3D PRACTICE

OPENGLES 2.0

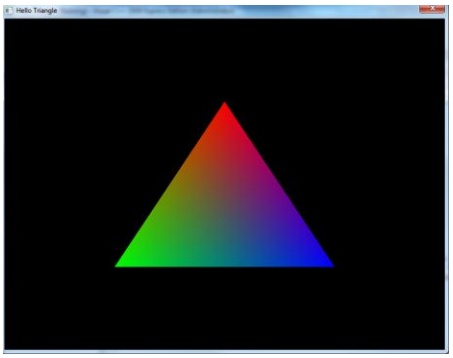
General training schedule

½ day	3D conception, opengles 2.0 pipeline	Part 1
½ day	Shader, basic glsl	
1 day	Paper Test	
	Exercise: Hello Triangle and color triangle	
½ day	Math and MVP matrices	Part 2
1/2 day	Exercise: Rotate triangle + implement MVP	
½ day	.obj file. Textures with mipmap optimization, filter methods Sky dome	Part 3
1 days	Exercise: Load and draw .obj, Sky dome implement	
½ day	Review and final	

Part 1:

Use program in here:

1. (2 pts) Draw a triangle and color it by 3 colors: red, green, blue



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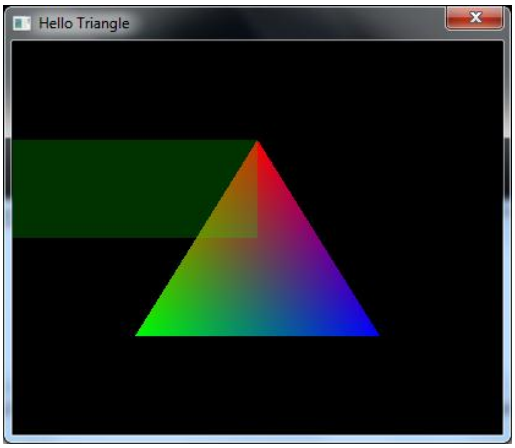
2. (2pts) A quad (from 2 triangles) overlaps the 3-colors-triangle
3. (2 pt) Use 2 programs, one for Blue Quad and one for 3-colores-triangle (must use 2 different a pair of vertex-shader and fragment-shader).
4. (1 pt) Enable BLENDING to make the Quad transparency
5. (1 pt) Enable DEPTH_TEST and CULL_FACE mode
6. (2 pt) Using both methods: drawArray (for Triangle) and drawElement (for Quad)



Note: follow gameloft and glsl coding convention, without it, minus 2!

Part 2:

Base on the part 1 practice, implement MVP matrix:

1. (3 pts) Implement perspective projection.
2. (3 pts) Rotate **the 3-colored triangle** around axis y.
3. (2 pts) Translate camera: Use key num: w, s, a, d to move **the camera** up, down, left, right
4. (2 pts) Translate objects: Use key pad up/down/left/right to move **both Quad and Triangle** up / down / left / right

Get the Matrix class in *\\sai-data01\Documents\Specialized\Programming\Training\01. MegaTraining\Basic\3D & OpenGL\GLES 2.0 workshop\References\Matrix-Class*

Note: follow gameloft and glsl coding convention, without it, minus 2!

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Part 3:

1. (4 pts) Load .obj and draw 2 girls (all data is here: \\sai-data01\Documents\Specialized\Programming\Training\01. MegaTraining\Basic\3D & OpenGL\Model 3D)
2. (4 pts) Use sampleCube to implement sky mapping
3. (2 pts) Rotate camera around axis-y

Note: follow gameloft and glsl coding convention, without it, minus 2!

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