Comp 261 A03 Report

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This assignment has been rather challenging but I relive I have accomplished most of the requirements. In the following section I will discuss details about the code and list few bugs which I have identified thought the process of testing and coding.

1 Code implementation

The algorithm implementation took several days, including nights, but I managed to achieve most of the requirements. I subdivided the code in classes following a topological distribution of the various attributes. The Main, extended from GUI class, class contains the method used for calling render process and handling the user input.
In addition to this, I have created classes for the Edges and Polygons, which help in dividing the large amount of code which each one has to accomplish.
There are also classes for Lights, Bounding Boxes and Pixels, which contains both color and depth information.

2 Bugs

- The interface doesn't update when changing sliders values. Only works when using keys to refresh the image
- The Phong model doesn't work entirely. I was able to partially implement specular contribution thou, which allows me to add reflectivity and shininess to the 3D models

3 References

To implement additional requirements for the Challenge part I have conducted some online research on publication journals and online. Among several results I found this online resource [Guo,] and this article [Phong, 1975] especially useful

References

[Guo,] Guo, X. J. Phong shading and gouraud shading.

[Phong, 1975] Phong, B. T. (1975). Illumination for computer generated pictures. *Commun. ACM*, 18(6):311–317.