**Programming Project Report**

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**Problem Statement:**

The goal of this programming assignment is to create a C++ program that reads 2 images of a penny, one is a regular picture and the other is a depth map image a use OpenGL to create a 3d wireframe of that penny, create a 3d model of that image using the wireframe and color data, and lastly implement the Phong Shading Model to give the model some realism. The normal inputs of this program are 2 penny images, one regular and one depth map, the user can also select the mode by choosing 1 (Wireframe), 2(3D Model), or 3(Phong Shading) and can rotate the penny in the negative x,y, or z direction by pressing x, y, or z and can rotate in the positive direction by pressing X, Y, or Z. The output should create a window where the user can see the 3 different pennies and can interact with them by using the keyboard. There was no error handling required.

**Design:**

* Describe the design decisions you made.
* What data structures did you use?
* What algorithms did you use?
* What were pros/cons of choices above?
* This section should be 1-2 paragraphs long.

**Implementation:**

* Describe your implementation process.
* What sample code did you start with?
* How did you extend or adapt this code?
* What was your development timeline?
* This section should be 1-2 paragraphs long.

**Testing:**

* Describe how you tested your program.
* What were the normal inputs you used?
* What were the special cases you tested?
* Did everything work as expected?
* Include sample input/output from your program.

**Conclusions:**

* Describe the overall result of the assignment.
* Was the programming project a success?
* What would you do same or differently next time?
* How long did the project take to complete?
* This section should be 1-2 paragraphs long.