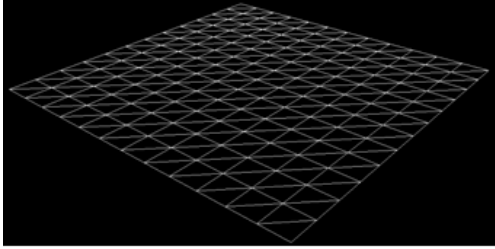




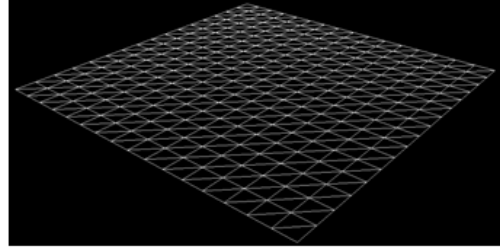
sub-division=1



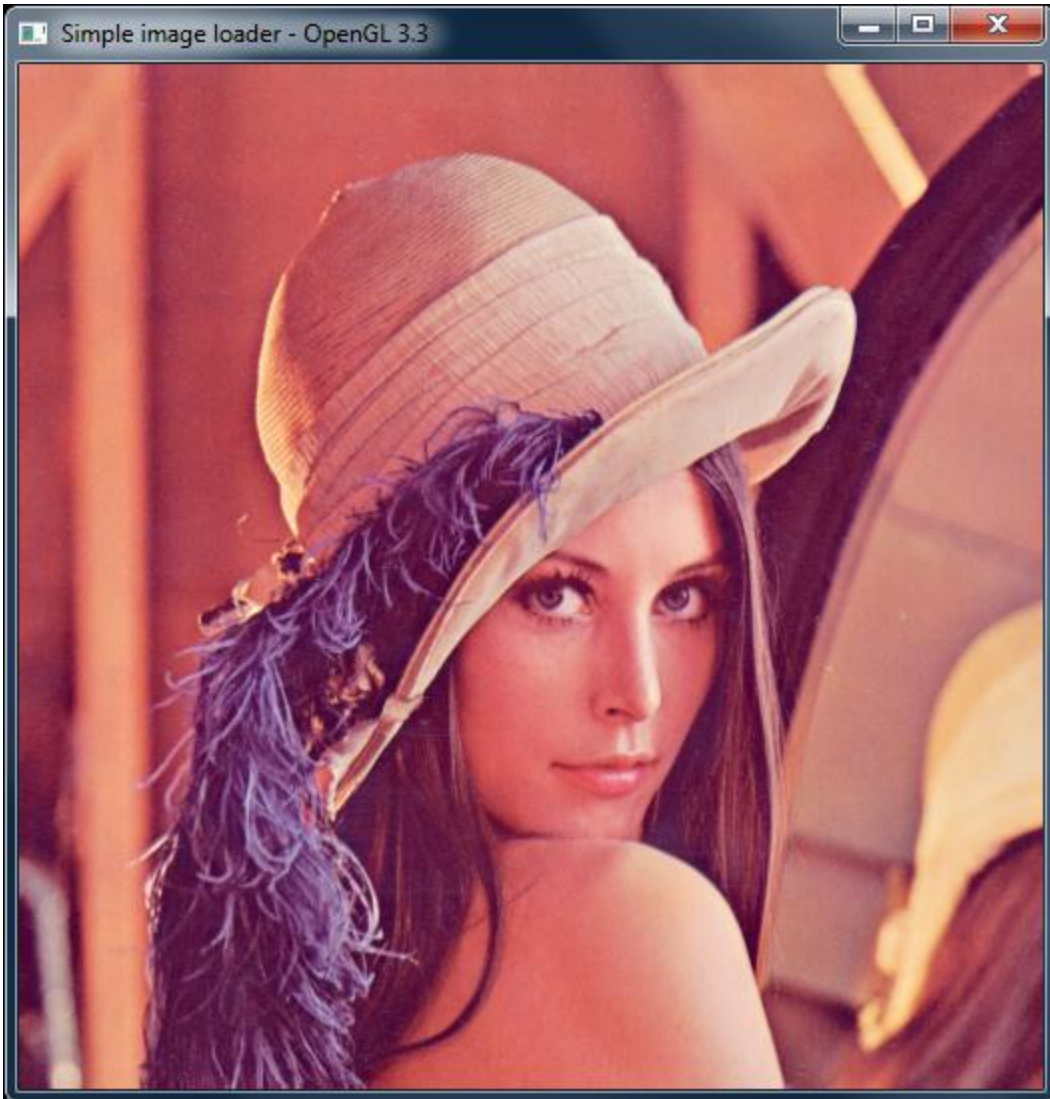
sub-division=4



sub-division=6



sub-division=8

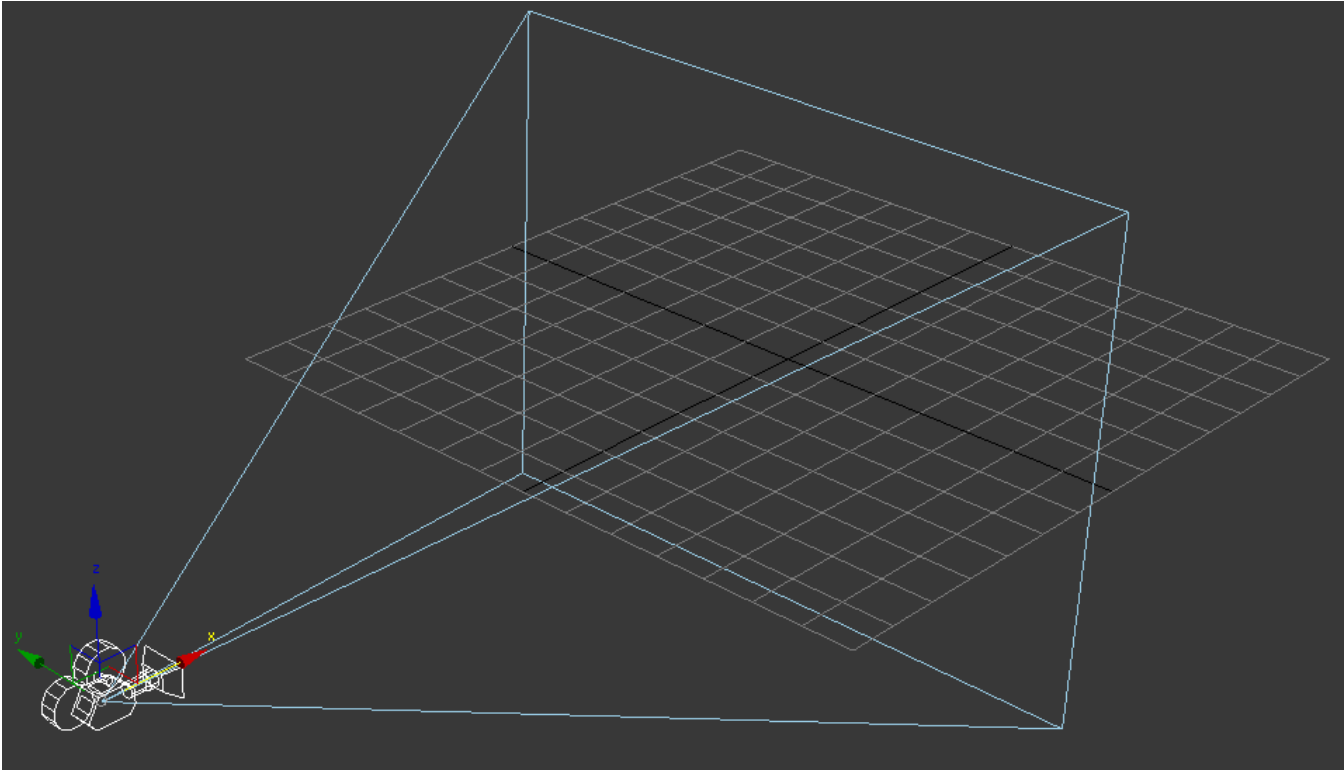
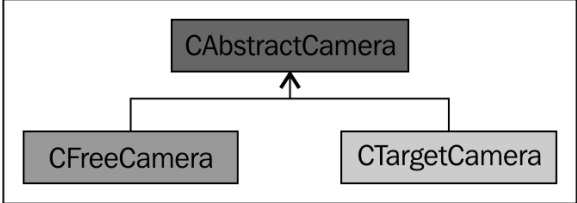


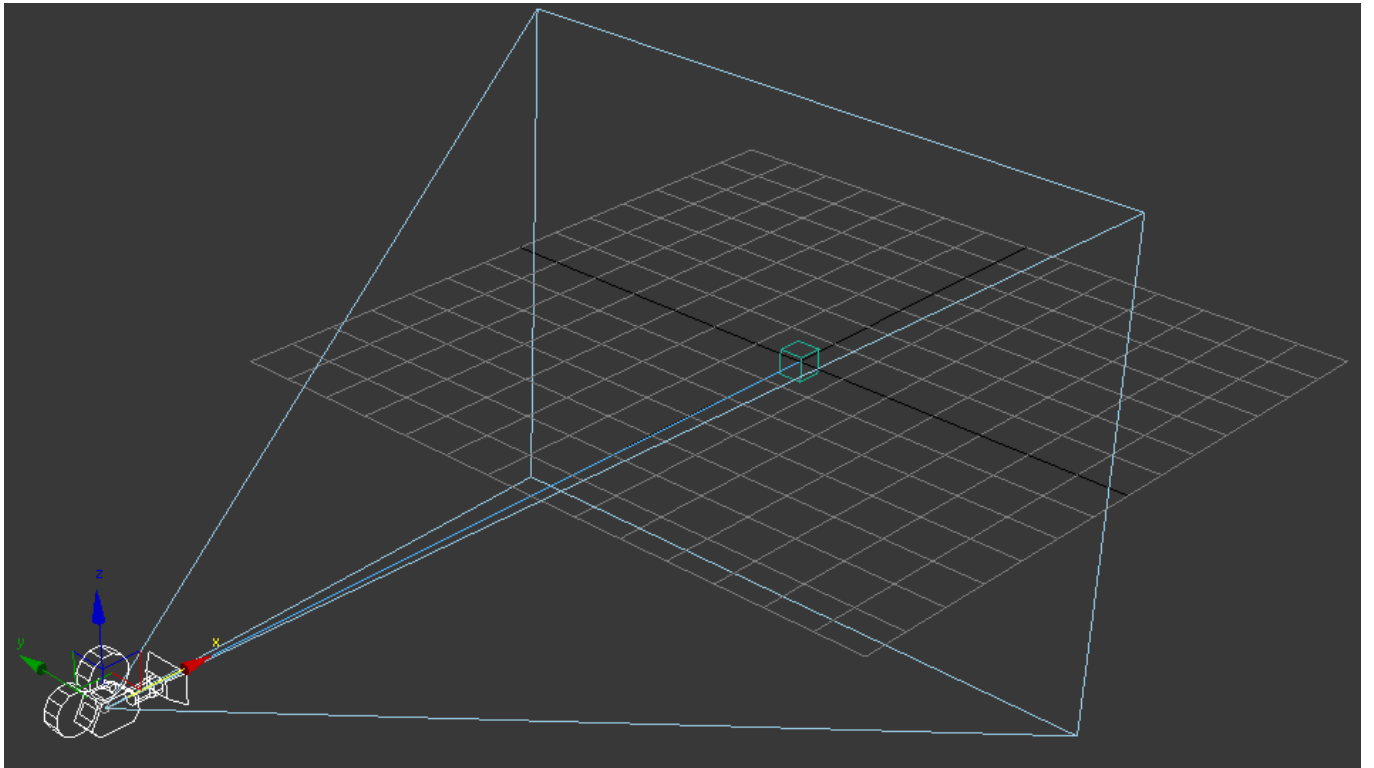
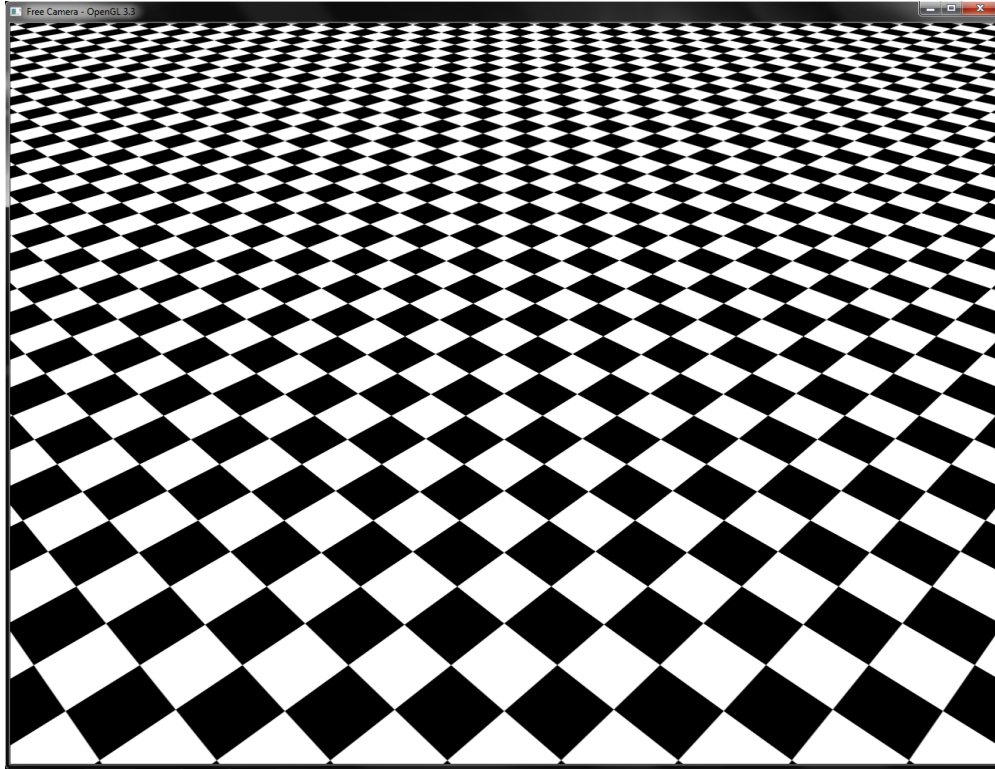
$$y = A.\sin(2\pi ft + \varphi)$$

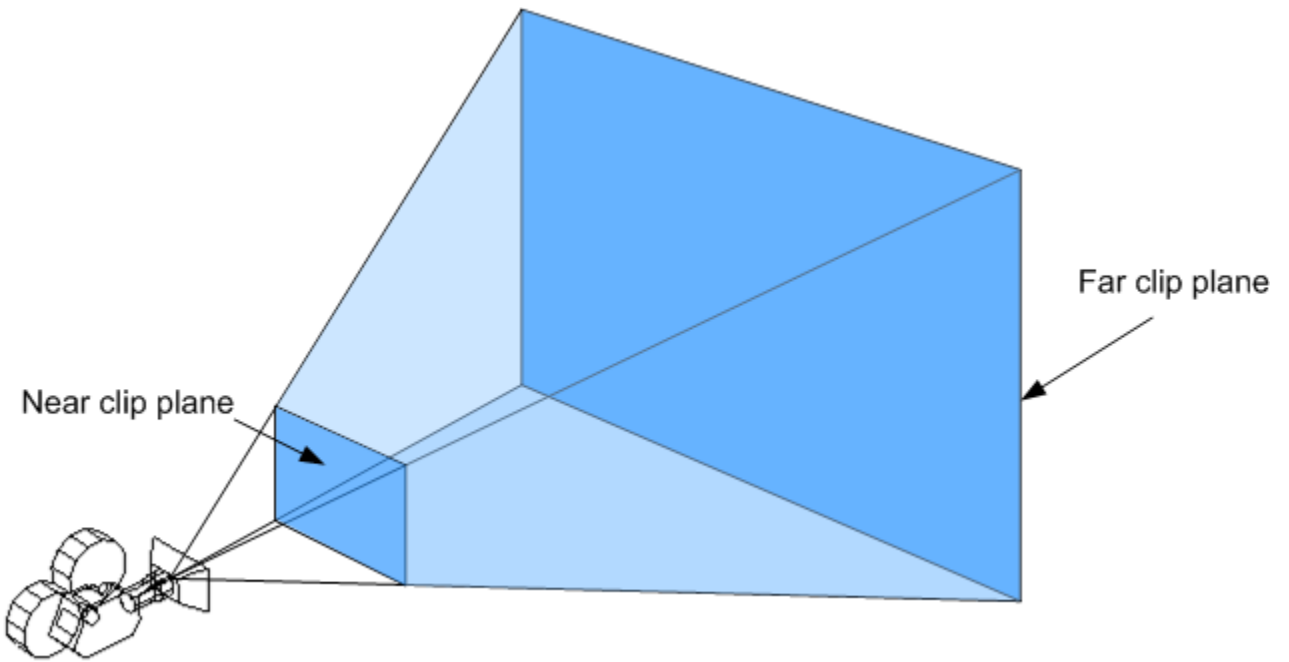
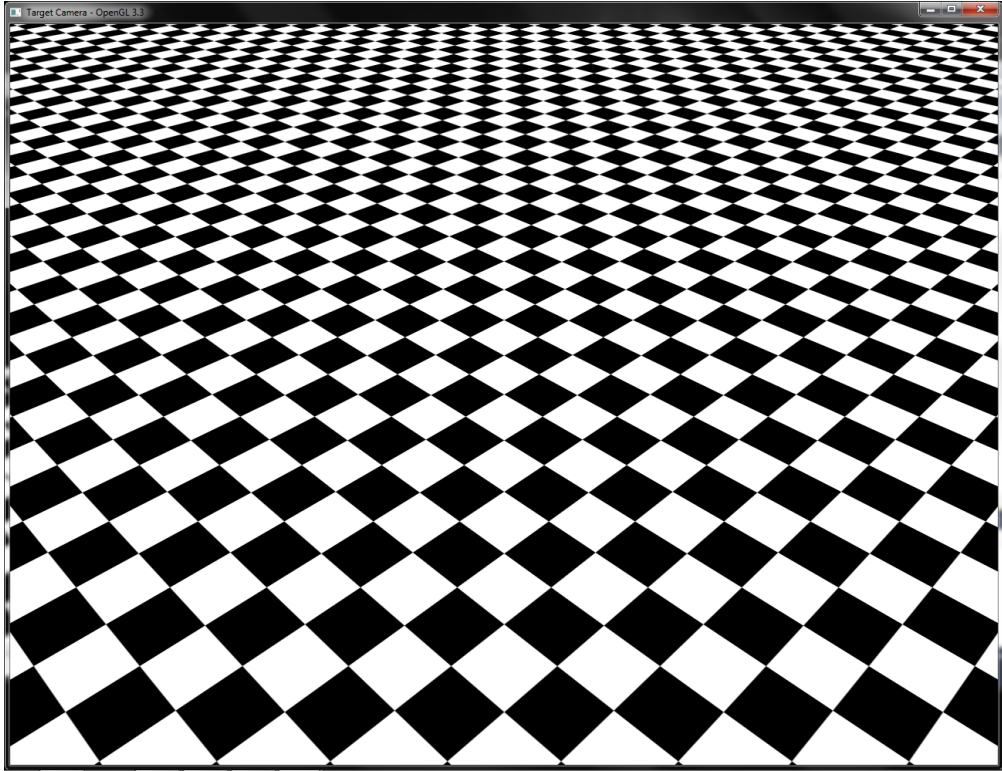
$$d(x,y,z) = \sqrt{x^2 + y^2 + z^2}$$

