CS148: Reading Guide, Thursday 26 June

Shirley Ch. 22: Visual Perception

This reading covers basic concepts in perceptual effectiveness - that is, images that accurately convey the information they are intended to. Don't worry about memorizing the technical terms introduced here, but do carefully consider the examples given in the chapter, and think about their implications in computer graphics.

1) Although it is available online, some students may prefer to read the textbook in paper format. Relate what you learned in 22.2.1 to this preference. (Hint: at a normal viewing distance, text printed at 300 dpi has contrast of approximately 30 cycles/degree.)

2) Name a stimulus the visual system is very sensitive to:

3) Name a stimulus the visual system is not very sensitive to:

4) You see something yellow. What are two possibilities for the wavelengths of light exciting the cone cells in your retina?

5) Check out how cool figure 22.18 is (p. 574). We'll talk much more about depth of field (DOF) next week. Was the illusion easy for you to see?

6) What are some ways we determine surface orientation? (See figures 22.26-7).

Fun fact: the incompatibility between North American NTSC (60Hz) and the more common PAL (50Hz) refresh rates is a direct result of the use of the metric system, which requires cycling AC at multiple of 5 or 10. (p. 571)