Lab 2

Andy Artz

1) (20 Points)
   • Make a new directory called lab2. Write an Android graphics program that draws a yellow square using OpenGL ES 1.X.
   • Comment and self-evaluate your work. State explicitly whether you have finished each part successfully! If you have finished all parts successfully, give yourself 20 points, otherwise deduct some points that you feel appropriate. The instructor may adjust your score depending on your submitted report.

Final result
Code: For the code, I simply took the HelloES1a, which rendered a triangle, and duplicated the triangle. I then changed the vertices for both triangles, creating a “simulated square”.

```java
package cse520.lab2;

import java.nio.ByteBuffer;
import java.nio.ByteOrder;
import java.nio.FloatBuffer;
import javax.microedition.khronos.egl.EGLConfig;
import javax.microedition.khronos.opengles.GL10;
import android.opengl.GLSurfaceView;

public class HelloESRenderer implements GLSurfaceView.Renderer {

    private FloatBuffer triangle, triangle2;

    public void onSurfaceCreated(GL10 gl, EGLConfig config) {
        // Set the background frame color to blue
        gl.glClearColor(0.0f, 0.0f, 0.9f, 1.0f);
        // initialize the triangle vertex array
        initShapes();
        // Enable use of vertex arrays
        gl.glEnableClientState(GL10.GL_VERTEX_ARRAY);
    }

    public void onDrawFrame(GL10 gl) {
        // Redraw background color
        gl.glClear(GL10.GL_COLOR_BUFFER_BIT | GL10.GL_DEPTH_BUFFER_BIT);
        // Draw the triangle
        gl.glColor4f(1.0f, 1.0f, 0.0f, 0.0f);
        gl.glVertexPointer(3, GL10.GL_FLOAT, 0, triangle);
        gl.glDrawArrays(GL10.GL_TRIANGLES, 0, 3);
        gl.glVertexPointer(3, GL10.GL_FLOAT, 0, triangle2);
        gl.glDrawArrays(GL10.GL_TRIANGLES, 0, 3);
    }

    public void onSurfaceChanged(GL10 gl, int width, int height) {
        gl.glViewport(0, 0, width, height);
    }

    private void initShapes() {
        float vertices[] = {
            // (x, y, z) of triangle
            -0.5f, -0.5f, 0,
            0.5f, -0.5f, 0,
            -0.5f, 0.5f, 0
        };
        float vertices2[] = {
            // (x, y, z) of triangle
            0.5f, -0.5f, 0,
            0.5f, 0.5f, 0,
            -0.5f, 0.5f, 0
        };
    }
}
```
Evaluation:

I believe I completed all goals set forth by this lab, and am awarding myself the full 20 points.