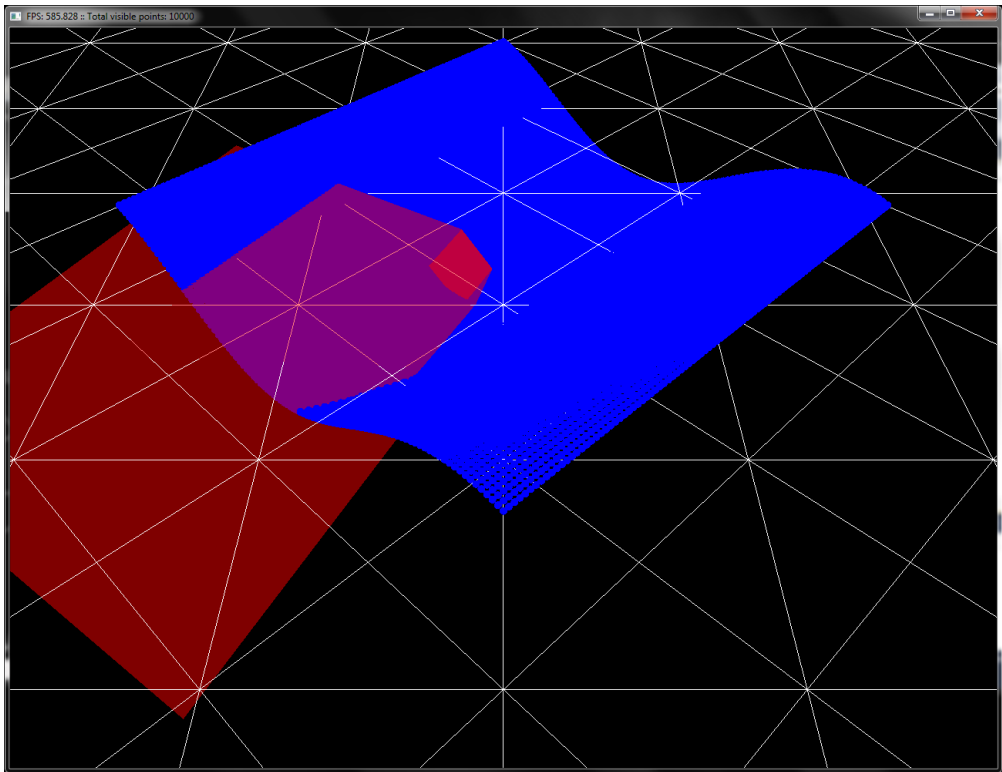
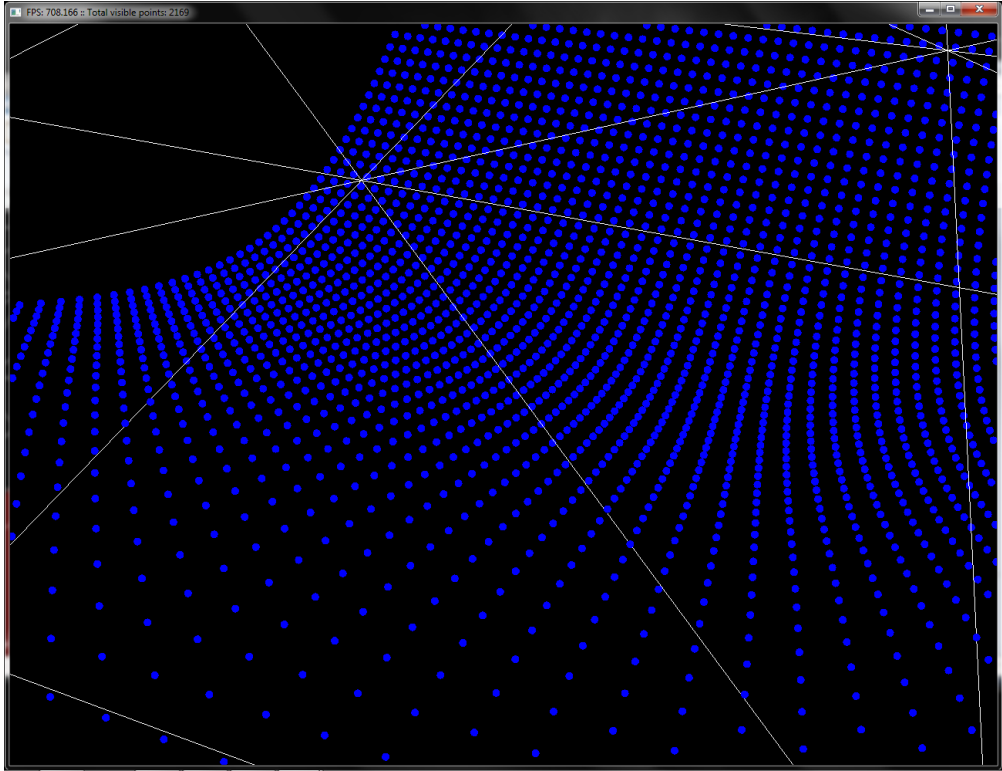
$$F(x,y,x) = A.\sin(-\pi fd(x,y,z) + \varphi)$$

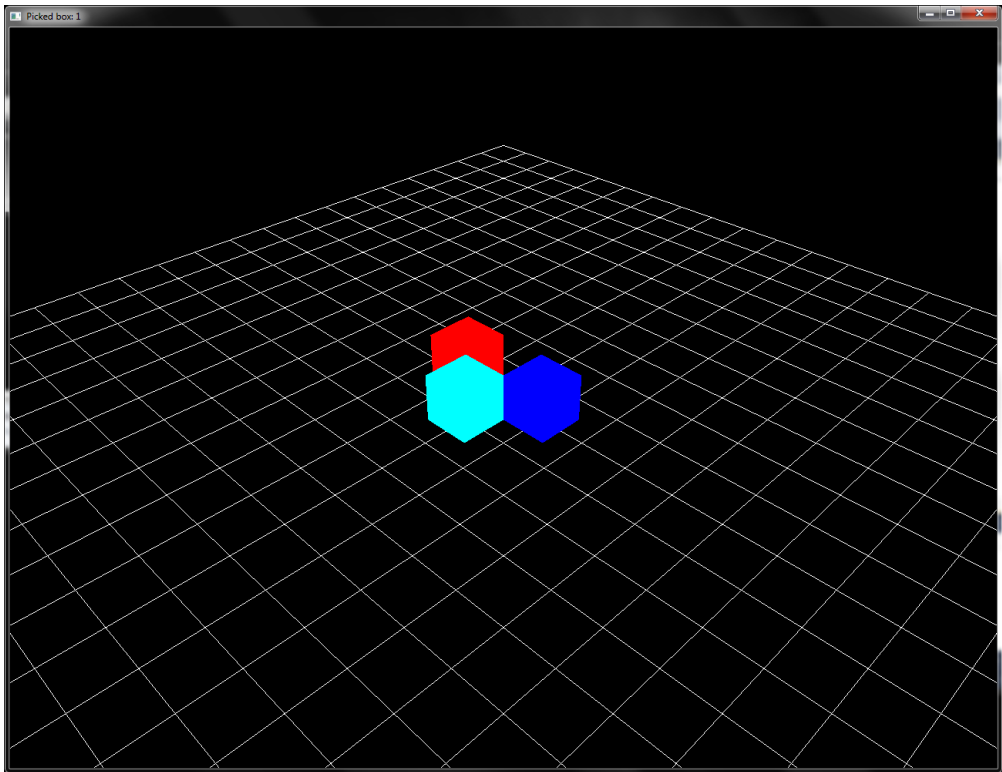
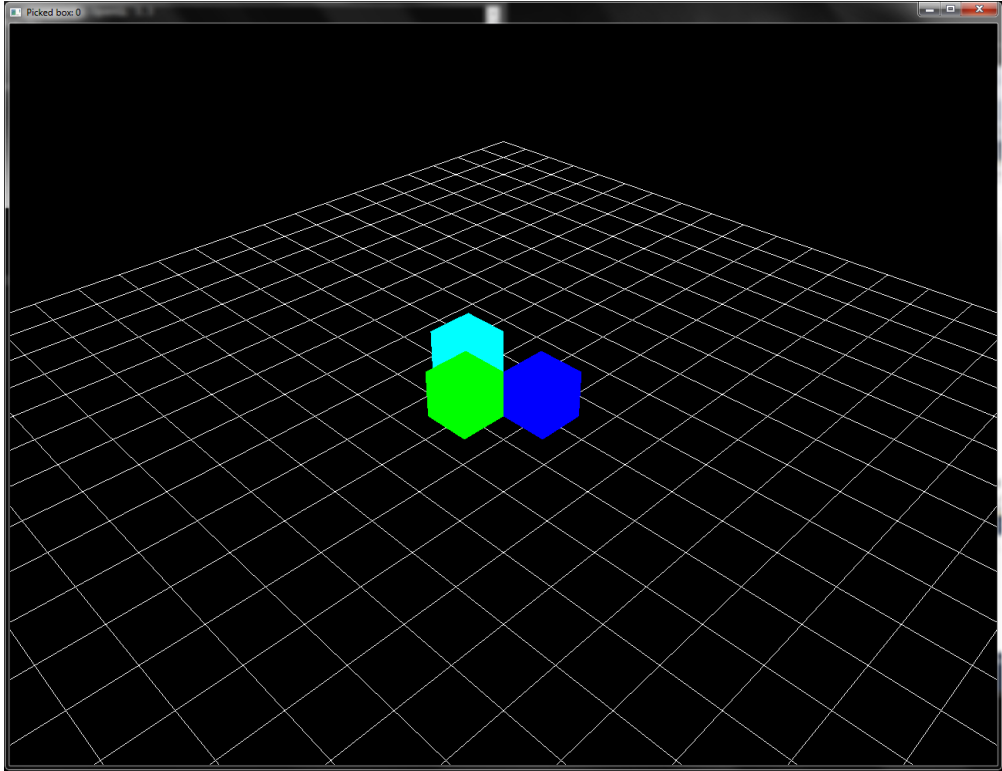
Chapter 2: 3D Viewing and Object Picking

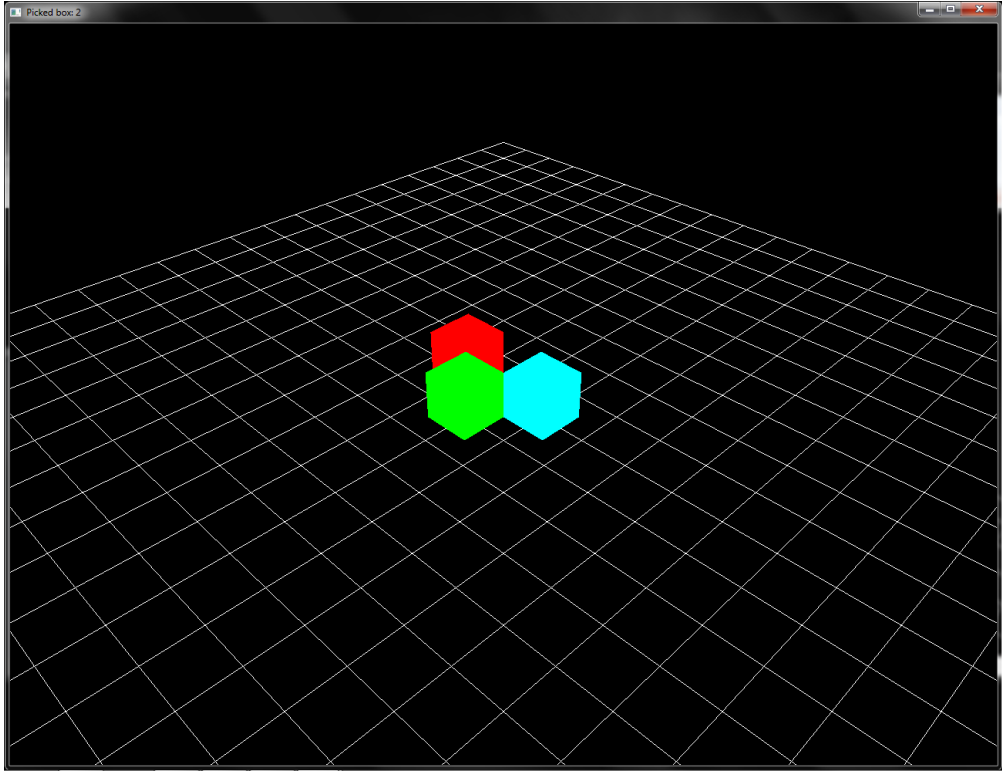




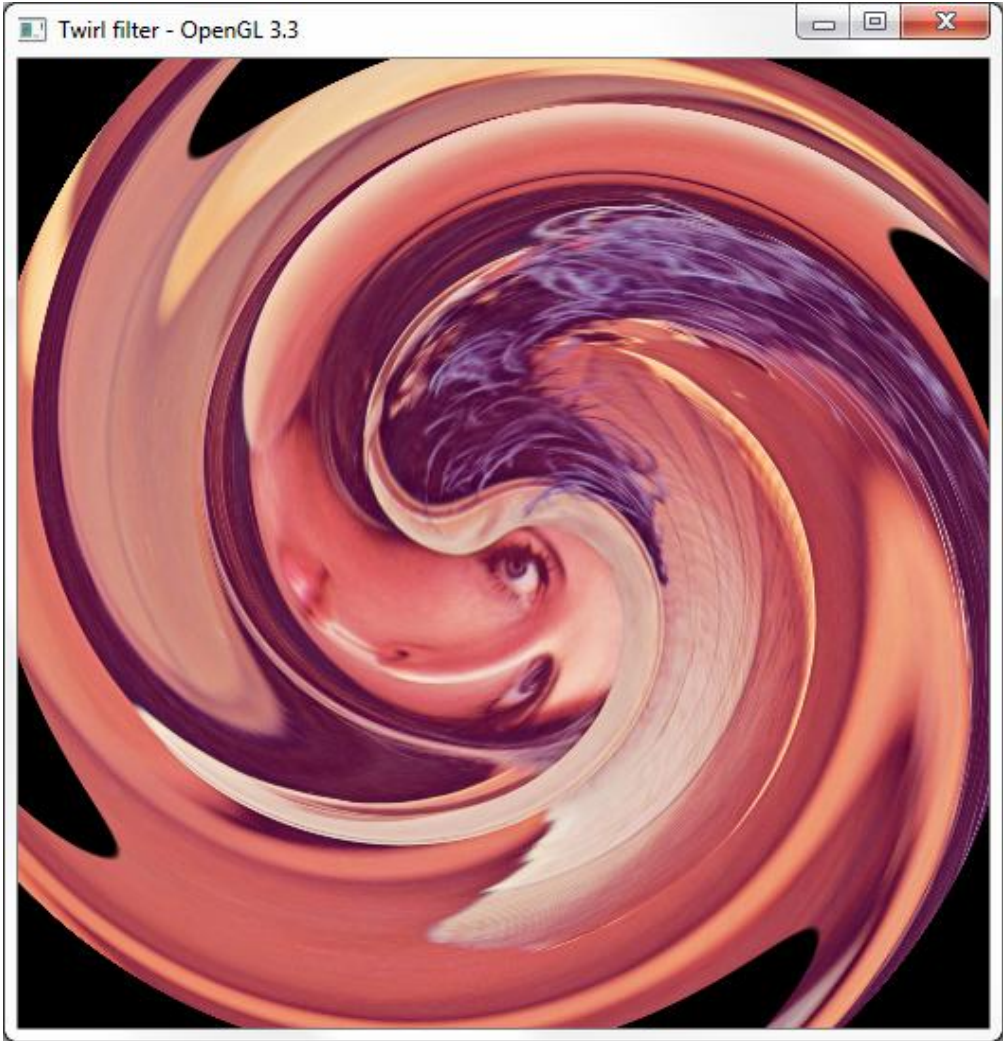


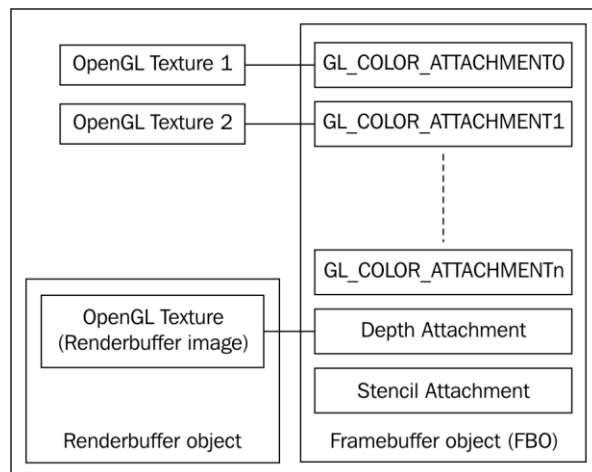


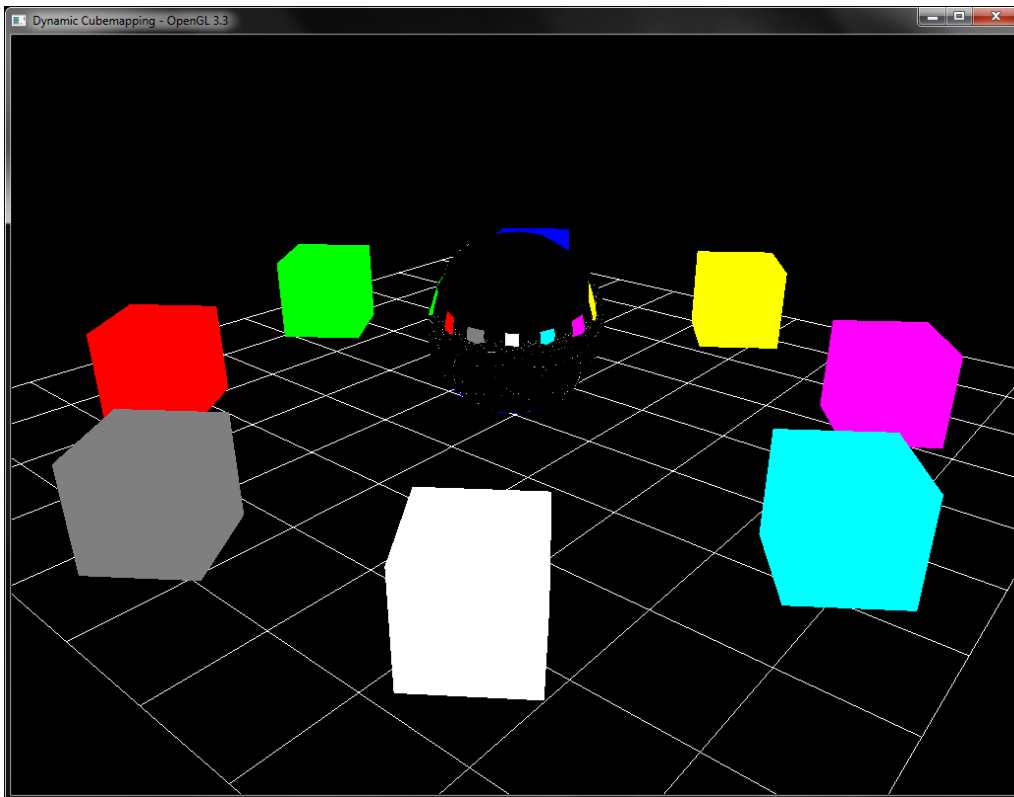
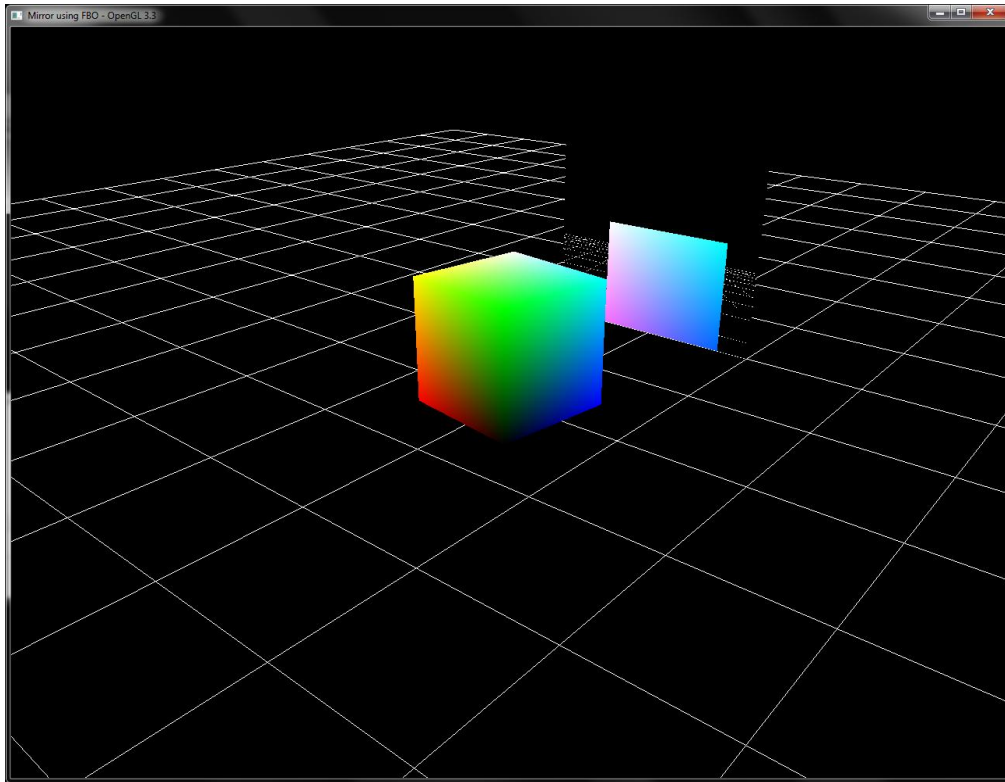


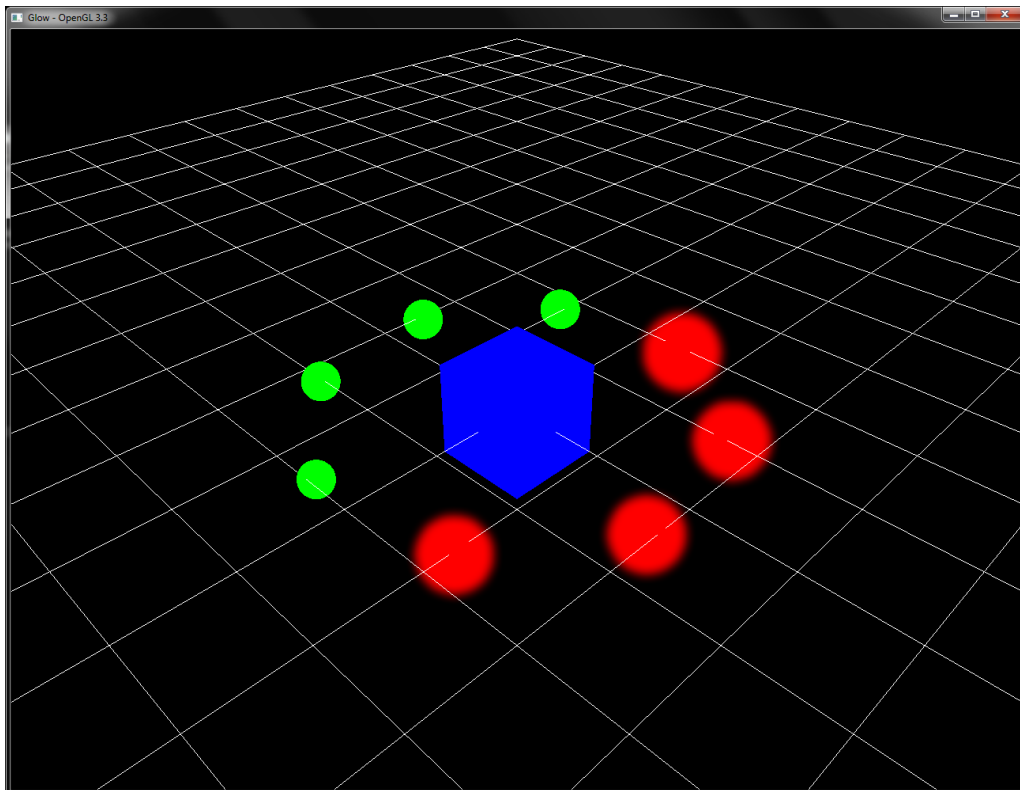
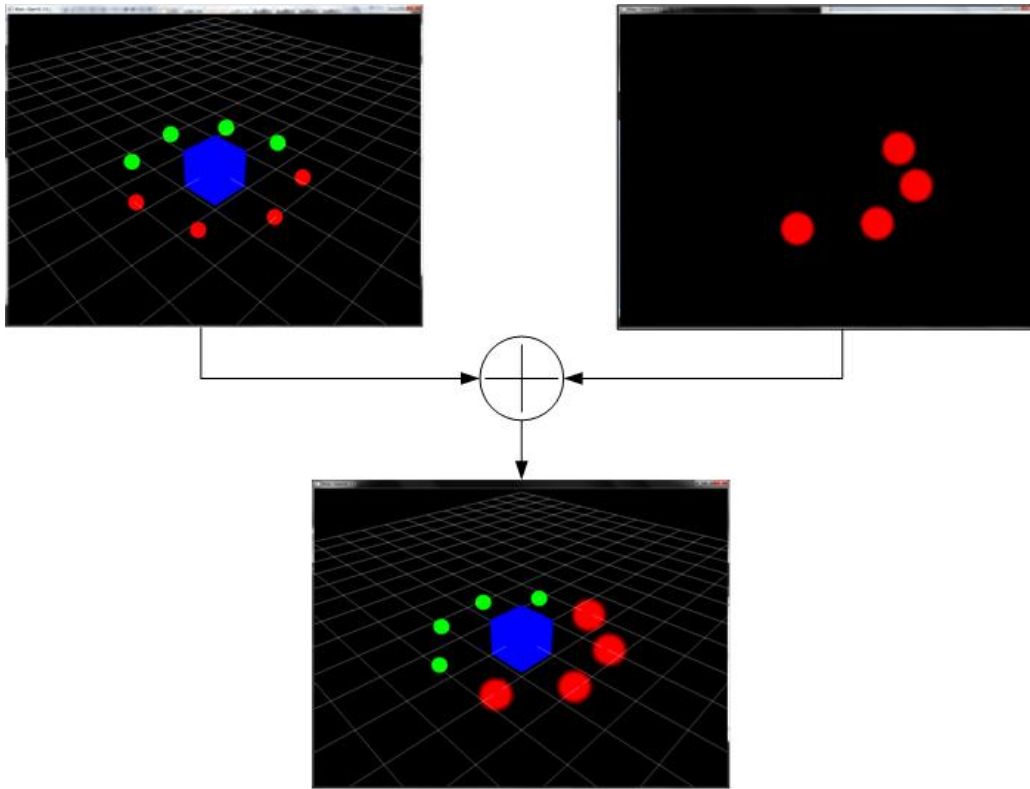


