tut 6

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intro

The goal of this tutorial is to get exposed to the basics of WebGL. Open **tut6.html** in any web browser to run the assignment. In Chrome you can press F12 to open the console.

The bulk of the assignment is contained in **tut6.js**.

You are given code which will draw a colorful triangle. NOTE: The code was written to be minimal. It does _not_ represent the best practices of WebGL. This is fine. For a more correct implementation please see this tutorial: `https://developer.mozilla.org/en-US/docs/Web/API/WebGL_API/Tutorial/Adding_2D_content_to_a_WebGL_context` NOTE: The Mozilla tutorials are amazing, and I recommend that you go through all of them in addition to the regular assignments for the next couple weeks.

1 open up a few tabs of documentation

- WebGL uses Javascript: `https://developer.mozilla.org/en-US/docs/Web/JavaScript/A_re-introduction_to_JavaScript`
- This code uses **gl_matrix.js** as its math library. The way it works is kind of funky, but the library is good. Go find the docs.

2 get to know the code

Modify the code such that

- The triangle is red
- The triangle is no longer moving

3 extend the code

Write a function called drawCircle() which draws a circle centered at the origin.
Hint: You can do this using gl.TRIANGLES

4 extra credit

You aren't actually graded on the tutorials, so the distinction between the actual assignment and the extra credit is somewhat arbitrary. Do any of these that seem interesting to you, or just mess around with the code.

- Color the triangle per vertex following this tutorial: `https://developer.mozilla.org/en-US/docs/Web/API/WebGL_API/Tutorial/Using_shaders_to_apply_color_in_WebGL`
- Take a look at three.js @ `http://davidscottlyons.com/threejs-intro`
- Get intimidated by how much you can do with two triangles and a fragment shader @ `https://www.shadertoy.com/view/Ms2SD1`
- Have the canvas resize dynamically when you change the size of the web browser window.
- Load the shaders from file (probably using a simple python server).