Announcements

- **MP3** is due tonight.

**Final project upcoming deadlines:**

- **Oct 27**, submit two .jpg files as the answer to my piazza post:

  1. Image for abstract/title. These will be posted on the class webpage: https://courses. engr.illinois.edu/cs498sl/gallery.php

    You are showing the world what is possible!

    http://cscstr.cs.umd.edu/

  2. Snapshot of your first scene for the final project in Unity

- **Nov 3**, a short video of your progress.
Importance to VR: If we present enough of depth cues to the brain, the computation can be done in the brain instead of expensive GPUs and CPUs!!!
Depth Perception:
Depth Perception:

http://psych.hanover.edu/Krantz/art/rel_hgt.html
Depth Perception:

http://psych.hanover.edu/Krantz/art/rel_size.html
Depth Perception:
Depth Perception:
Depth Perception:

Have you seen VR experiences taking advantage of this? Be the first one!
Depth Perception:

http://www.psypress.co.uk/mather/resources/swf/Demo10_1.swf
Depth Perception:
Depth Perception:
Depth Perception:
Depth Perception:
Depth Perception:

http://www.psypress.co.uk/mather/resources/swf/Demo10_3.swf
Depth Perception:
Depth Perception:

Relative Motion

http://www.psypress.co.uk/mather/resources/swf/Demo10_2.swf

http://psych.hanover.edu/Krantz/MotionParallax/MotionParallax.html
Depth Perception:

- **Daffodil**
  - Left-eye view
  - Right-eye view

- **Tulip**
  - Left-eye view
  - Right-eye view

Illustration showing how the brain perceives depth using binocular vision with the left and right eyes.
Depth Perception:
Depth Perception:

- Object B appears closer than object A because the retinal disparity is greater for B.
- The brain interprets this disparity to perceive depth.
Depth/Scale Perception:
Horopter: Optimal Focal Curve

Fixation point

Vergeance

Empirical Horopter

Vieth-Muller Circle

Theoretical Horopter

Nodal point

Left Eye  Right Eye
Optimal Focal Curve
Motion Perception: Purposes
Neural Circuitry for Motion

Why car wheels rotate backwards in movies

https://www.youtube.com/watch?v=SFblNinFsxk
http://www.psypress.co.uk/mather/resources/swf/Demo11_1.swf