Chapter 3: Offscreen Rendering and Environment Mapping

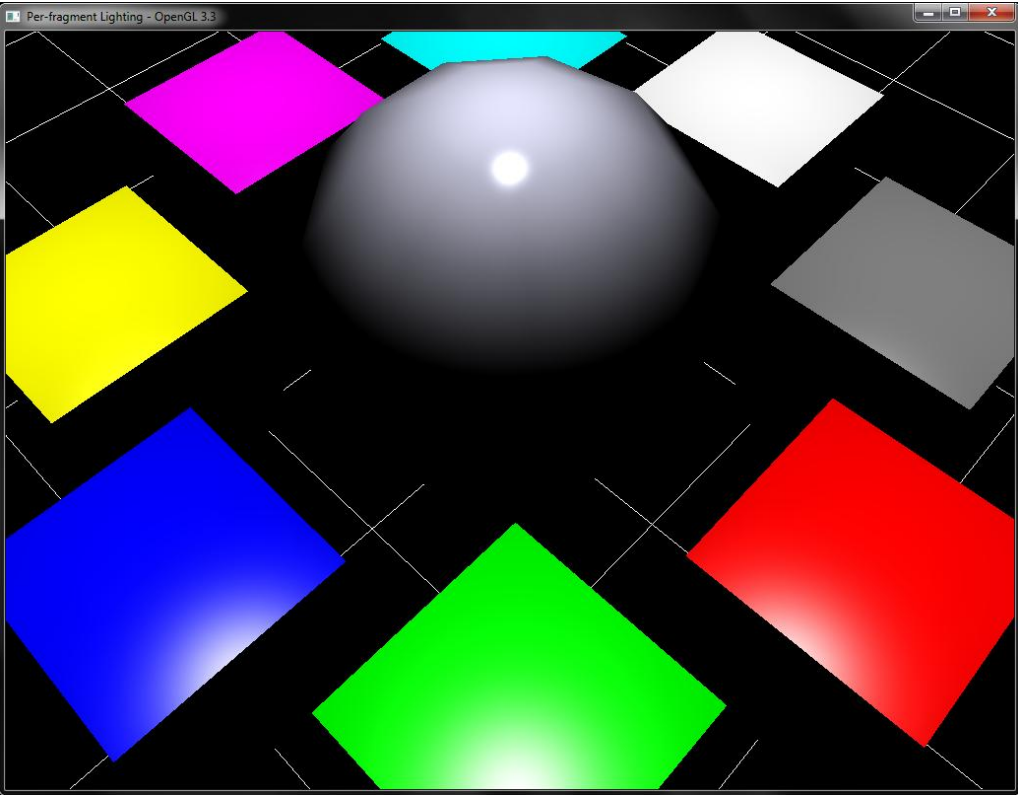
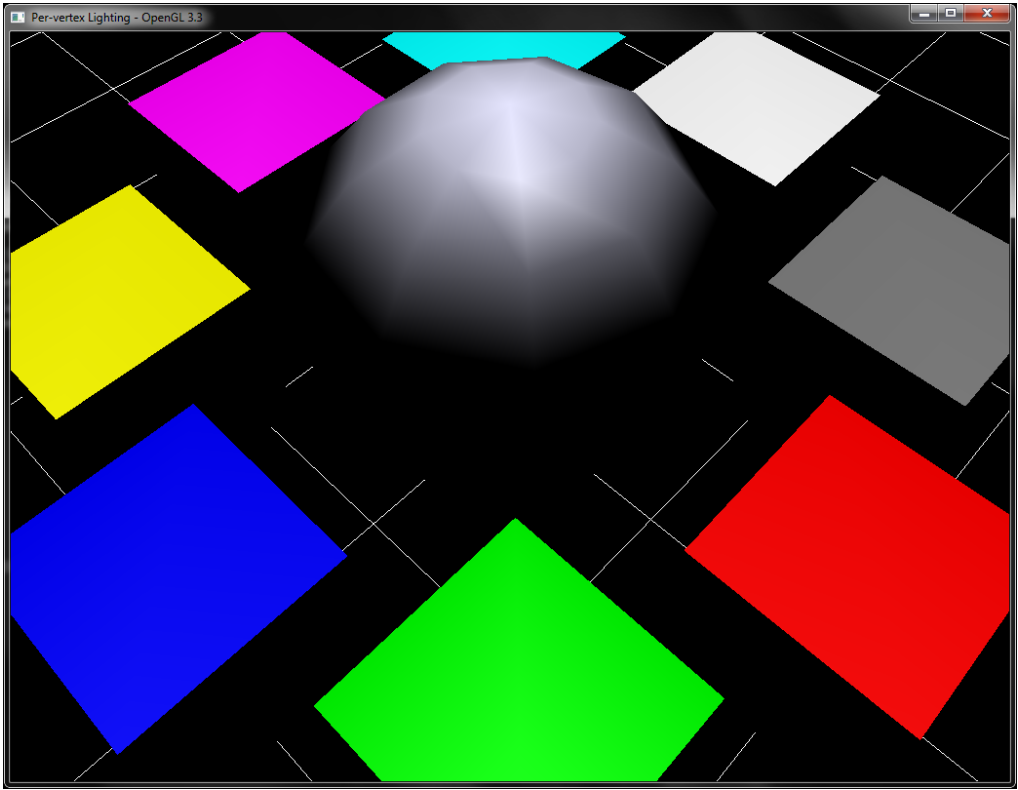


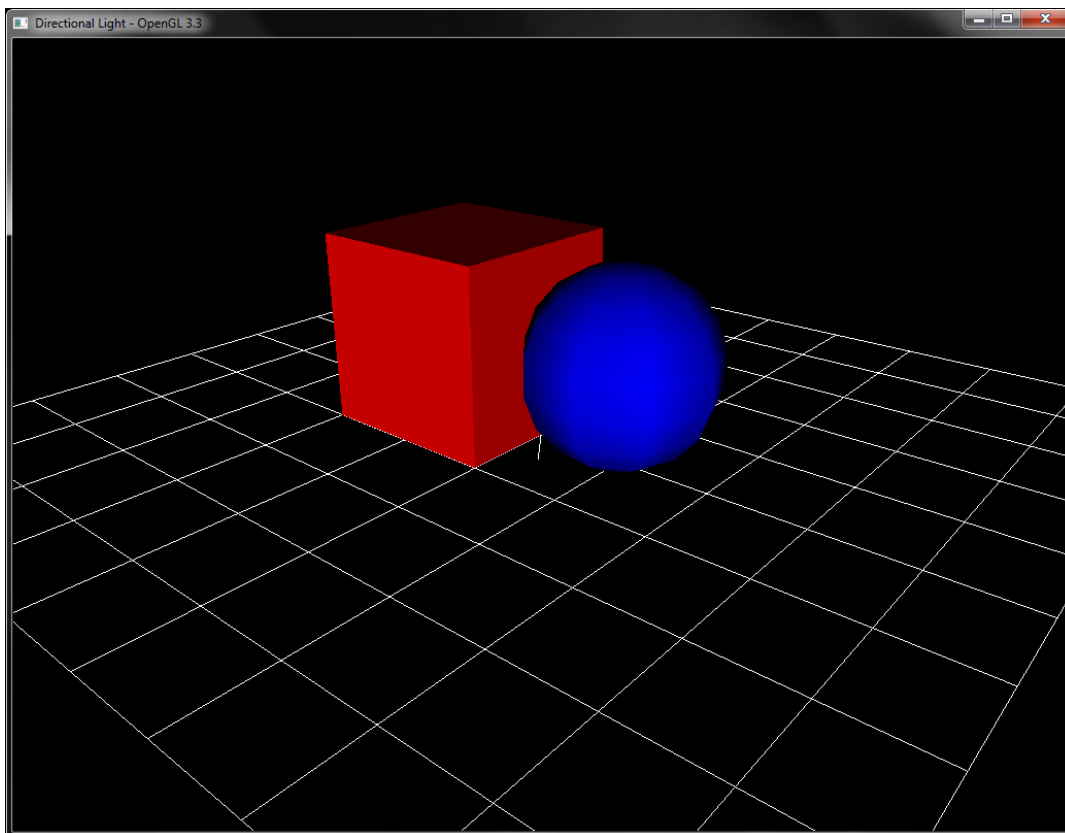
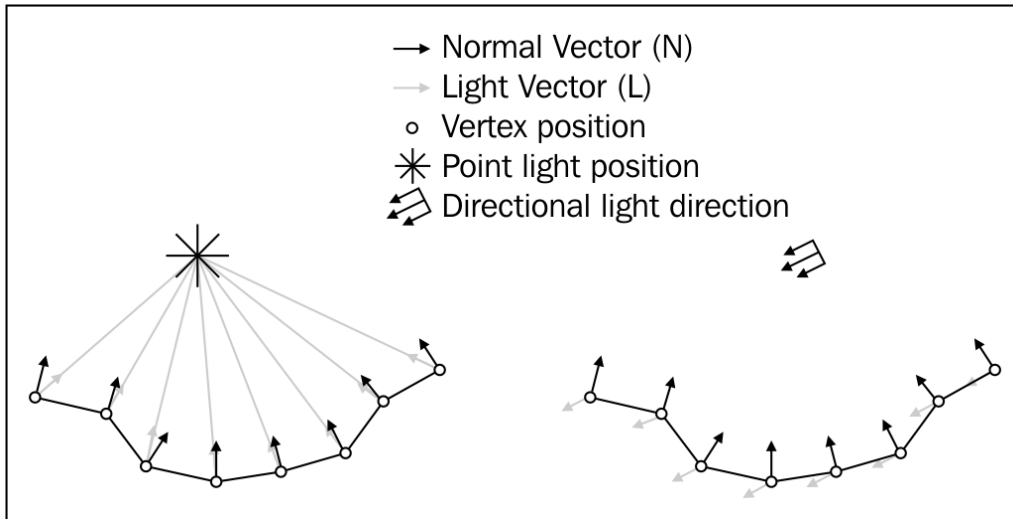




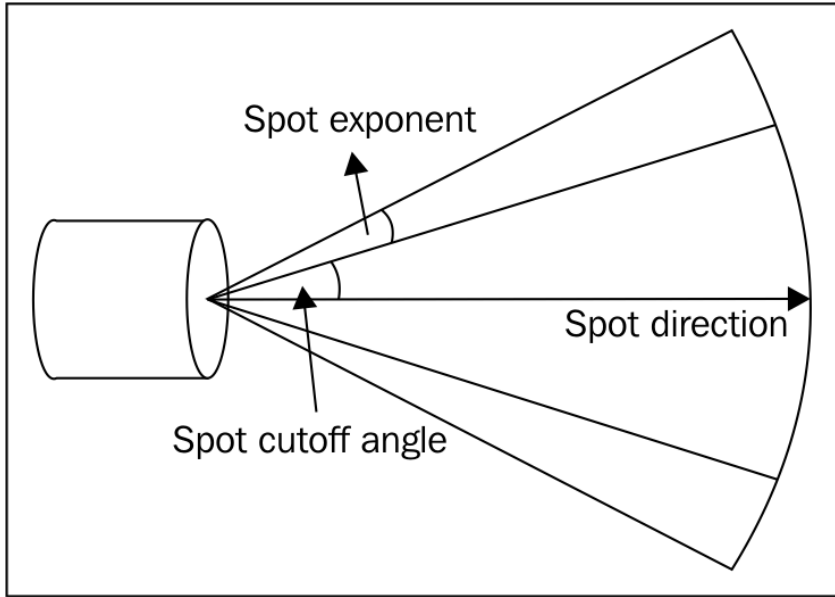
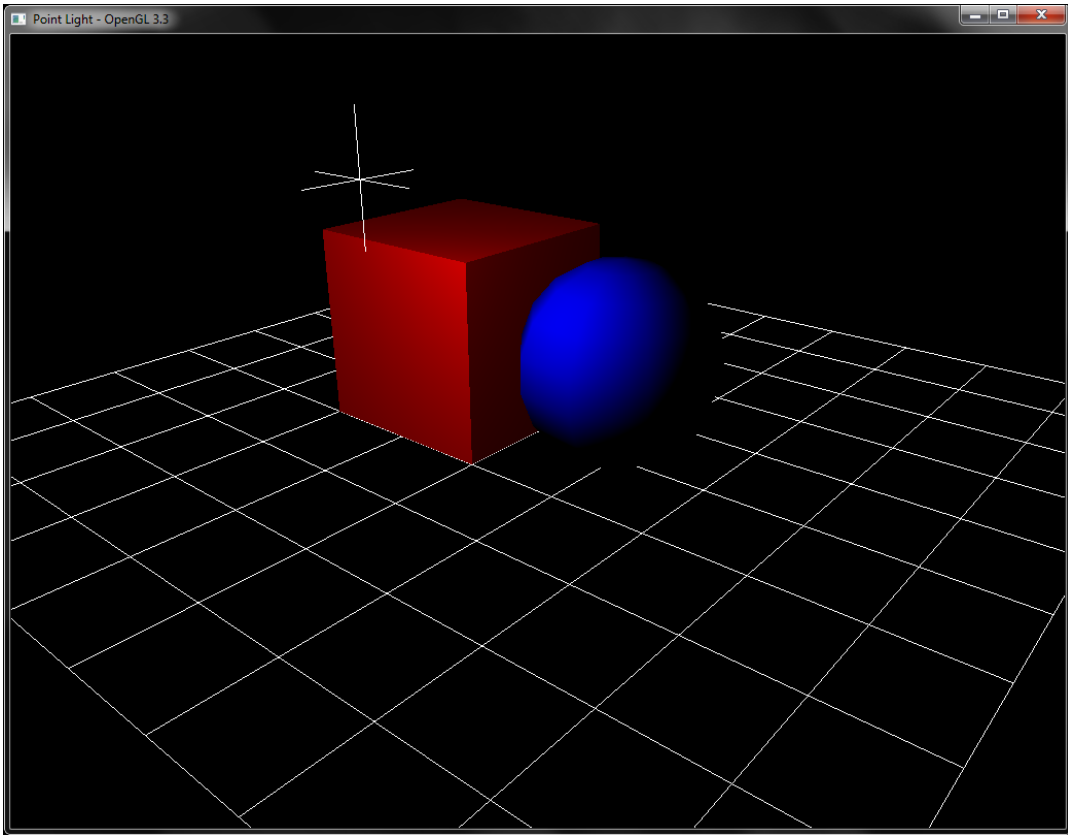


