

HACETTEPE UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING



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Homework

PROGRAMMING ASSIGNMENT 2

Subject: OpenGL shape drawing and basic shading

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Program language: C ++ and OpenGL library

PROBLEM

We have scaling the shape from the previous experiment, but we consider about width and height of the shape should be as half of the edge length of the drawing area. Second problem is Change the vertex shadercode to create swinging animation that we shape go right 45 degree the return -45 degree and it will keep going. The last task is when shape rotate change color it.

METHOD AND SOLUTION

First all thigs I get a uniform value for fragment shader and other uniform value for vertex shader. Then first user input a define a int value the int value can be changed by user if user click on 1 our shape have to be scale so I declare a 4X4 dimensol matrix. The matrix is scaling matrix and scale shape half of before. My function for it was void Scale(GLuint scaleLocation);. After this step I past second step which one I will try to rotate the shape so firstly I created a matrix the I multiple the matrix with scaling matrix. Now I have scaling and rotate matrix all the I call my function as void Rotate(GLuint scaleLocation);. After all this things I have to do this 2 step ann change color the shape so I define a color when my angle close to 0 my color close to red otherwise get out from red. For this operations I write a function as void changecolor(GLuint_color,int_data); Then wait for user input.

In this assignment I learn how can I scale a shape and rotate the shape around a point with using vertex shader also how can I change the color of shape using fragment shader.