Bernie Mayer
Student ID: 10124540

The main algorithm used in this program is the shader calculation which is the following:

where b, y, alpha and beta are floats that the user can enter and kd is a three dimensional vector

b, y, alpha and beta must be between 0 and 1

k_blue = (0, 0, b)
k_yellow = (y,y,0)

k_cool = k_blue + alpha * kd
k_warm = k_yellow + beta * kd

lightFactor = (1 - dot(L, N))/2

where L is the light contributing to that pixel and N is the normal for that pixel

Note: lightFactor is a constant that is part of the Gooch shader calculation.

color = lightFactor * k_cool + (1 - lightFactor) * k_warm

Data structures:

To Implement Gooch shading the program does not have to use that many data structures. A vec3 is used to store the kd and the other user entered values are stored as floats.

USER MANUAL:

To start the program the user must be in the programs main directory and then type in ./run

Upon starting the program the user will be prompted to enter in the values for b, y, alpha, beta , and the RGB components of the kd.

To change values that the user set upon starting the program the user can press the R button. This will allow the user to change any of the values that they entered upon starting the program.