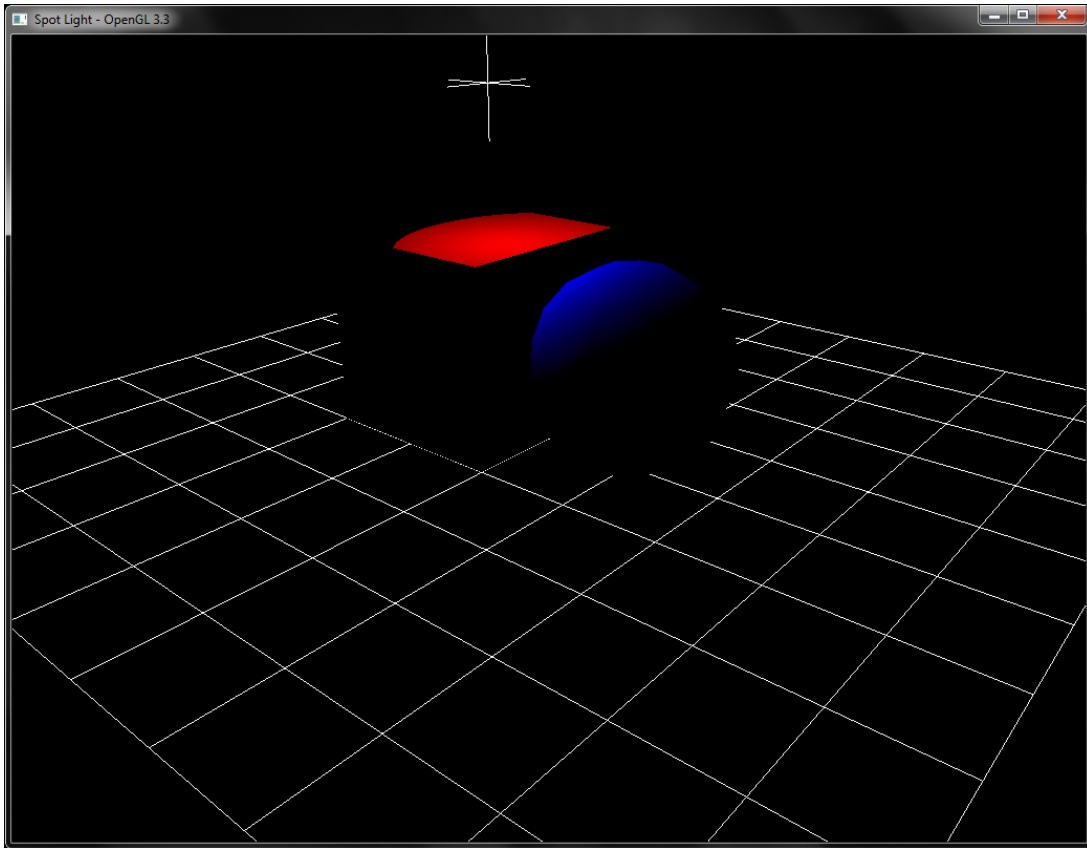
Chapter 4: Lights and Shadows





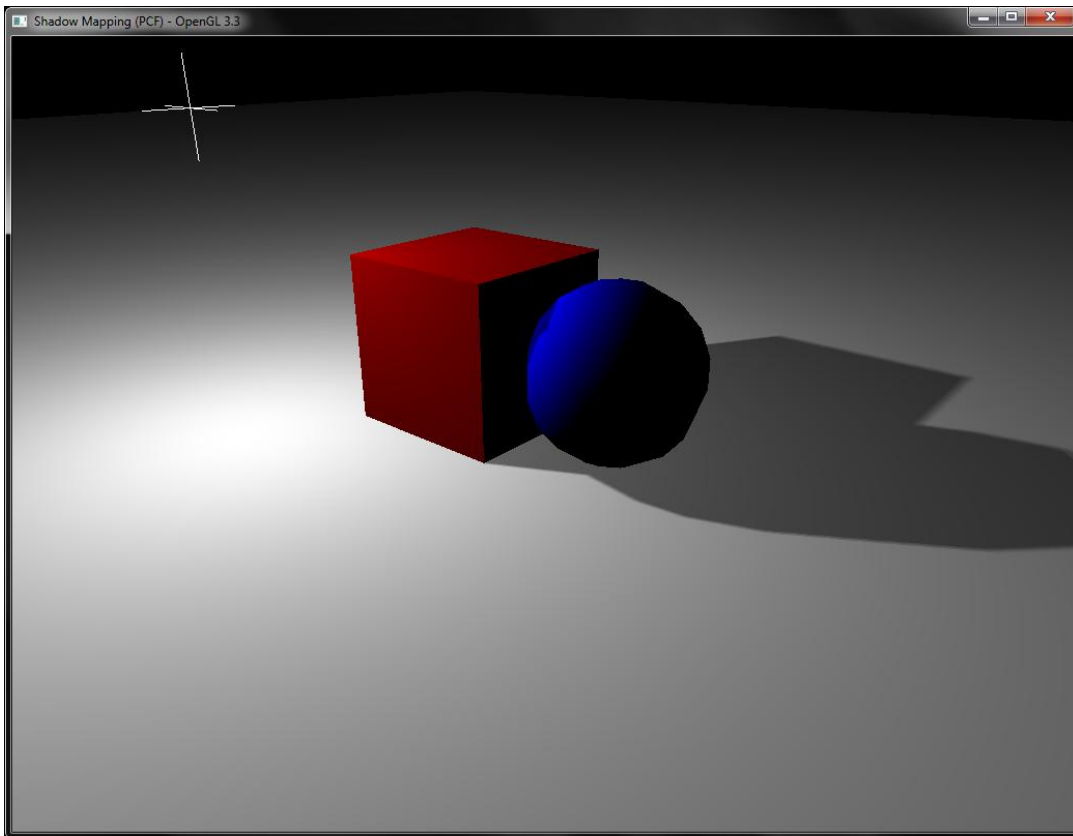
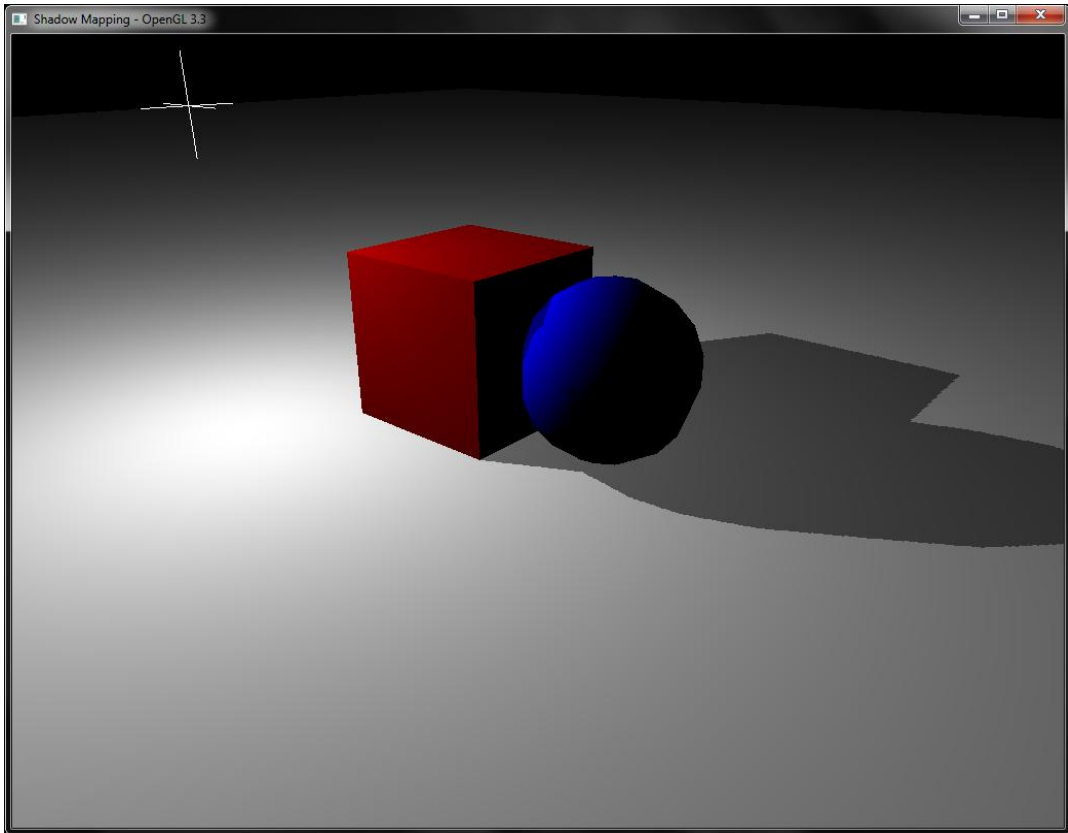
$$Attn(d) = \frac{1}{k_1 + k_2 * d + k_2 * d^2}$$

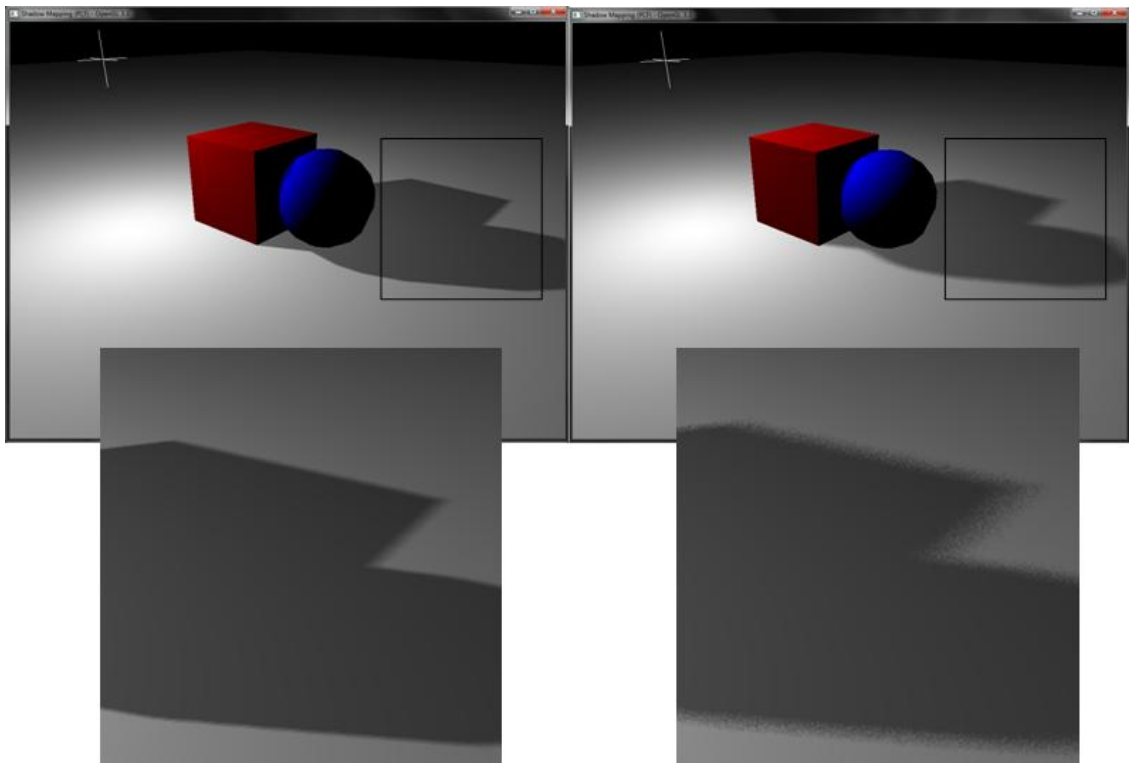
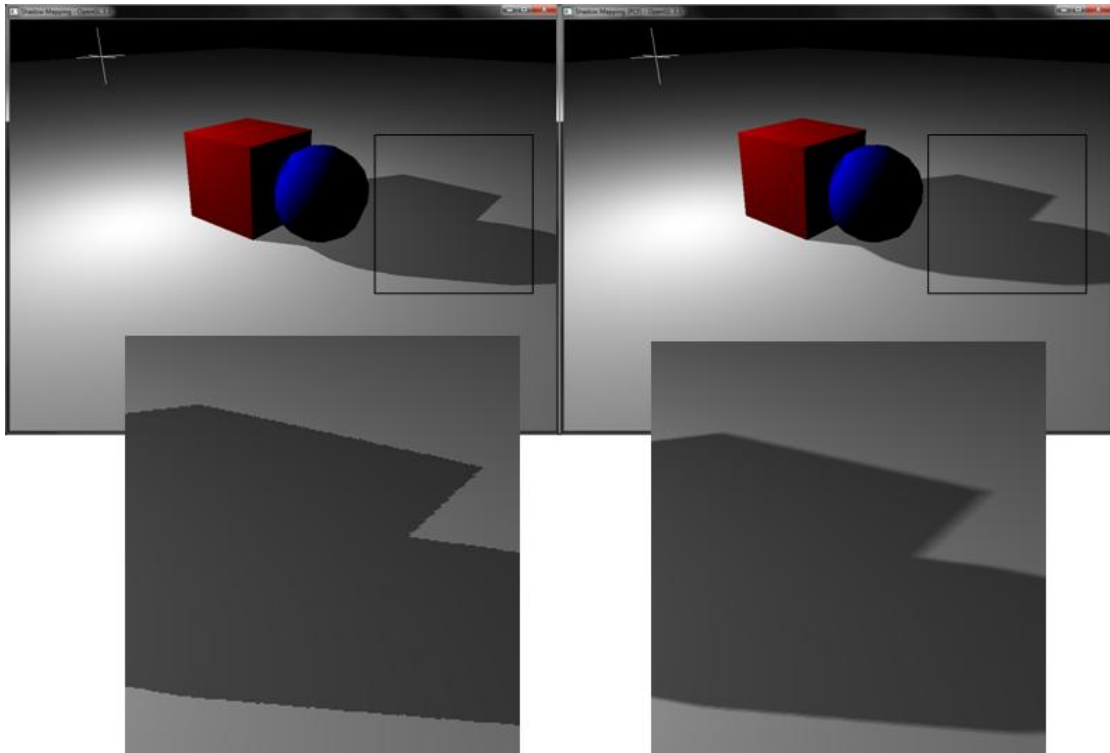


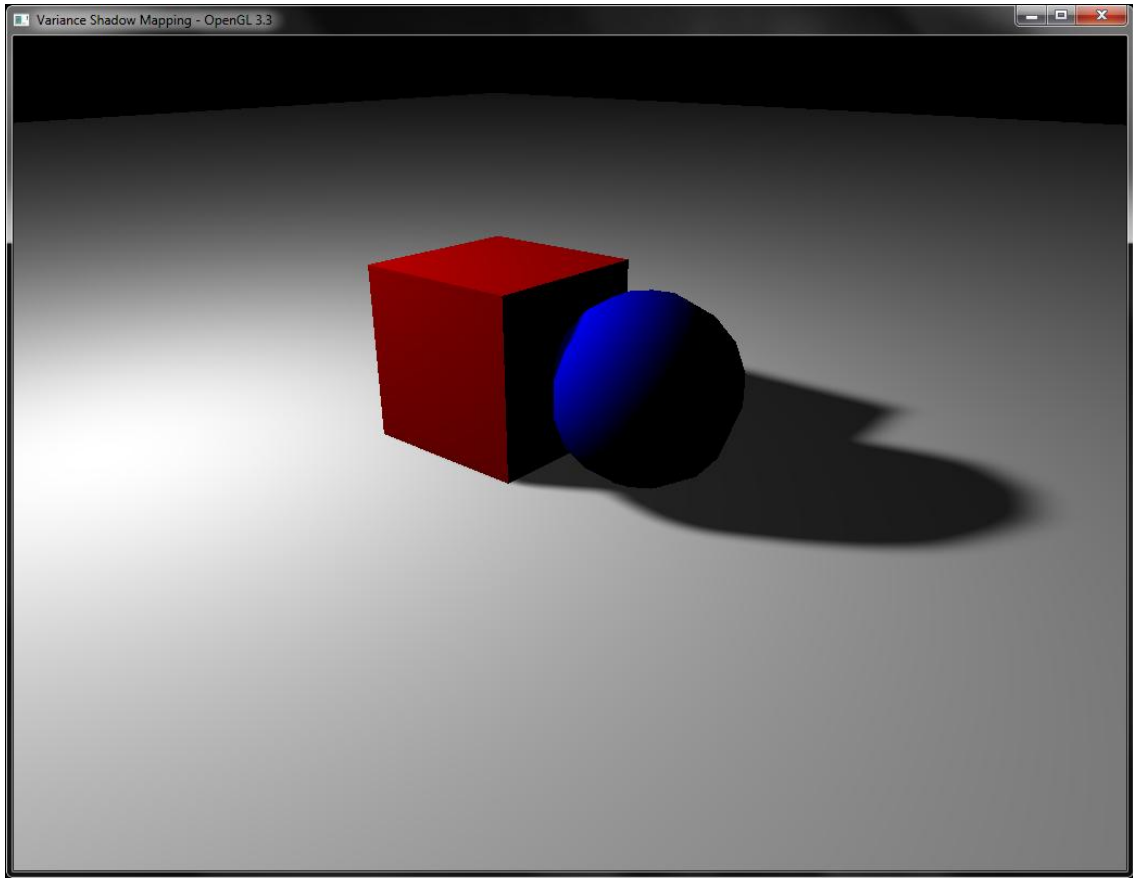


$$UV_{proj} = S * MV * V_{obj}$$

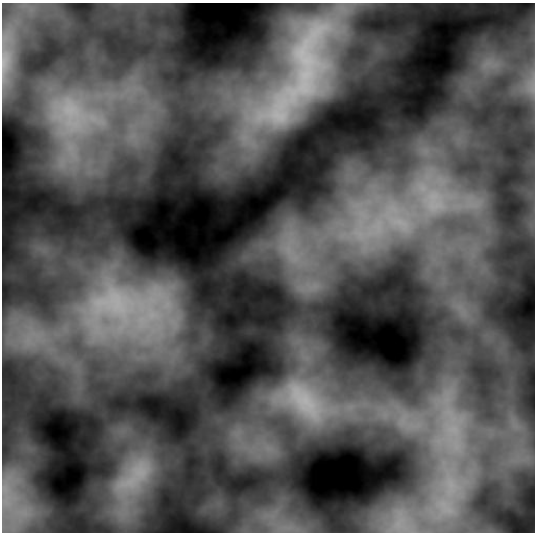
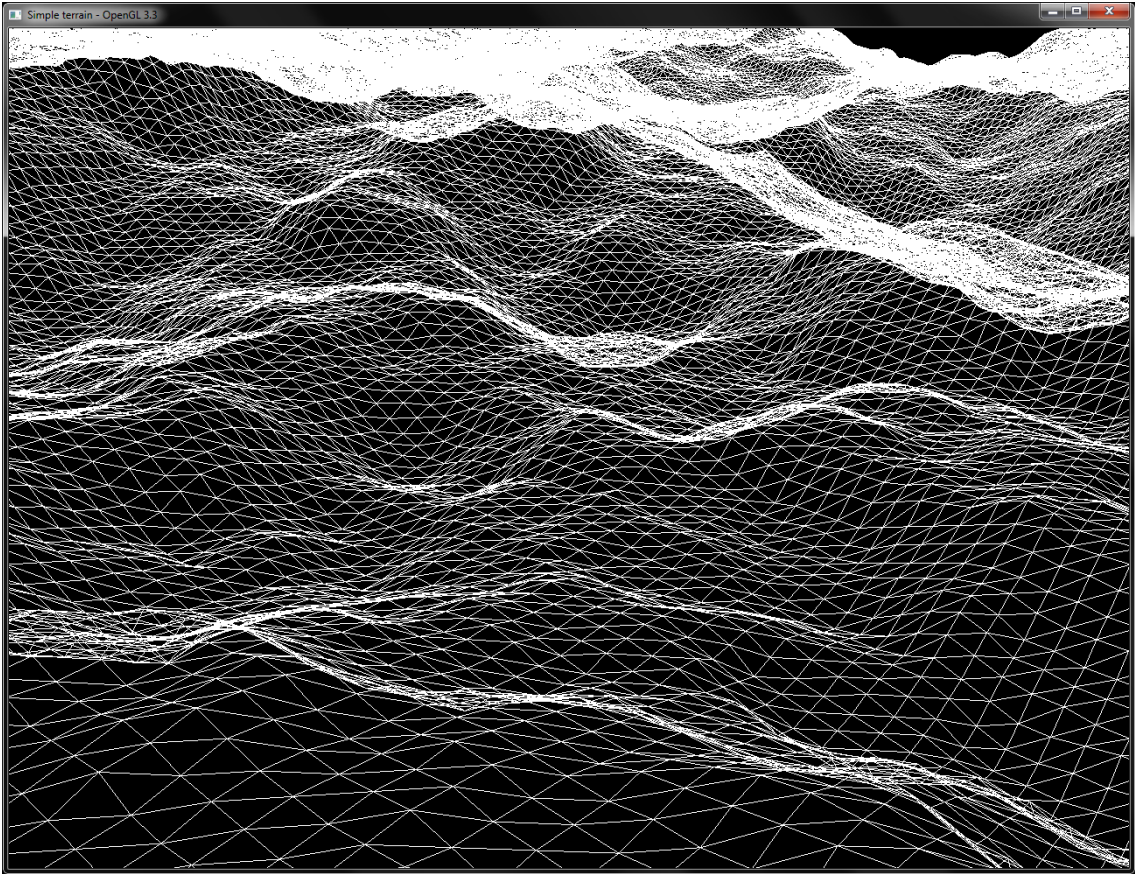
$$S = B * P_L * MV_L$$

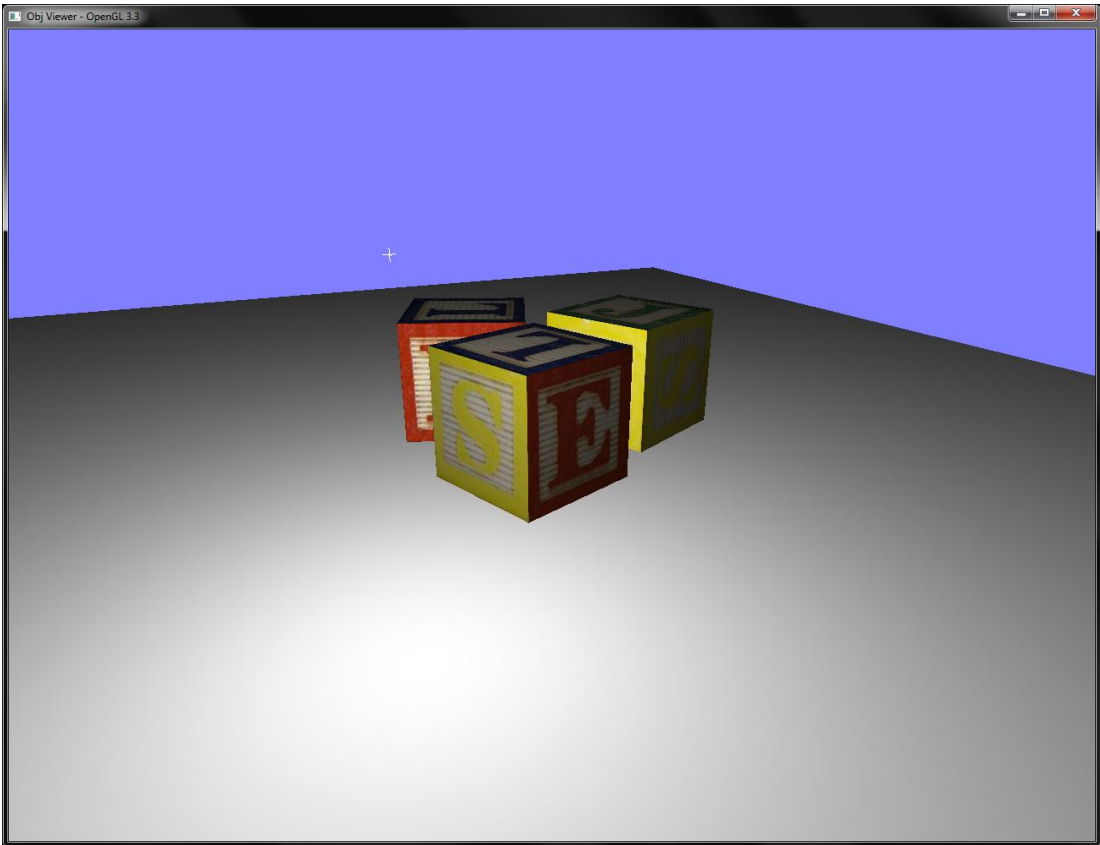
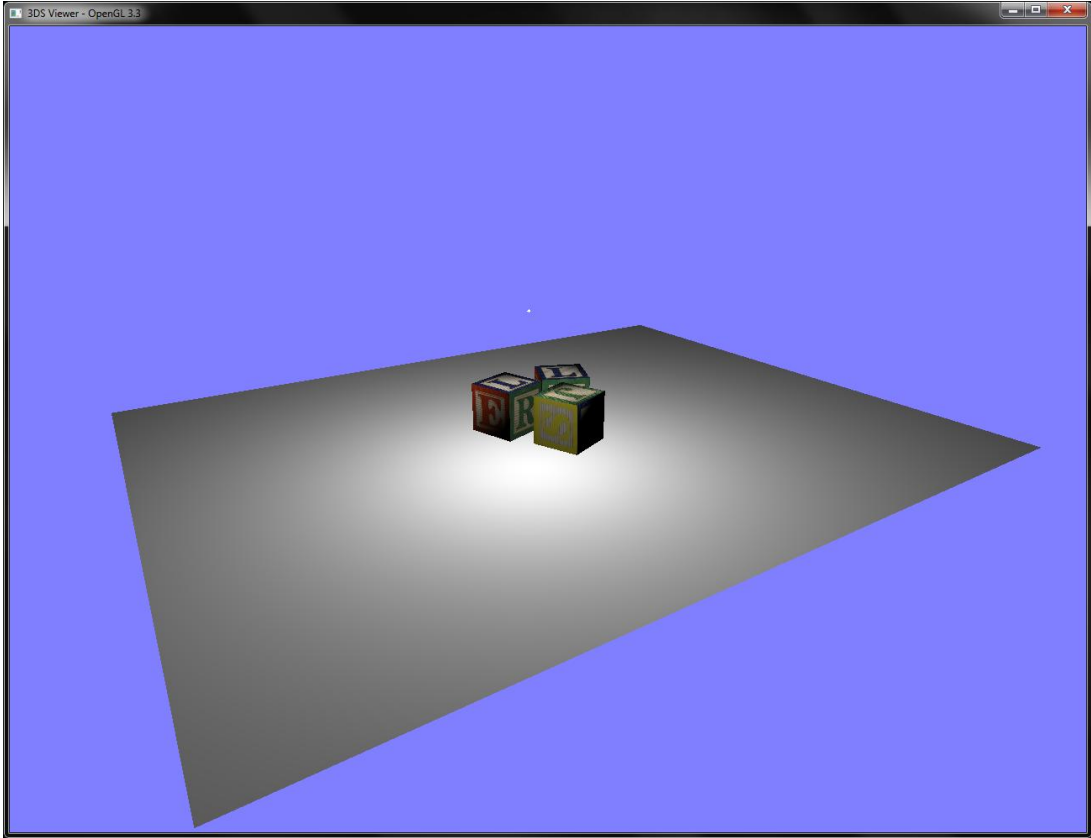


