ICS 2311: COMPUTER GRAPHICS
GROUP 5 PROJECT WRITE UP

MEMBERS:

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Overview

We are getting to understand the scope of the question and analyzing what is required to be used in terms of Open GL.
Our go-to library for code implementation was Graphics Library Utility Kit (GLUT) due to its ease in rendered window management and event handling with CPP.
The question helped in sharpening our grasp of two dimensional geometric transformations (also GLUT functions to perform the transformations eg. glTranslatef, glRotatef, glScale), co-ordinate system
Applying matrix operations to the geometric transformations using the glMatrixMode(GL_MODELVIEW) function, glLoadIdentity() function.
Our coding approach was modularization into a class hierarchy - this cut down on typing redundant functions.

Questions

1. Write a program to display an animation of a black square on a white background tracing a circular, clockwise path around the display window with the path's center at the display window's center. The orientation of the square should not change.
- Use only basic Open GL geometric transformation.
- Use Open GL matrix operations (instead of geometric transformation).

2. Modify the program above to have the square rotate clockwise about it's own center as it moves along it's path. The square should complete one revolution about its center for each quarter of its path around the window that it completes.
- Use only basic Open GL geometric transformation.
- Use Open GL matrix operations (instead of geometric transformation).

3. Modify the program to have the square additionally "pulse" as it moves along it's path - ie, for every revolution it makes about its center, it should go through one pulse cycle (which begins with the square in full size, smoothly reducing in size to 50 normal size by the end of the cycle).
- Use only basic Open GL geometric transformation.
- Use Open GL matrix operations (instead of geometric transformation).