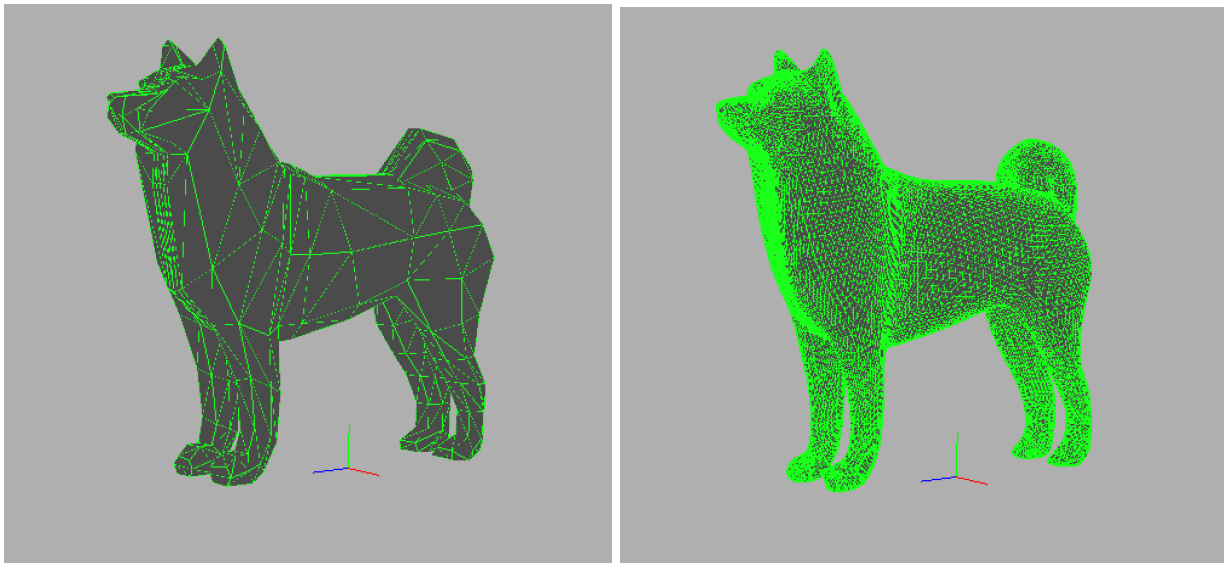

Shiba Inu Subdivision
Jenny Hou

I chose a shiba inu to demonstrate the subdivision because it is a cute creature. I implemented the subdivision algorithm by following the pseudocode given to us. First subdividing the triangles into 4 new triangles, then smoothing the odd and even vertices using the formulas. I used the suggested auxiliary data structures to assist in implementation. The edge_odd_vtx_map was used for step 1 (subdividing triangles), edge_tri_map for step 2 (smoothing odd vertices) and vtx_vtx_map for step 3 (smoothing even vertices). I ensured there were no duplicate vertices by first checking if the edge with the associated midpoint vertex was already in the edge_odd_vtx_map, and if it was not, then I would add the new midpoint vertex into new_vtx, otherwise I would just access the existing vertex using the edge_odd_vtx_map. If the midpoint vertex was new, I would also go and smooth it using the surrounding even vertices' positions. Finally, I iterated through all the even vertices to smooth them out with its previous position and its neighbors positions.