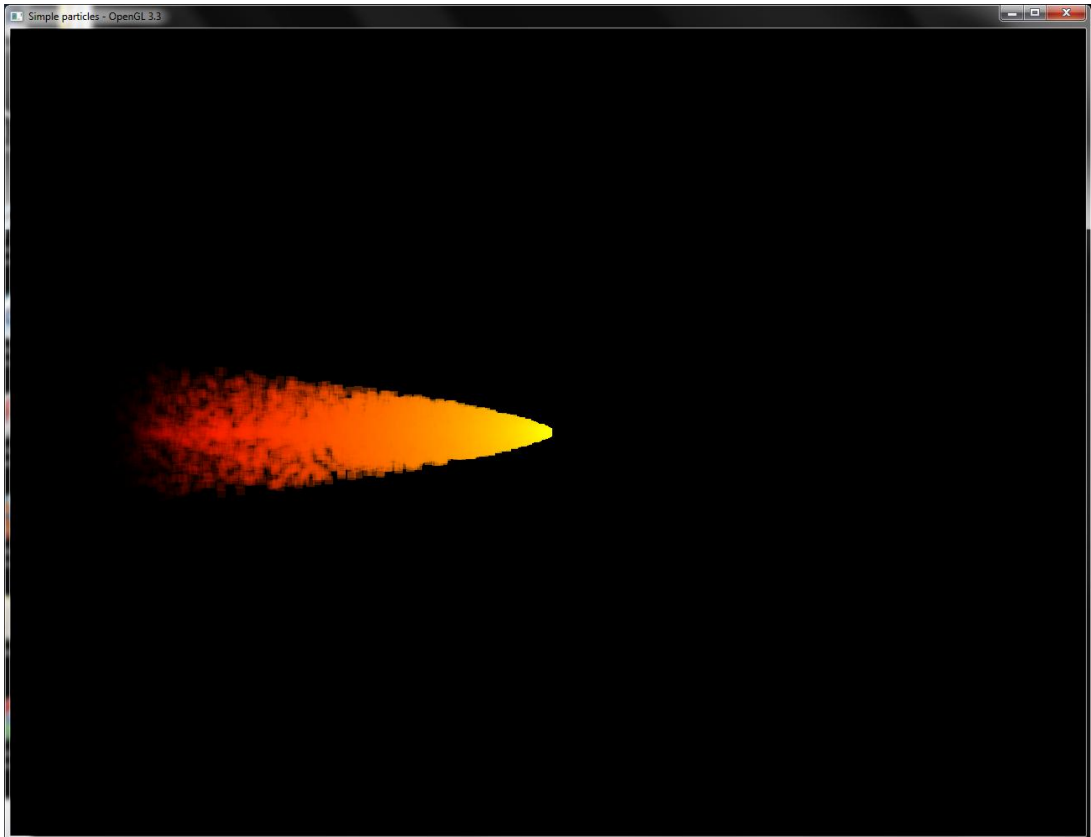
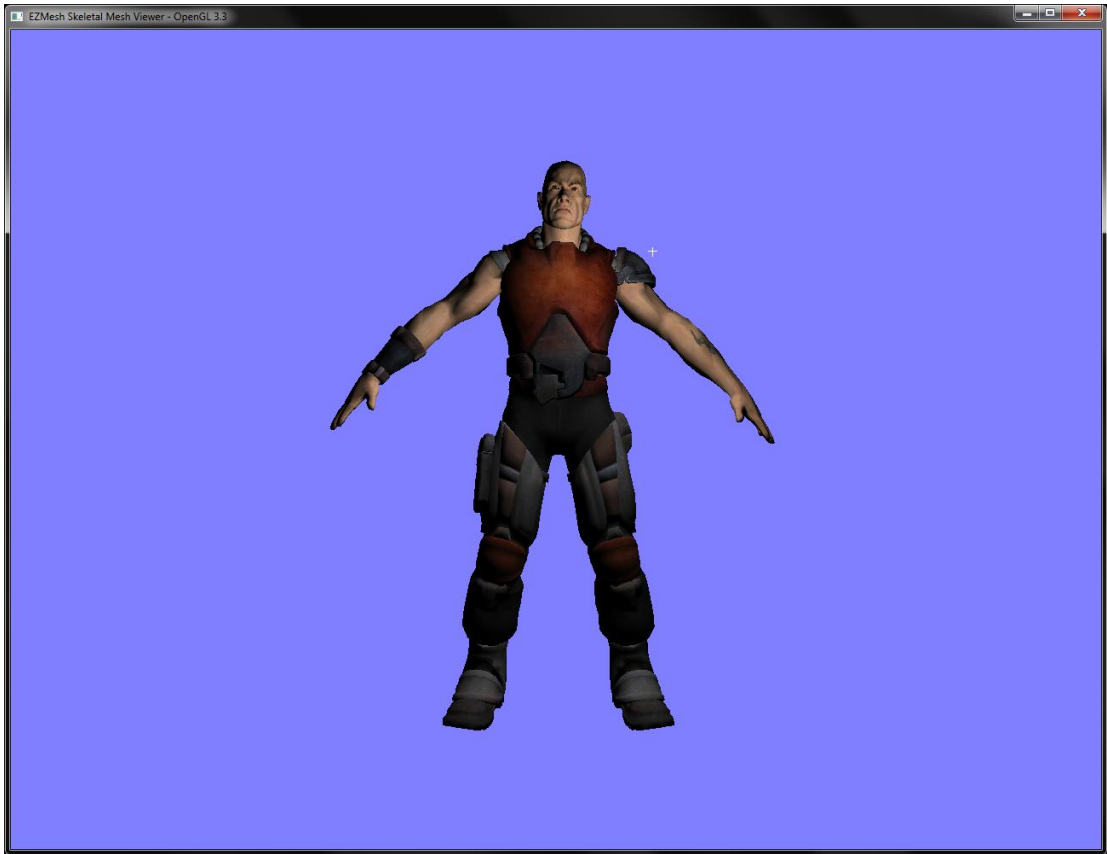


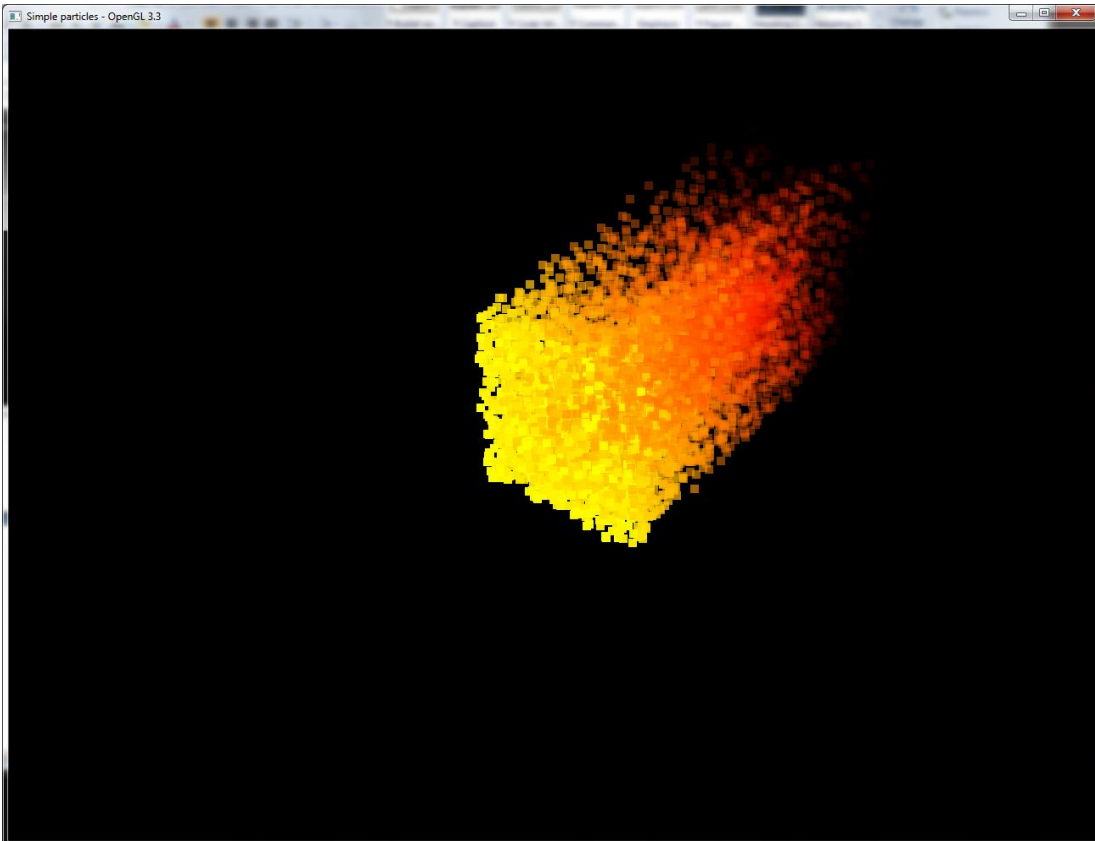
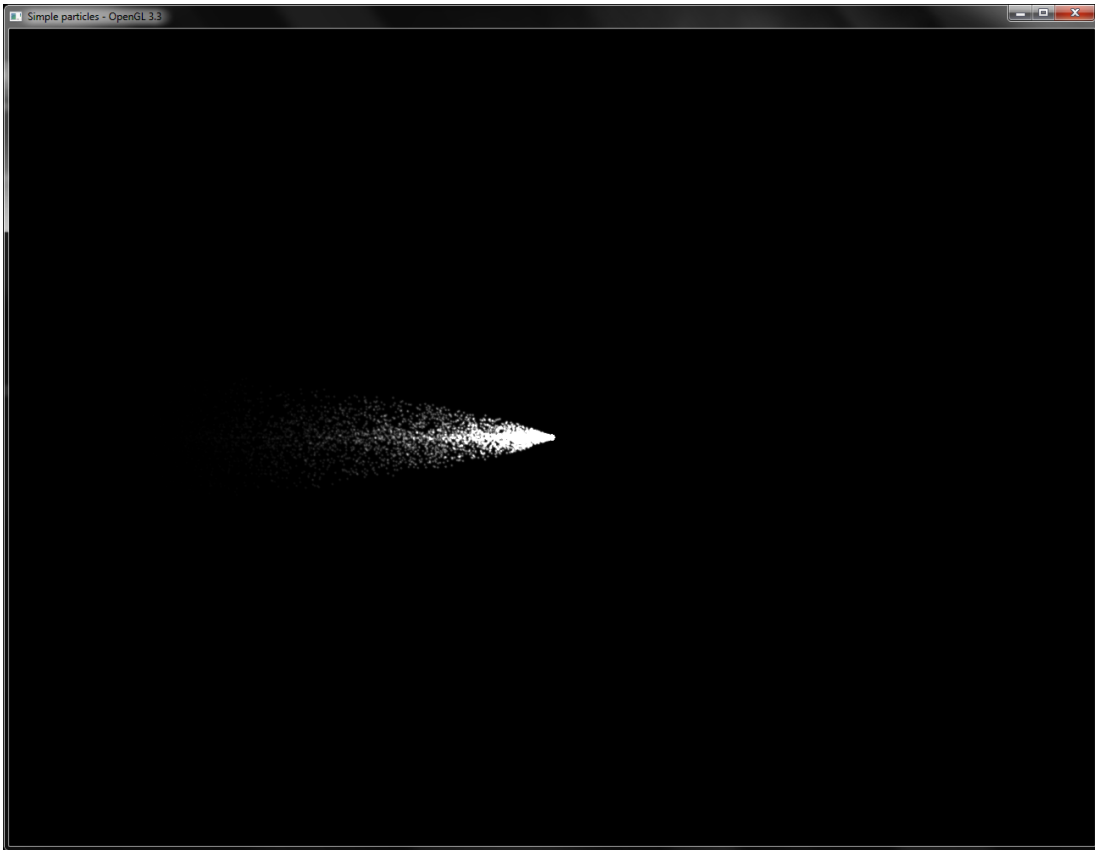


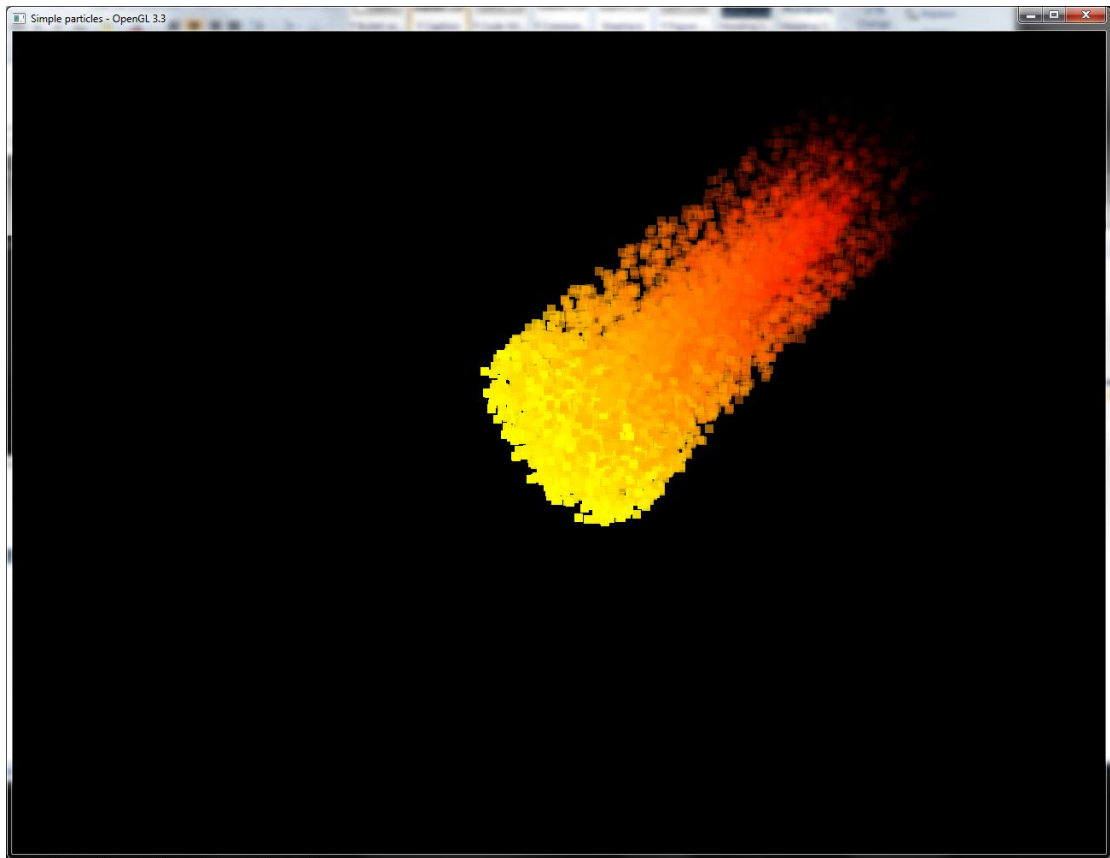
Chapter 5: Mesh Model Formats and Particle Systems



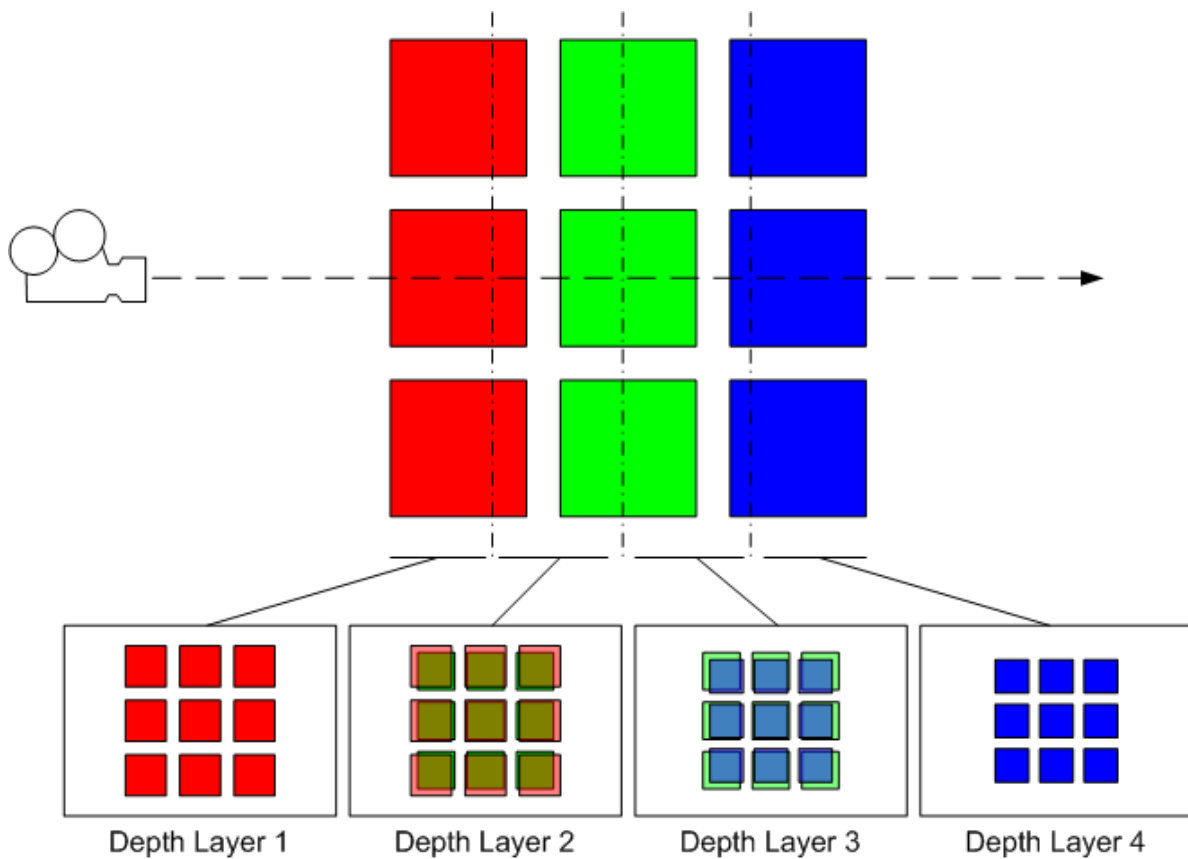
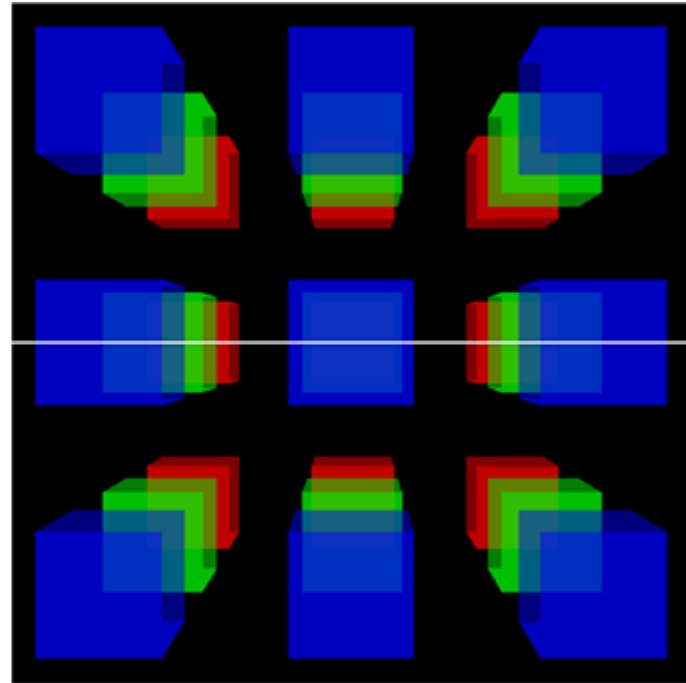
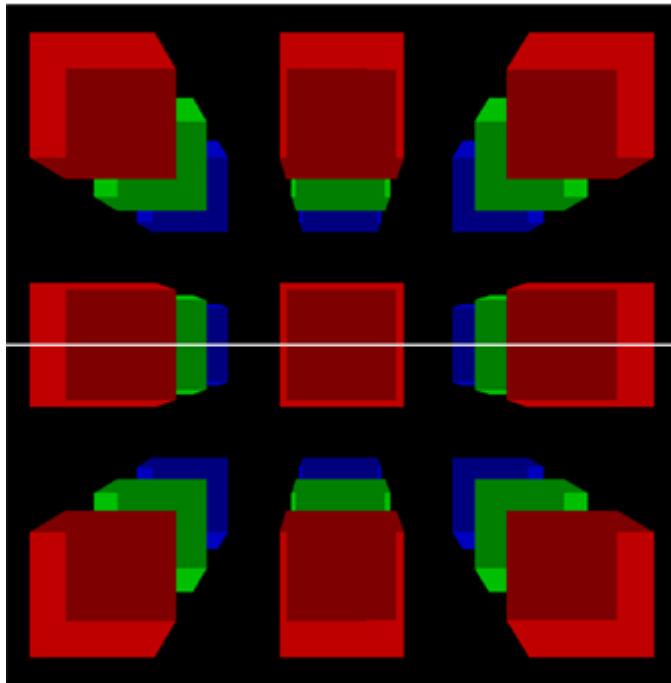


