CMSI 371-01
COMPUTER GRAPHICS
Spring 2015

Assignment 0226

Our last assignment before we plunge into the third dimension involves some work on the opposite end of the spectrum, with pixel-level color manipulation and some exploration of graphics primitives.

Outcomes

This assignment will affect your proficiency measures for outcomes *1a*, *2c* (max **|**), *2d*, *3c*, and *4a–4f*. This assignment applies only to the color computation aspect of *2c*, so that outcome has a maximum proficiency of **|** until a future assignment expands that to include light computations as well.

Not for Submission

If you have the Angel textbook, you can get deeper treatment of recent material and some future course content with the following readings.

- *Colors, graphics primitives:* Sections 2.5 (pages 62–68) and 8.8 to 8.10 (pages 416–424)

- *3D graphics overview and pipeline:* Sections 1.1–1.10 (pages 1–36)

For Submission

A Few Good Filters

Copy the *nanoshop* and *nanoshop-neighborhood* sample code and add two (2) new pixel filter functions *each* to the `Nanoshop` and `NanoshopNeighborhood` modules, for a total of four (4) such filters. Modify the accompanying demo pages to show them off. Feel free to change the base picture that gets filtered, especially with your own code from Assignment 0129. Be creative, have fun!

Commit and push your work to your repository under *homework/nanoshop-filters*.

Primitive Behavior

Copy the *primitives* sample code and change the `plotCirclePoints` function so that, instead of plotting the outline of a circle, it *fills* the circle with a *radial gradient* (center to circumference). You will need to modify the signatures of some functions; the entry-point circle drawing functions, for example, will need to be changed to accept the starting and ending colors of the gradient.

Make sure to adjust the accompanying demo code so that they showcase your modifications in action. Commit and push your work to your repository under *homework/primitives-plus*.