Student: Rafael Benatti

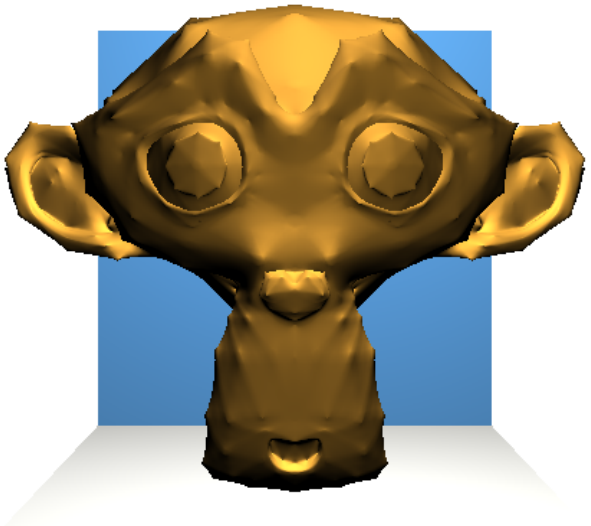
Initially I had much trouble understanding the code. I didn't have much familiarity with the map data structure in C++. The first TODO was to remember which faces are shared by an edge. I didn't manage to do it, but I was able to contour this problem. This TODO was meant to make possible to say whether a edge was a boundary or not. But actually, if we iterate through each face and count how many times we found each edge we are able to say whether it's bounding or not without keeping track of the neighbors faces.

After solving that I was quite able to follow the guidelines.

Also, I first tried to use the most simple calculations for alpha, which didn't go well.

$$\alpha_n = \begin{cases} \frac{3}{8n} & \text{if } n > 3 \\ \frac{3}{16} & \text{if } n = 3 \end{cases}$$

This gave me this result:



This happened because of the presence of n < 3, which are not handled by the formula.

After using this model, I could get to the final result:

$$\alpha_n = \frac{1}{64}(40 - (3 + 2cos(\frac{2\pi}{n}))^2)$$