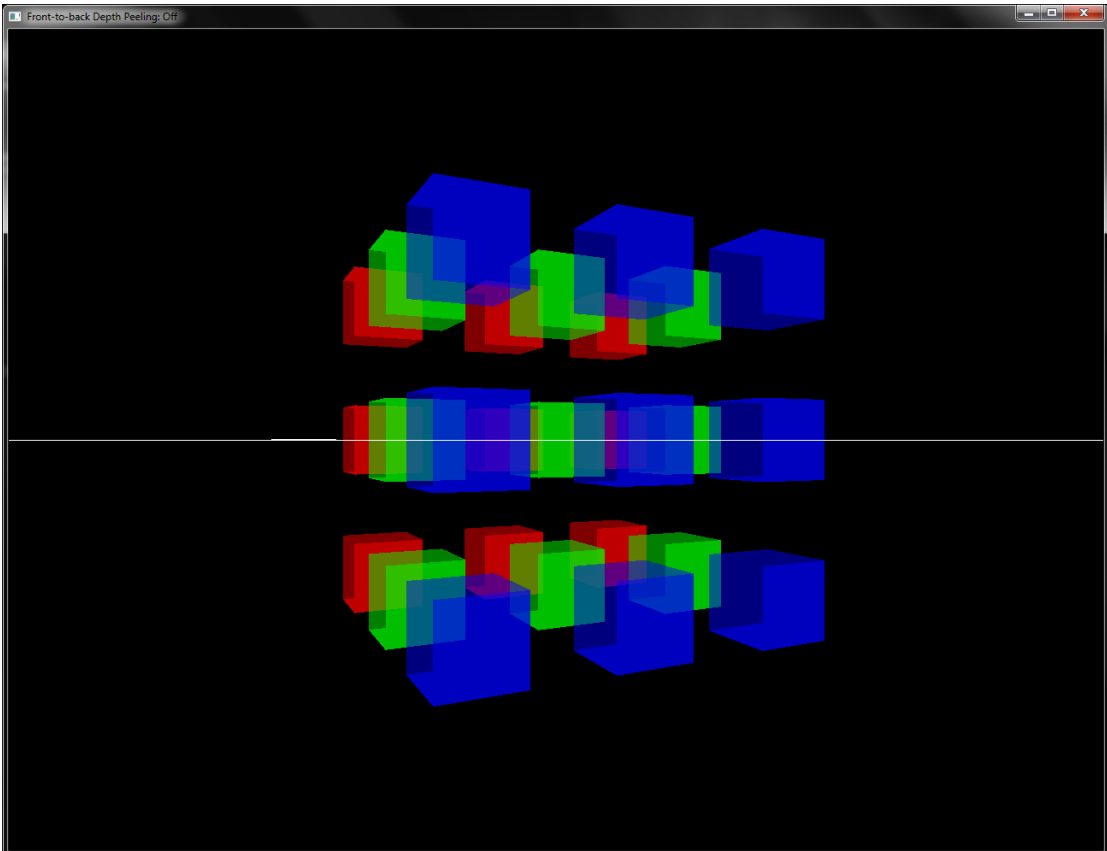
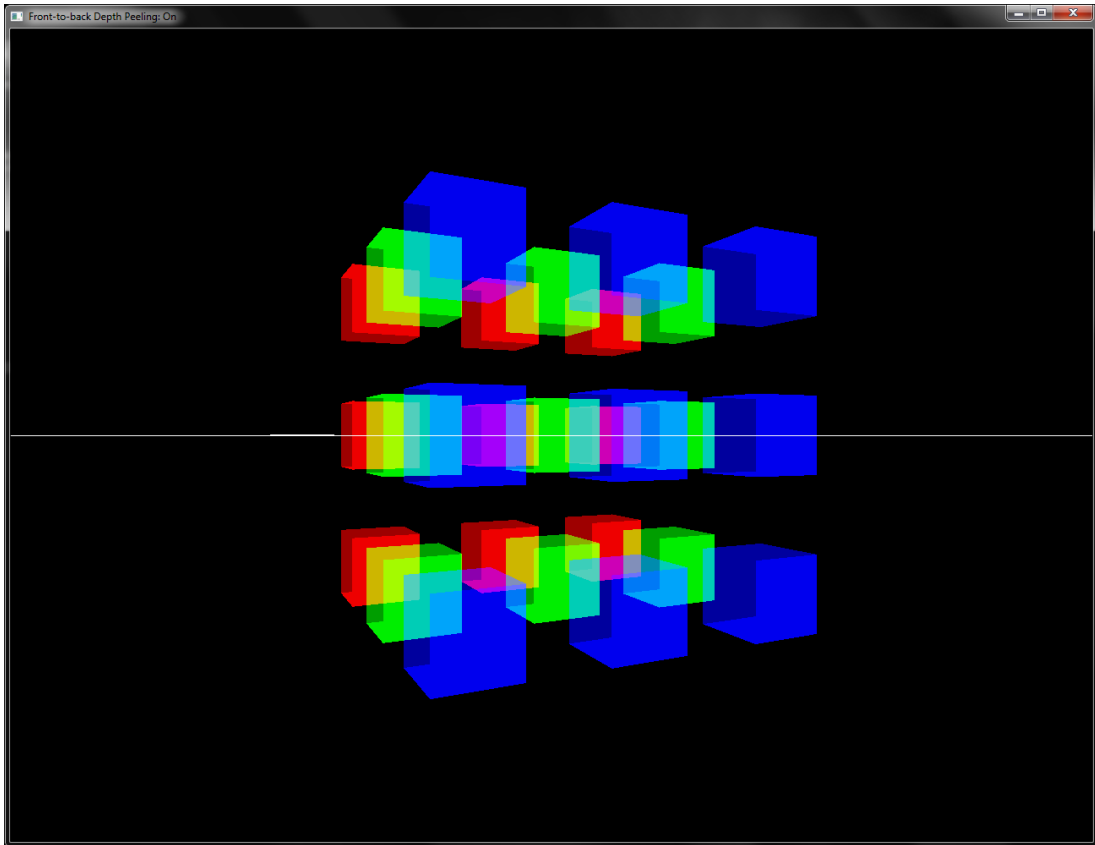


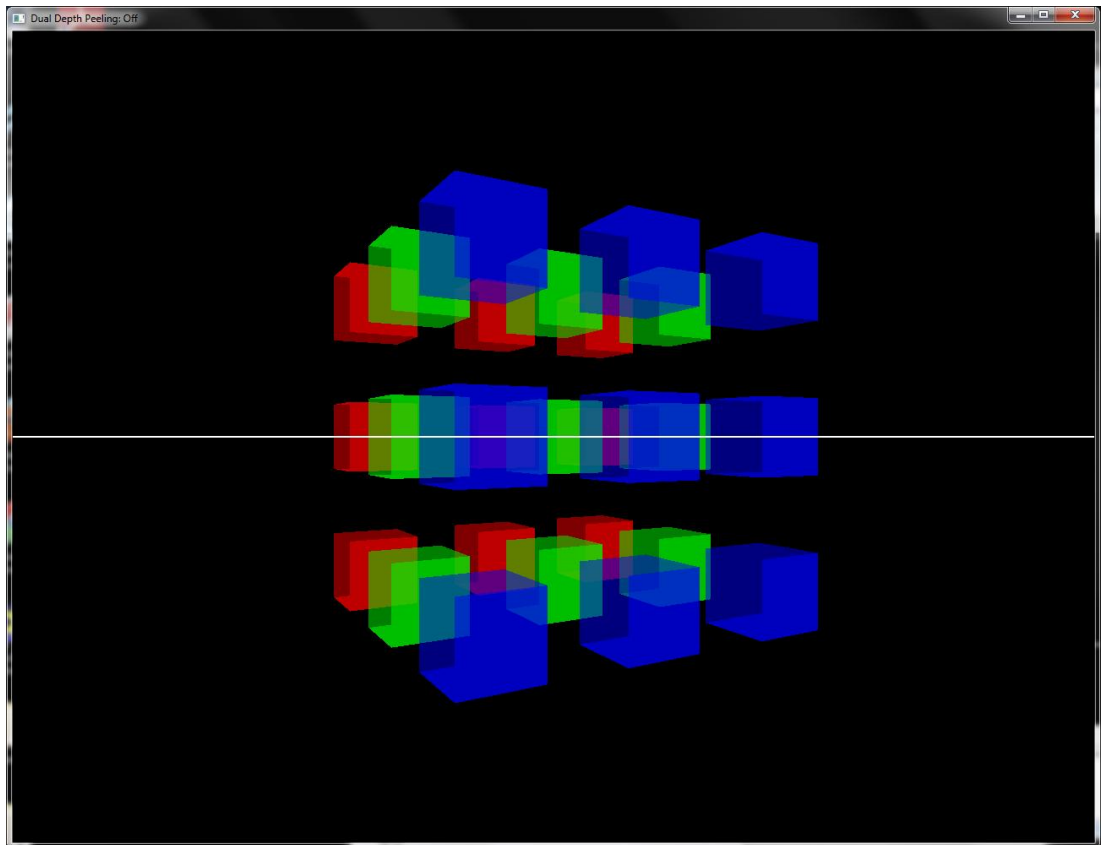
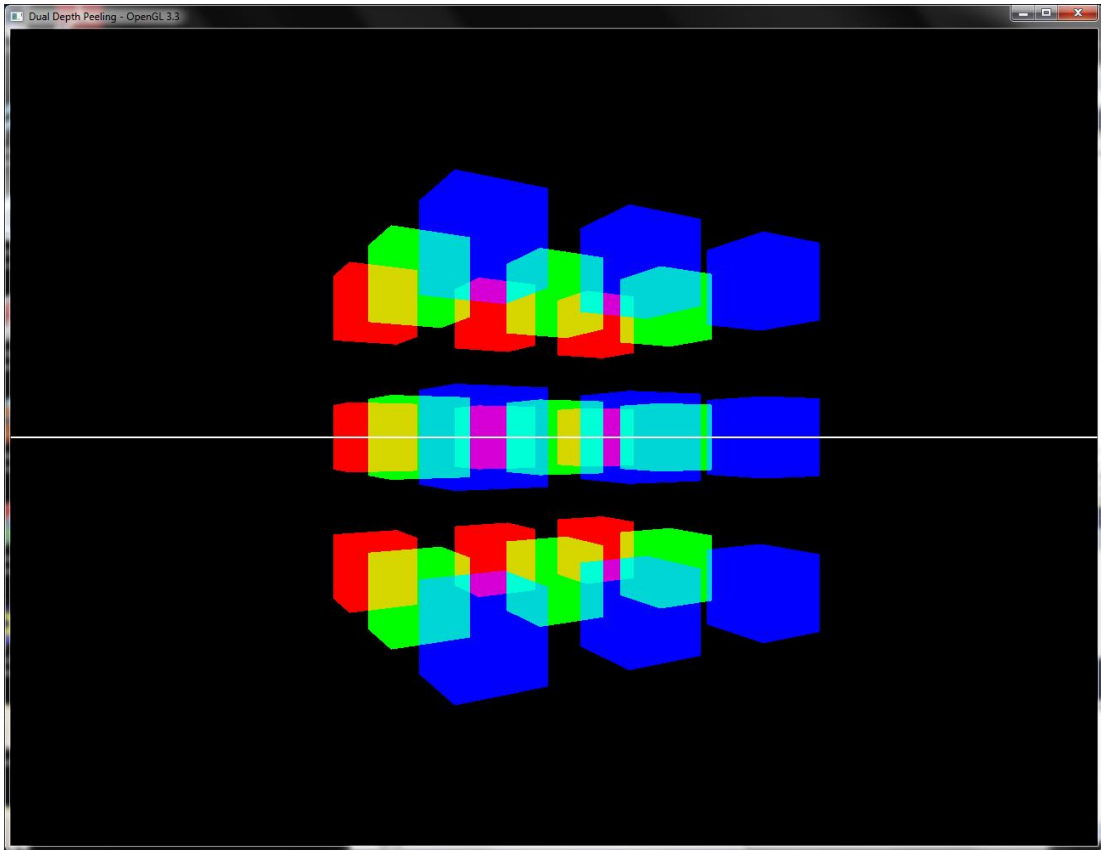


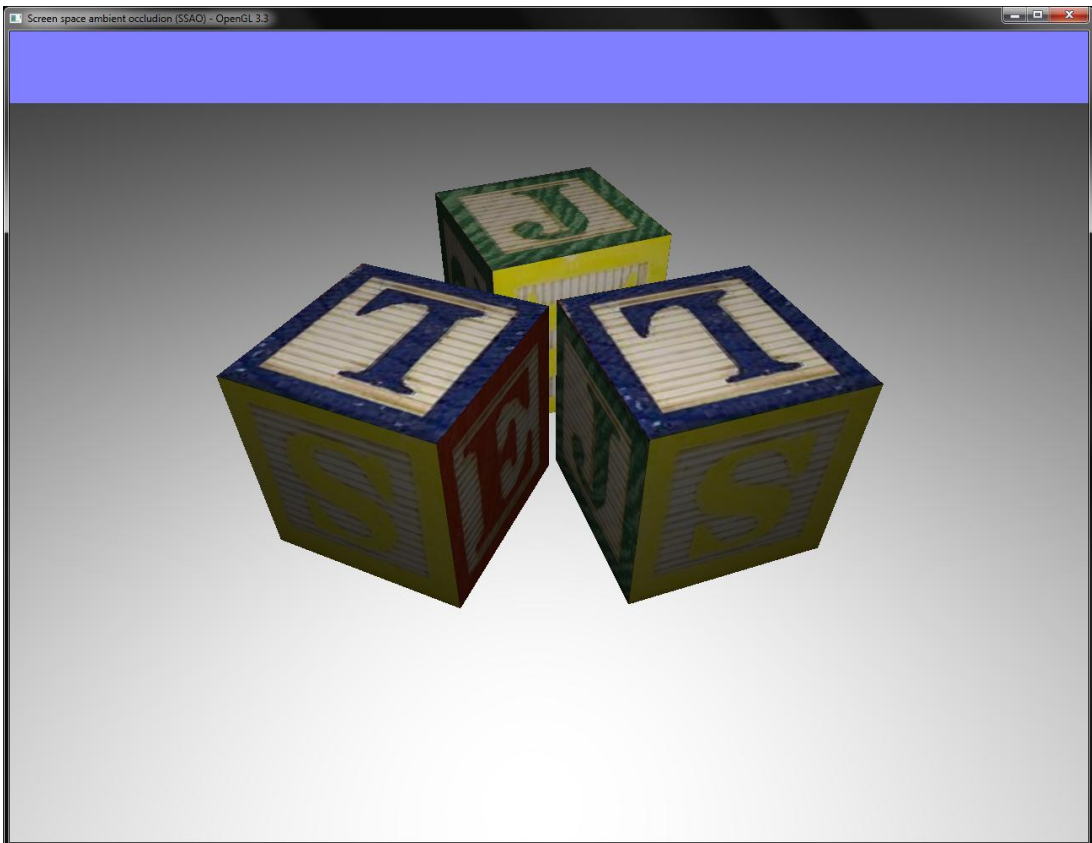
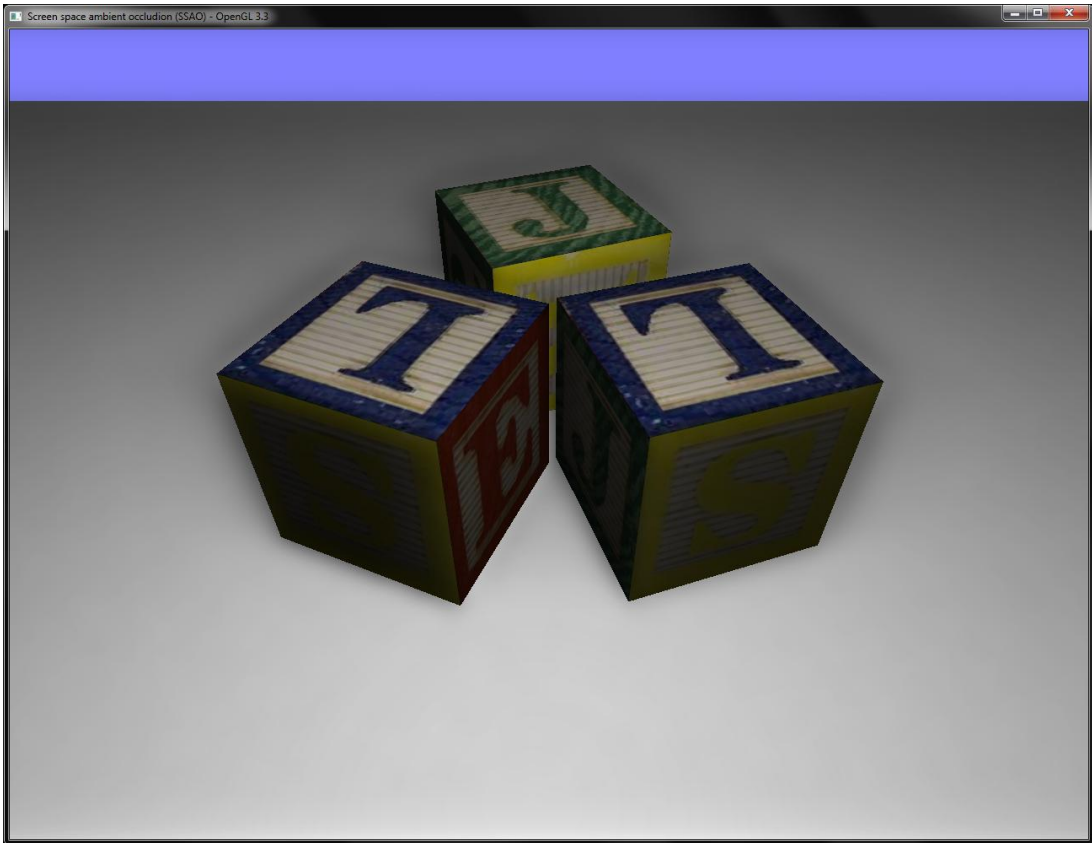


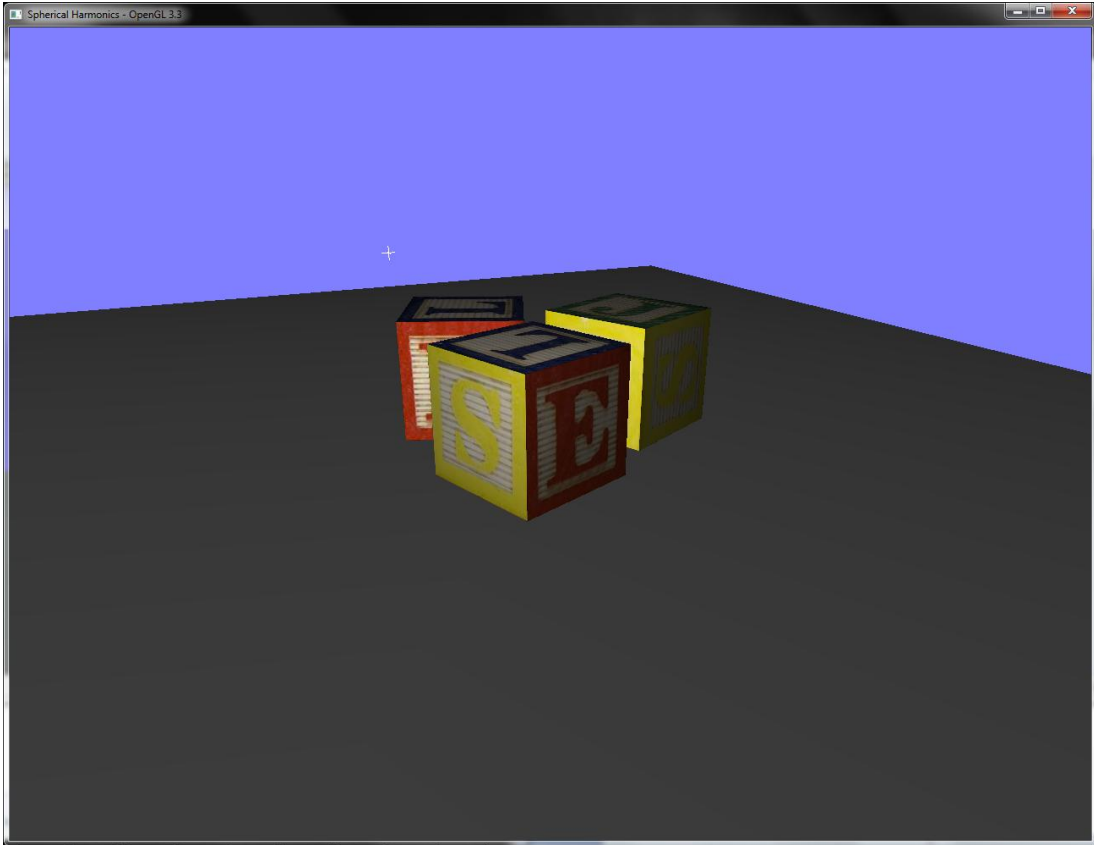
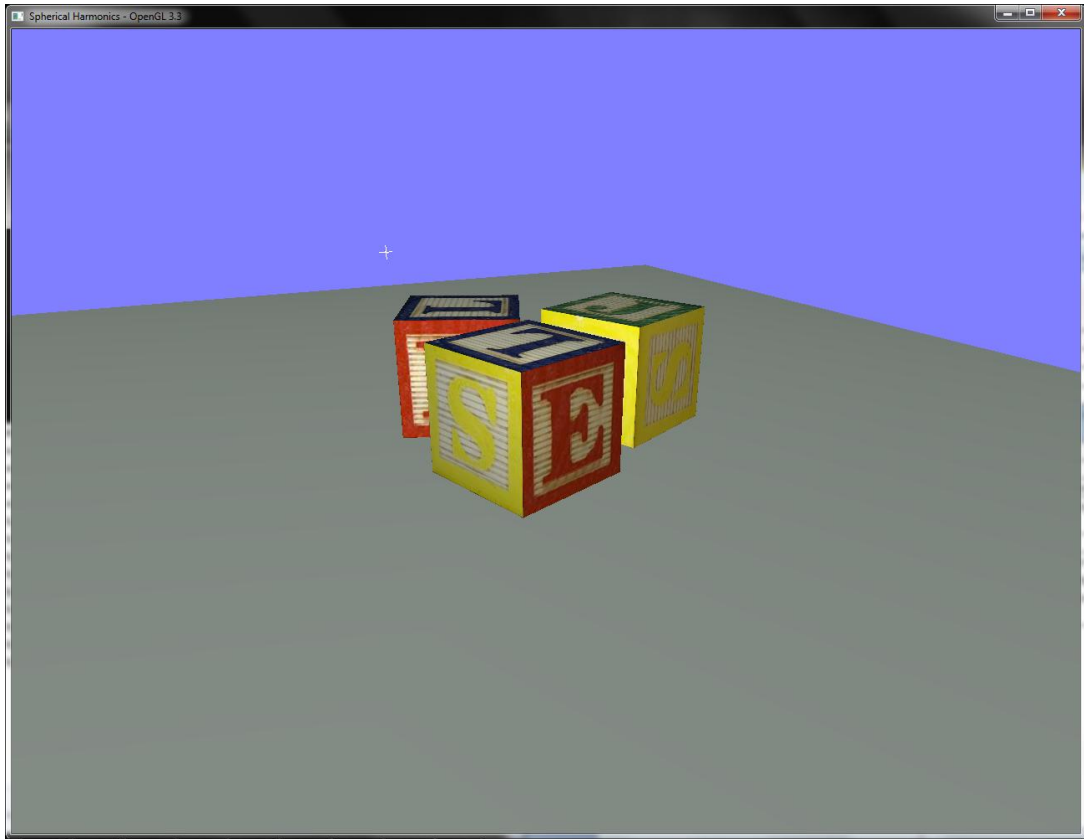
Chapter 6: GPU-based Alpha Blending and Global Illumination

