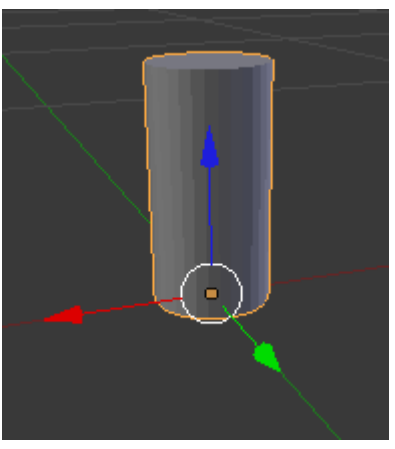
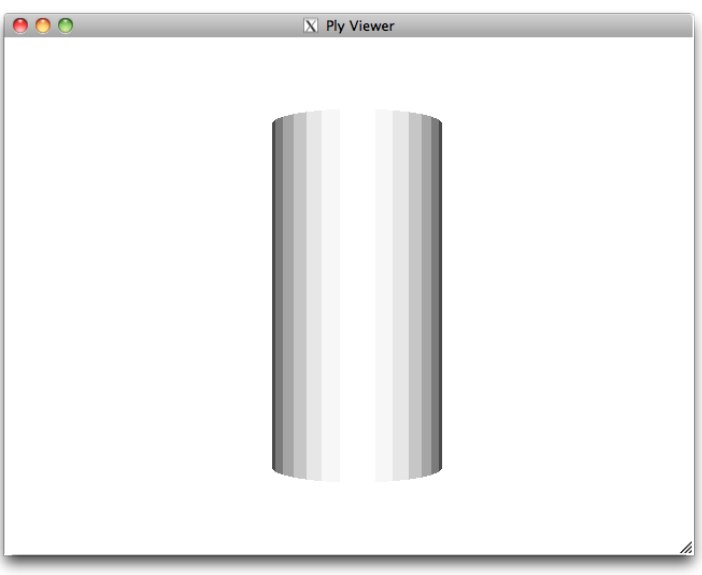
Use Blender and a python script to define scene

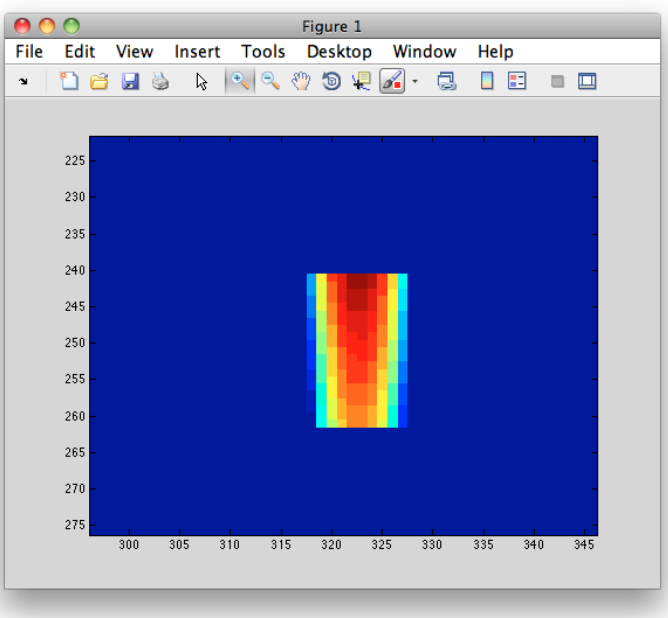


Use MeshLab to reorient all faces coherently

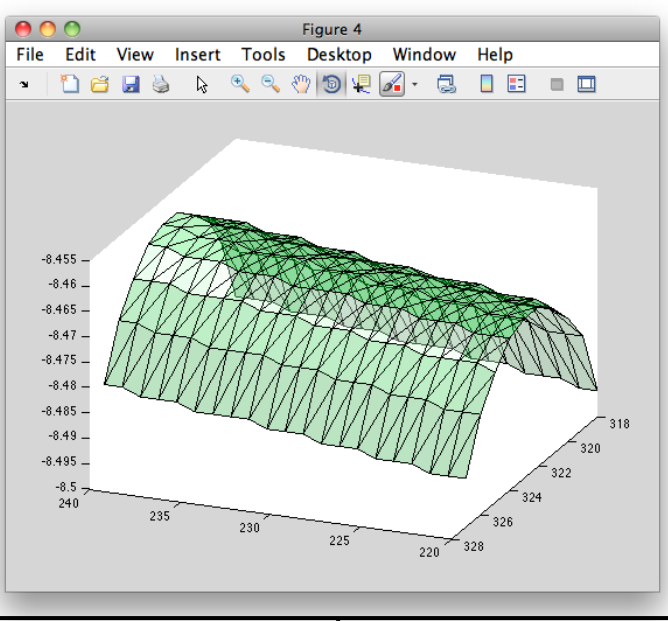
Use OpenGl to render ply file. Write z-buffer to text file.



Read text file into Matlab and show depth map. Apply gaussian noise



Create initial mesh by defining the connectivity on the depth map and then projecting into 3D



Simulate new point cloud from the sensor by reapplying gaussian noise to depth map