Assignment 1: Hello, 2D!

Computer Graphics – CS 4300/5310

Due: *January 15, 11:59pm*

Educational Objectives

- Familiarize yourself with basic 2D drawing and animation
- Learn different graphics primitive types
- Gain experience using a 2D graphics platform to prepare for your midterm project

Assignment Description

This is a short, introductory "sampler" program to introduce you to two-dimensional graphics. It is a somewhat open-ended assignment, in that you can choose what to draw and animate. You may write your code in Processing, Java2D, or OpenGL. You are required to fulfill **all** of the following conditions:

1. Explicitly define and use at least three points in a two-dimensional space that change over time, and which the primitives you draw are linked to. These points may be invisible *(e.g. an invisible point on the screen that two circles orbit)*, or may correspond to a primitive *(e.g. the center of a rectangle).*
2. Draw at least one of each of the following five kinds of primitives:
    a. Line segments
    b. Rectangles
    c. Text
    d. Ellipses
    e. Polygons or paths *(e.g. createShape() in Processing, GeneralPath in Java2D, or GL_TRIANGLE_STRIP in OpenGL)*
3. At least one object that is drawn must automatically change its color over time.
4. At least one object that is drawn must automatically change its size or shape over time (*e.g. ellipses that change dimension, polygons that gain or lose vertices)*.
5. At least one object must change *(e.g. move position, or change color)* based on user input *(either keyboard or mouse).*

This assignment is intentionally open-ended. I encourage you to be creative!

Grading Criteria

This assignment is worth a total of 100 points. Those points are broken down as follows:

85 points – fulfilling assignment requirements
15 points – code organization, clarity, and documentation

Partial credit can **only** be assigned to code that compiles, runs, and is well-documented. We will **not** spend time poring over your code to decipher its meaning.

Submission Instructions

A zip file containing the following information must be uploaded to Blackboard:

- Your well-documented code
- An executable **or** a link to a webpage with an embedded applet (Processing creates this for you!)
- Instructions for how to run the program
- A README listing the number of late days you wish to use and any collaborators

Emailed assignments will **not** be accepted.