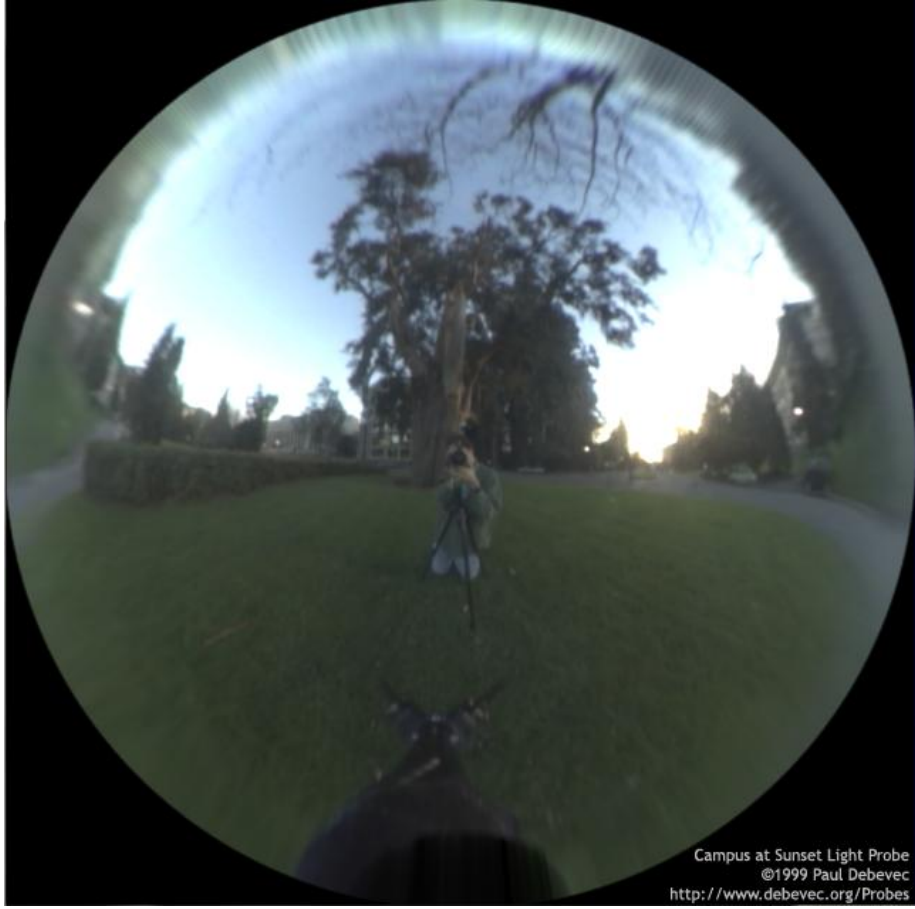




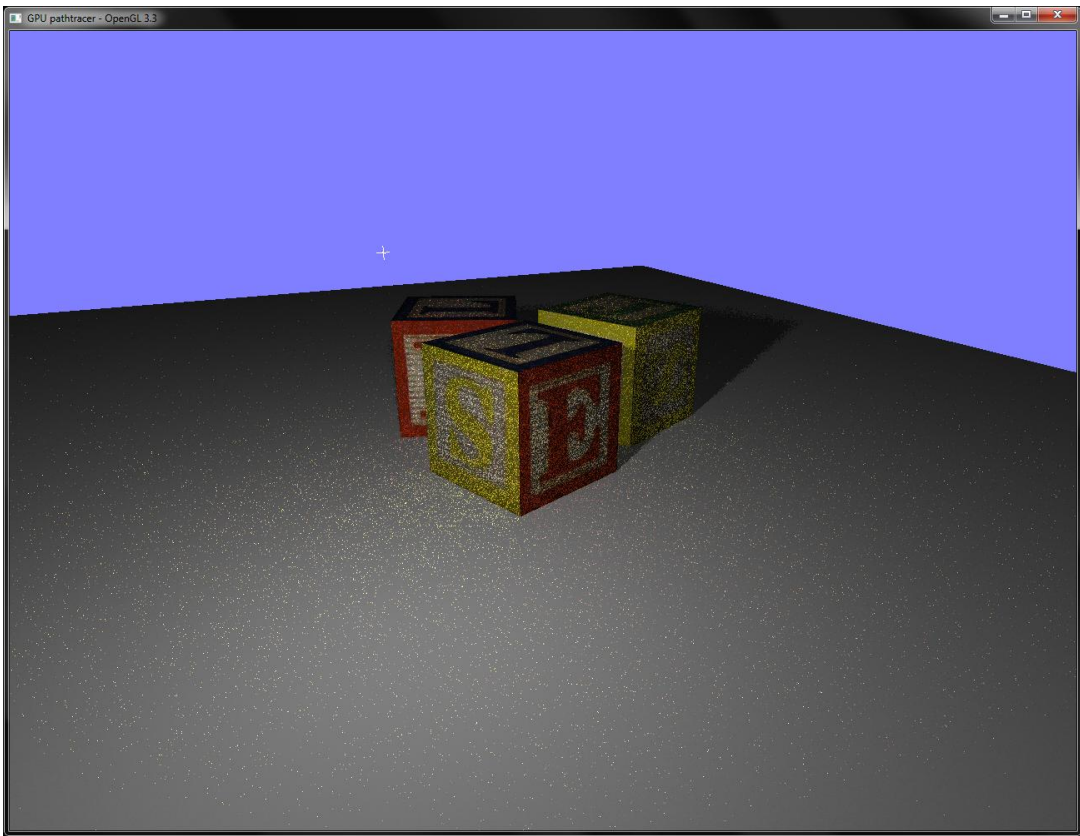
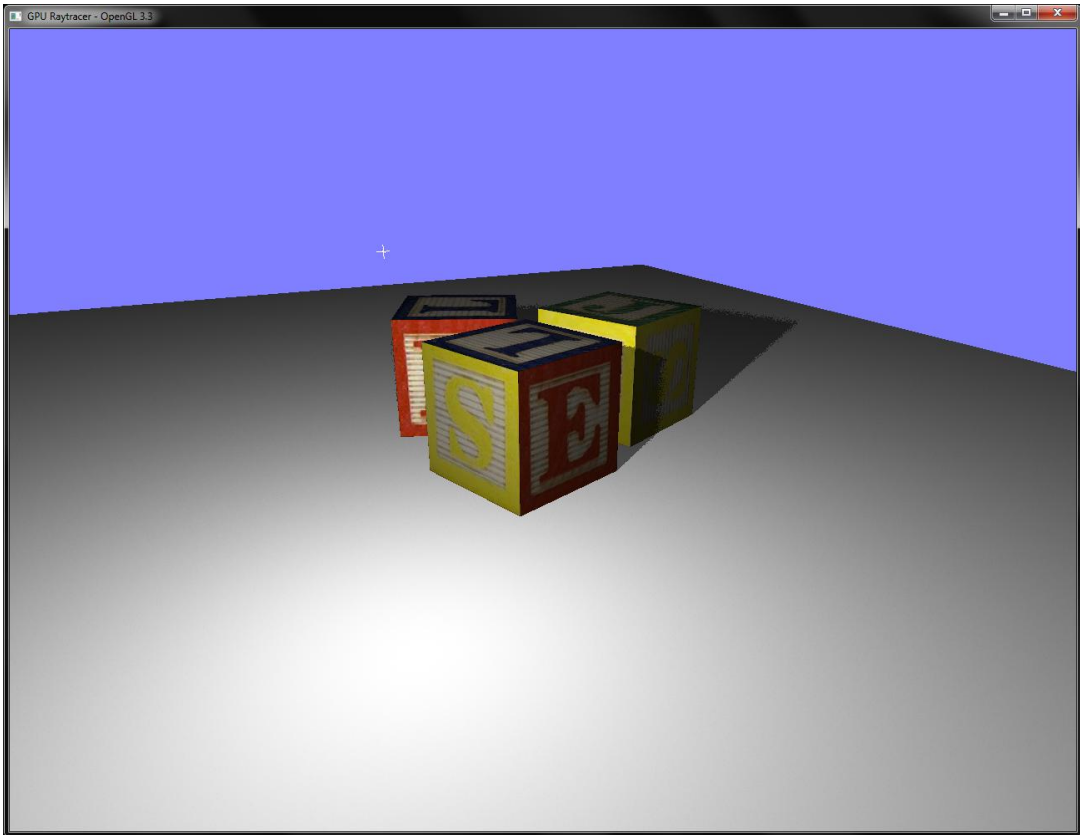




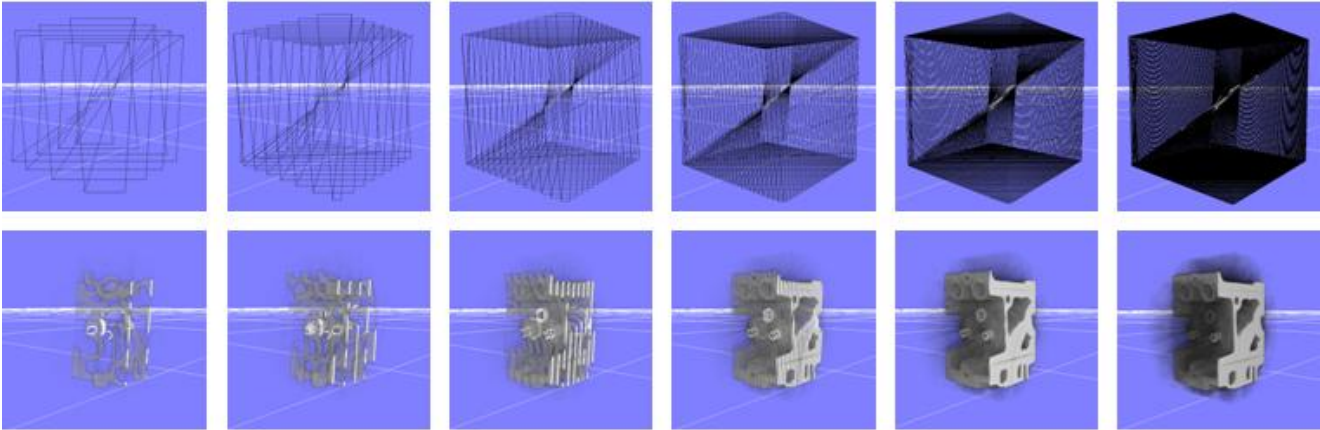
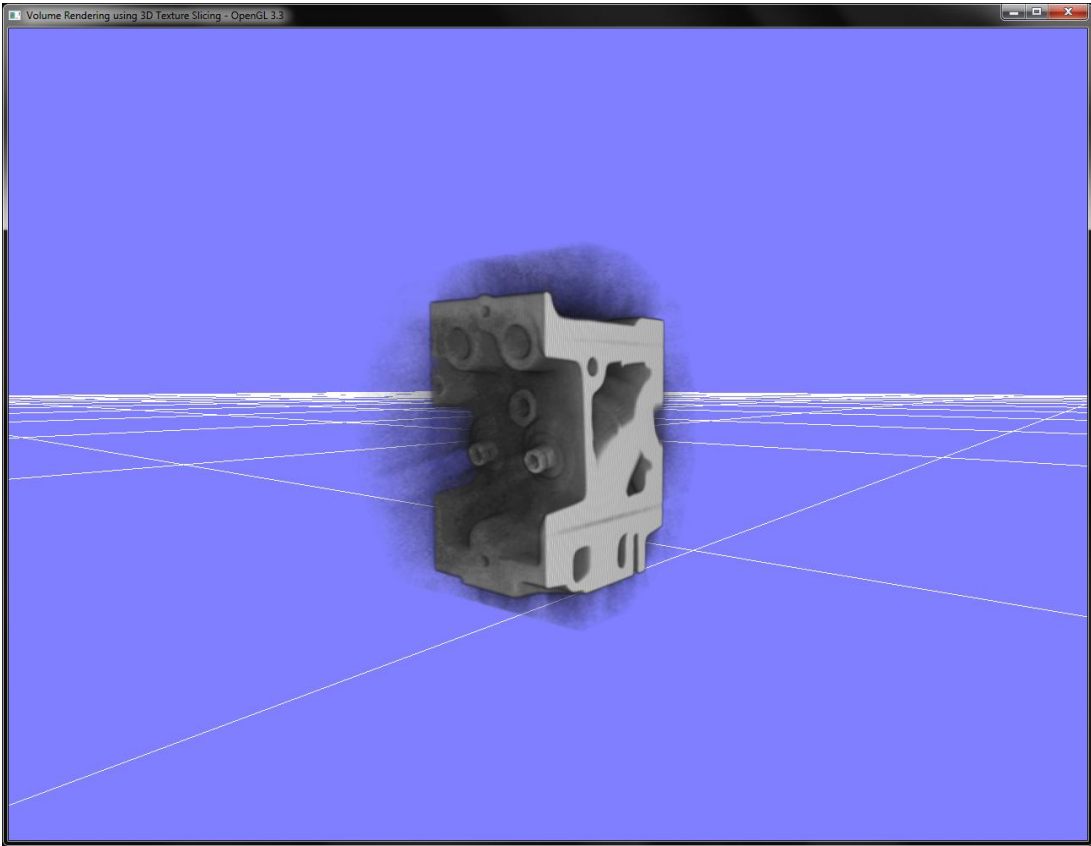




Campus at Sunset Light Probe
©1999 Paul Debevec
<http://www.debevec.org/Probes>



Chapter 7: GPU-based Volume Rendering Techniques



8 Slices

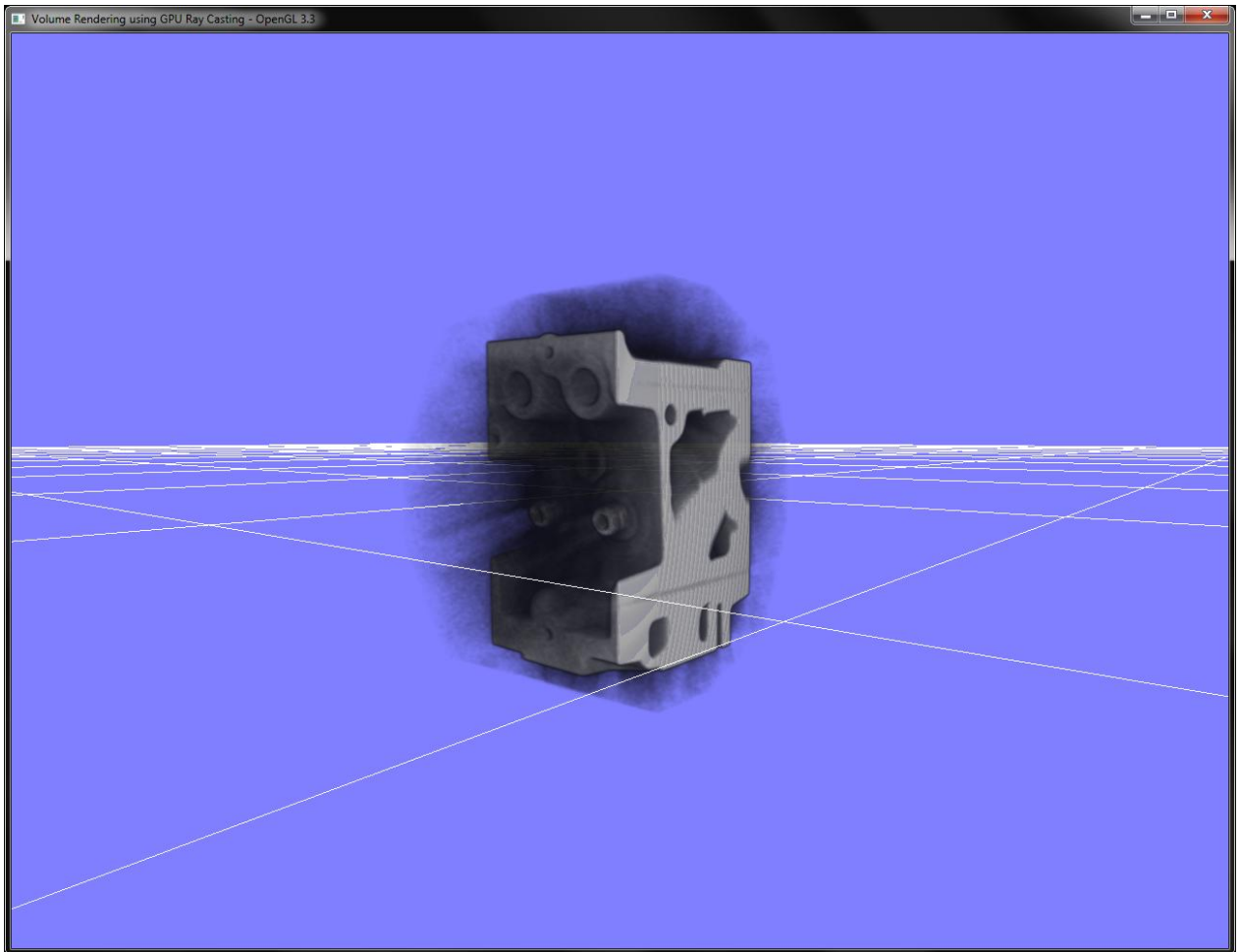
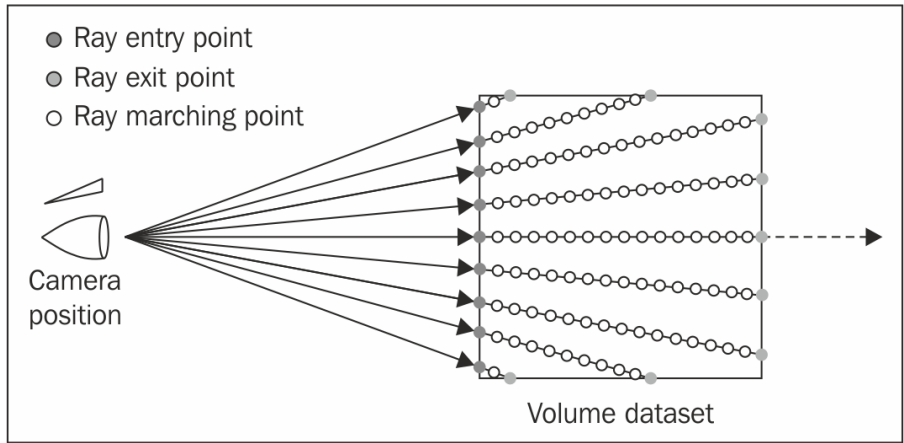
16 Slices

