CMSI 671

COMPUTER GRAPHICS (GRADUATE LEVEL)

Spring 2007

Assignment 0213

This assignment begins the shift to the lower-level, implementation-oriented, and theoretical aspects of computer graphics. Consider it as a preview of the midterm, which is currently scheduled for February 20.

Not for Submission

1. The notions of color and how pixels are represented in memory are covered in Section 2.5.
2. We continue to dig deeper into Chapter 4, now with an emphasis on Sections 4.1–4.3 and Sections 4.6–4.11.
3. Finally, Appendices B and C cover the pure mathematics in detail.

For Submission

Do the following exercises and submit your work on hardcopy:

1. Angel Exercise 2.18
2. Look up the technical specs of the Apple iPhone's display and calculate how much memory is required by its screen.
3. The Canon EOS Digital Rebel XTi is rated at 10.1 megapixels with an aspect ratio of 3:2. Can you determine the maximum photo resolution of this camera? If not, what additional information do you need?
4. Look up the technical specifications of the high-definition TV (HDTV) 720p standard. Assuming 24 bits per pixel, how much display memory does a single 720p screen occupy?
5. Do the same for the HDTV 1080p standard.
6. Angel Exercise 4.1
7. Angel Exercise 4.21