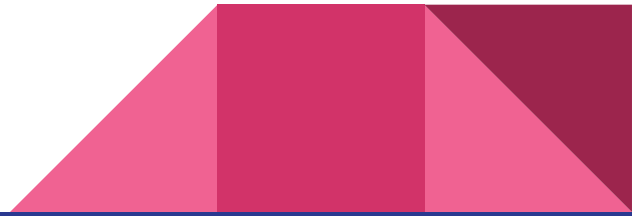
Lecture 15

Announcements

- Project advice from Prof. Friedman:
  - Don’t be the teammate who takes over too much
  - After the quarter is over, your term project can help at interviews

- Parametric surfaces demo is posted
  - An “active textbook”



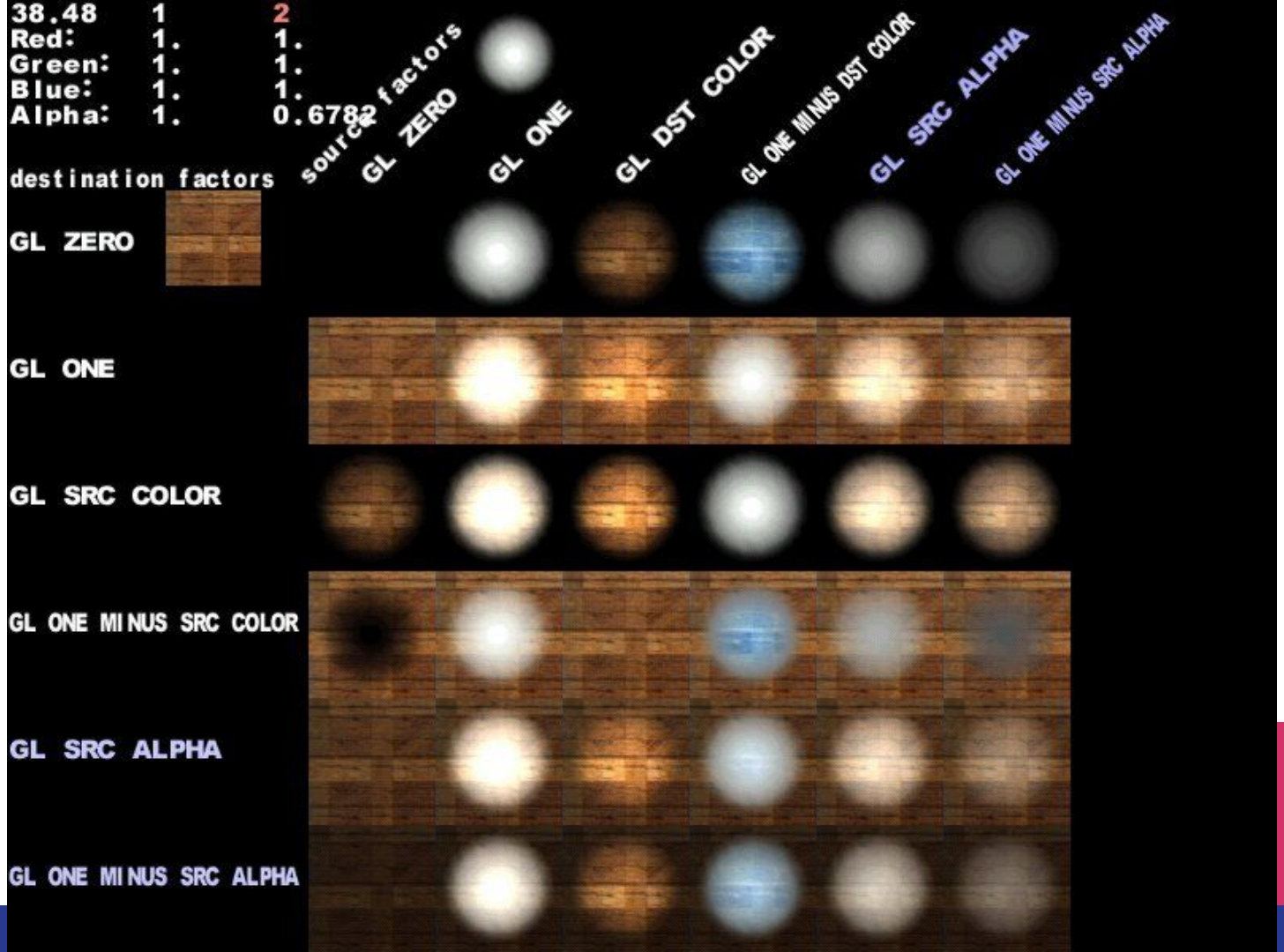
Topics we've missed:

- Spring/damper systems using edges
  - I'll post a slide set on that for completeness
- Transparency and blending
  - Keys to success:
    - Drawing transparent objects last
    - Turning depth testing off and back on

```
const gl = context.context;
gl.disable(gl.DEPTH_TEST);
```

Blending

- Choose what to do when a transparent triangle (the “source”) hits the z buffer (“the destination”): gl.blendFunc(source factor, destination factor)
- List of all possible functions:
  - https://developer.mozilla.org/en-US/docs/Web/API/WebGLRenderingContext/blendFunc


38.48 1 2
Red: 1. 1.
Green: 1. 1.
Blue: 1. 1.
Alpha: 1. 0.678
source factors
destination factors
GL ZERO
GL ONE
GL DST COLOR
GL ONE MINUS DST COLOR
GL SRC ALPHA
GL ONE MINUS SRC ALPHA
GL ZERO
GL ONE
GL SRC COLOR
GL ONE MINUS SRC COLOR
GL SRC ALPHA
GL ONE MINUS SRC ALPHA

Blending and other examples

- As a three.js interactive example:

  https://threejs.org/examples/webgl_materials_blending_custom.html

  - Other good examples on there while we’re at it:
    - marchingcubes, translucency, water / flowmap, lod, nearestneighbour, youtube, orientation / transform (quaternion math), reflectivity, manualmipmap, multiple elements, shadowmap viewer

Outside slide set: Spring/Damper systems

Outside slide set: Spline curves

Outside slide set: Surface patches