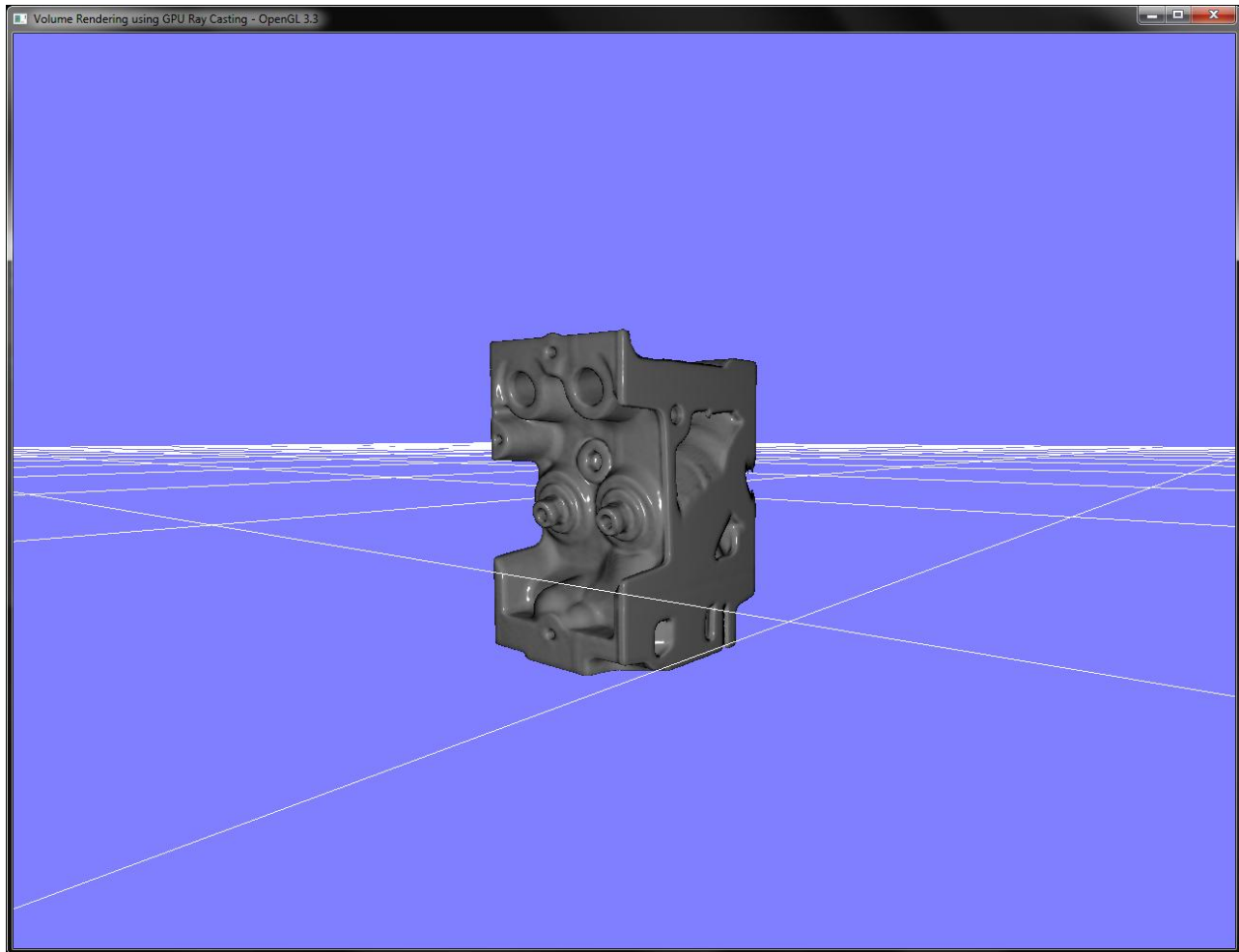
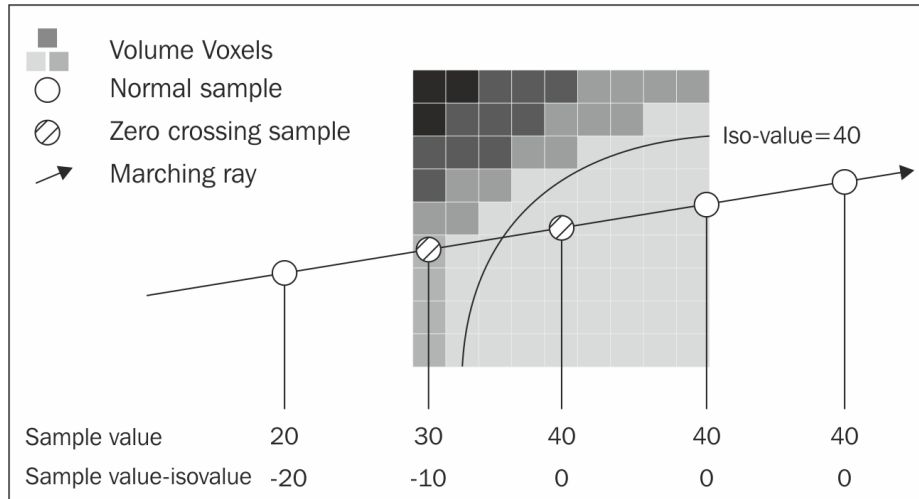
32 Slices

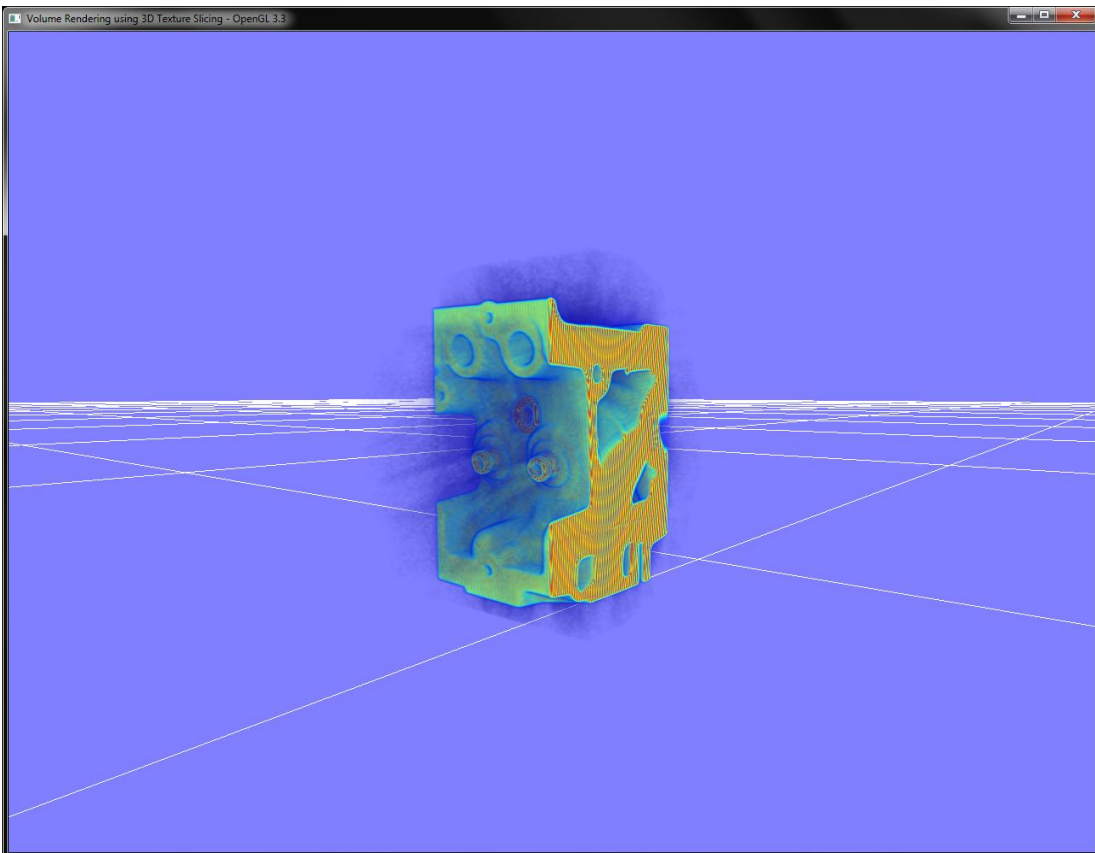
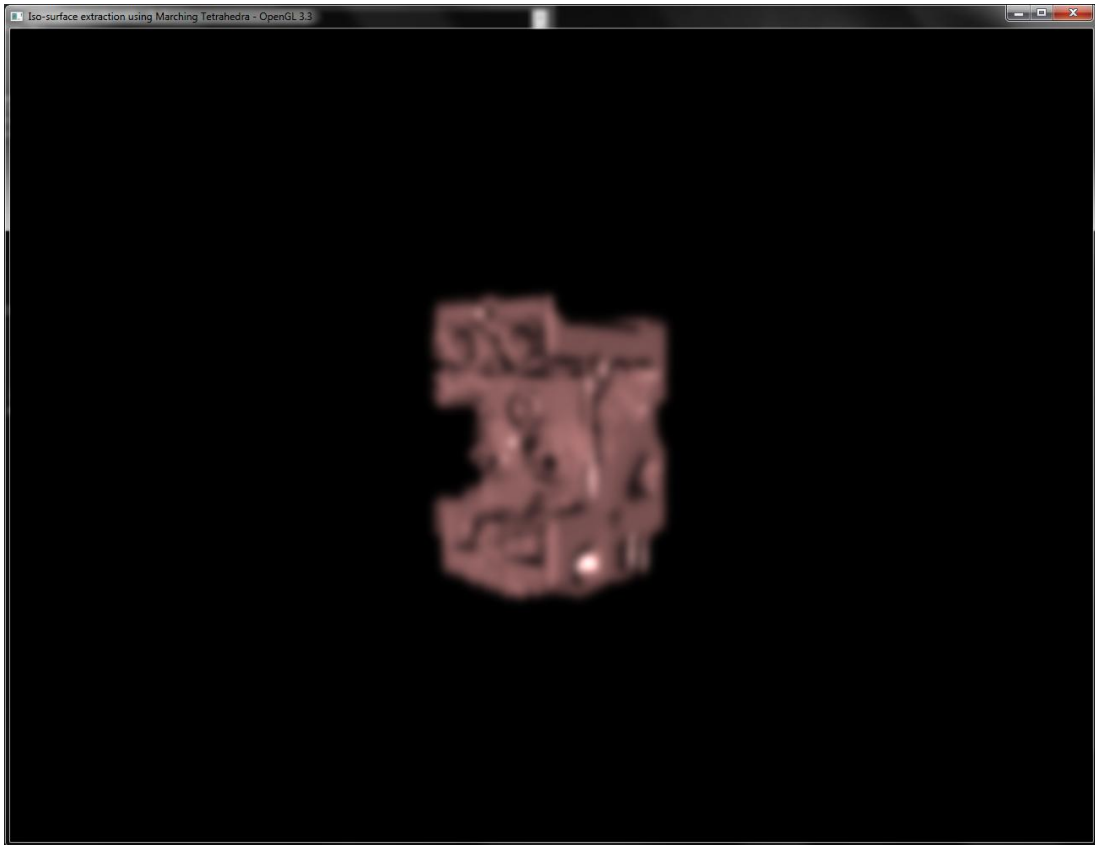
64 Slices

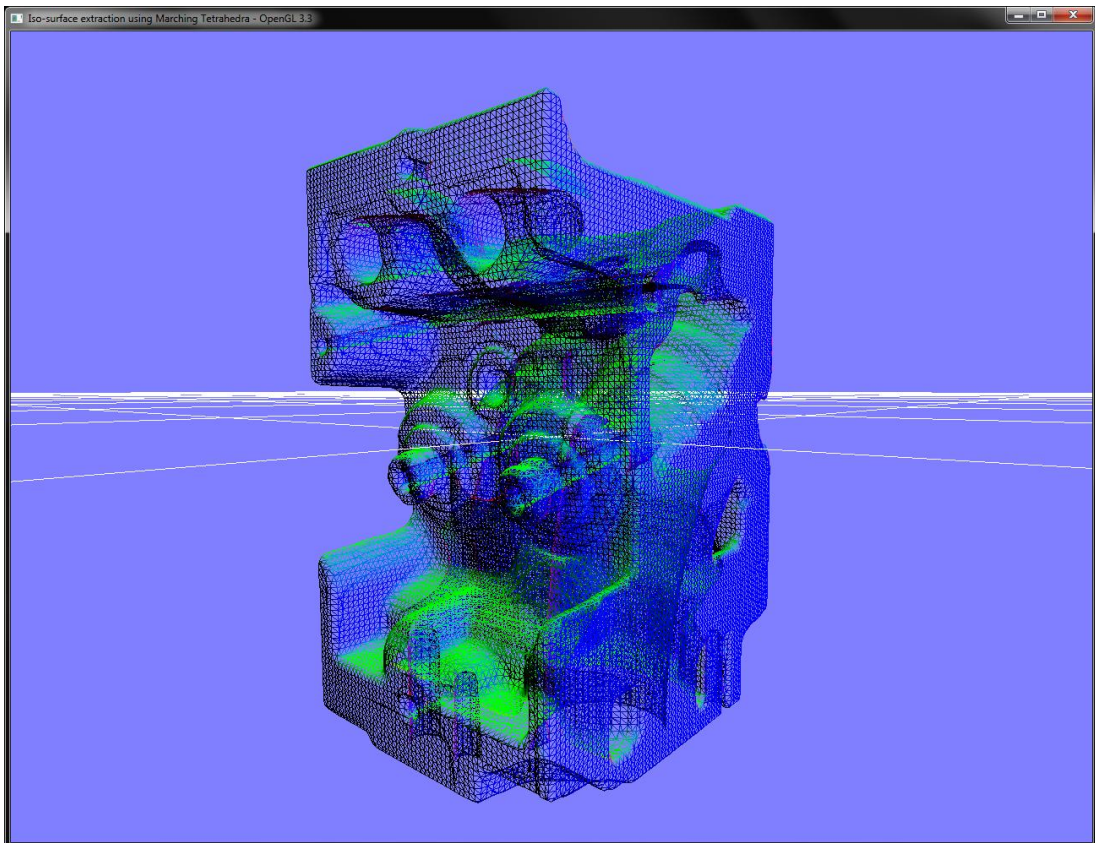
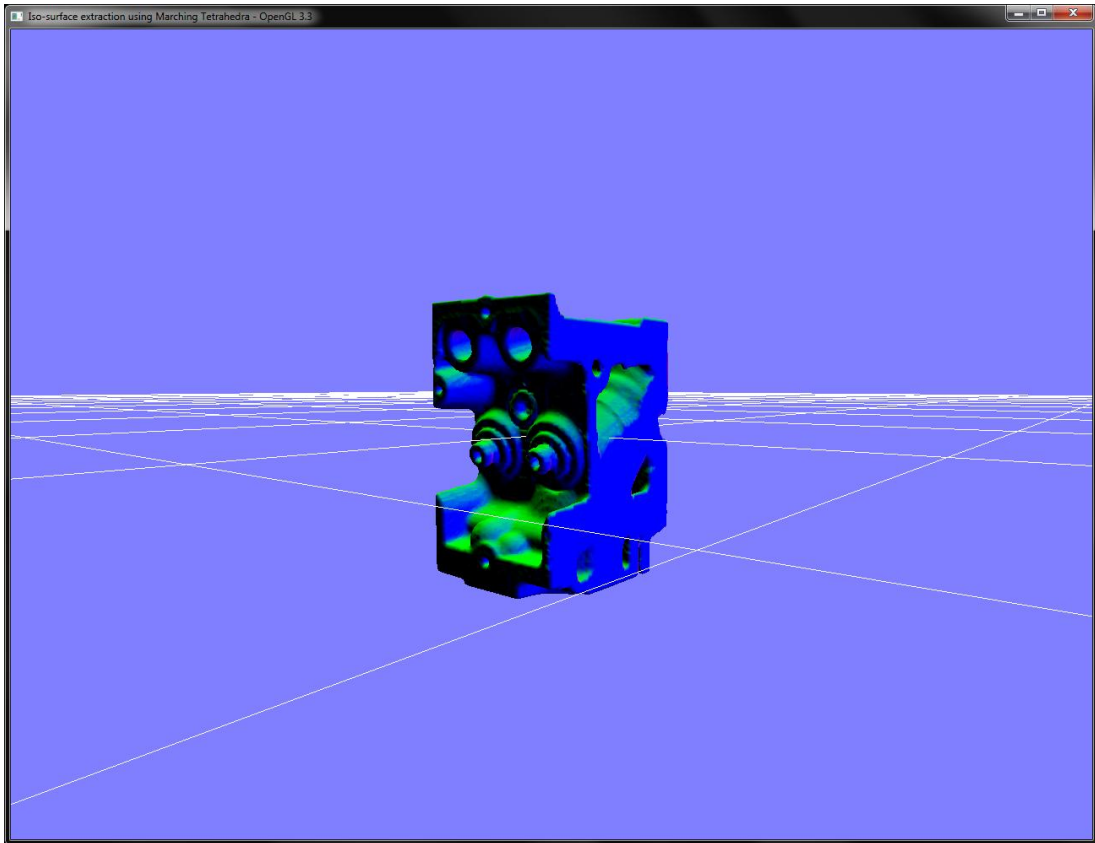
128 Slices

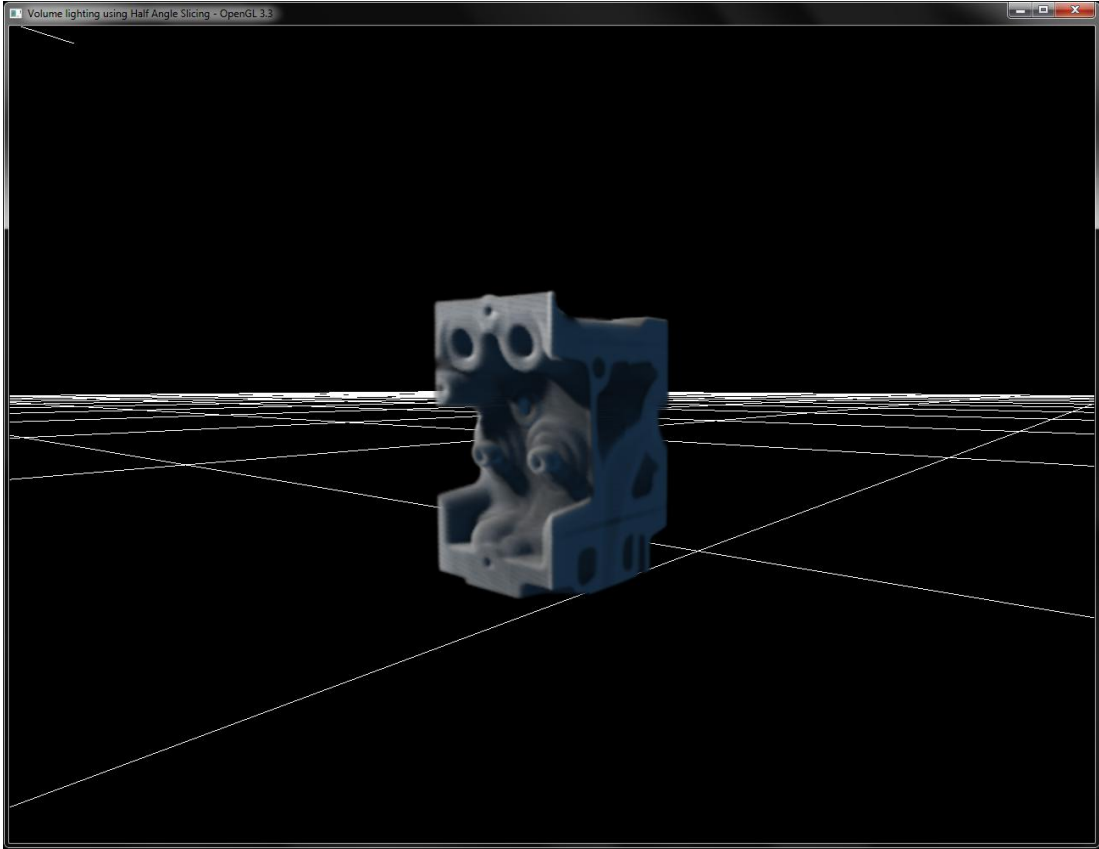
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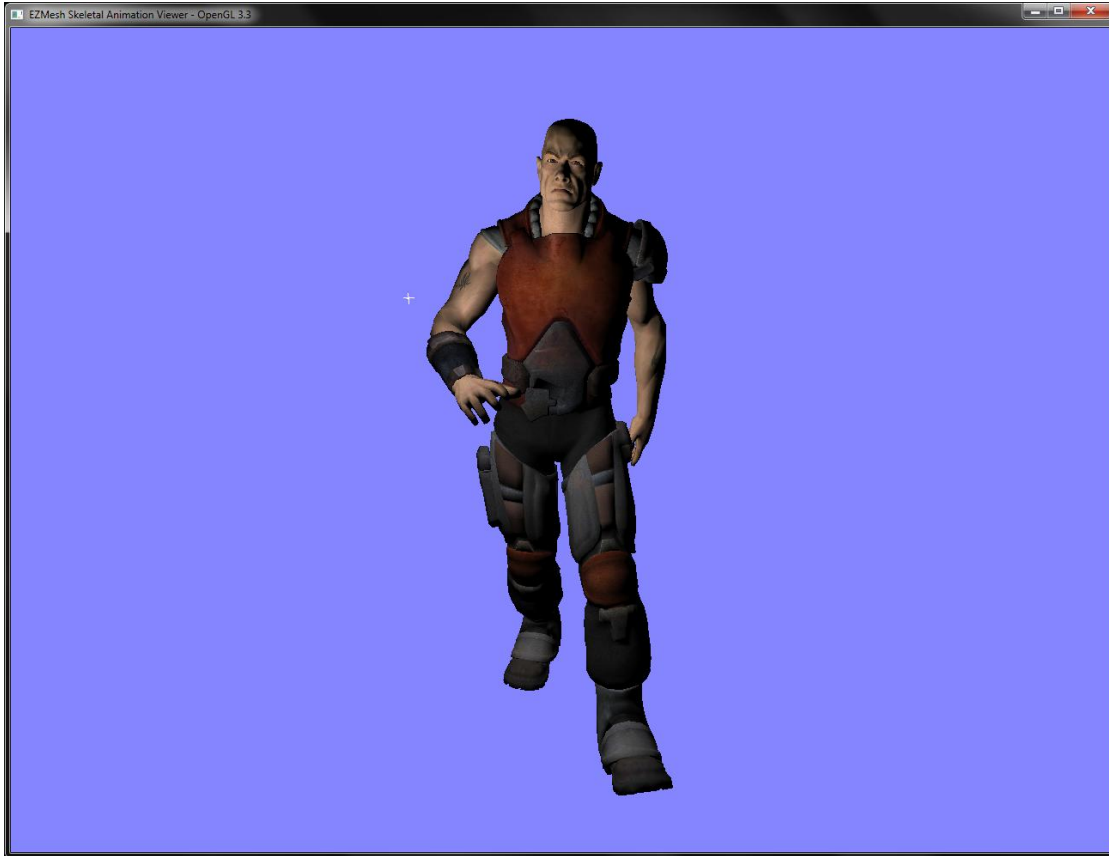








Chapter 8: Skeletal and Physically-based Simulation on the GPU



- Input vertex
- Linear blended vertex
- ⊙ Dual quaternion blended vertex

$$q' = \frac{w_1 * q_1 + w_2 * q_2}{\|w_1 * q_1 + w_2 * q_2\|}$$

