Assignment 7: Particle Systems
Due by Class (1:30pm) October 24, 2016

This assignment asks you to complete the fourth step in Shiffman's Ecosystem project, from page 188:

The Ecosystem Project

Take your creature from Step 3 and build a system of creatures. How can they interact with each other? Can you use inheritance and polymorphism to create a variety of creatures, derived from the same code base? Develop a methodology for how they compete for resources (for example, food). Can you track a creatures "health" much like we tracked a particles lifespan, removing creatures when appropriate? What rules can you incorporate to control how creatures are born?

(Also, you might consider using a particle system itself in the design of a creature. What happens if your emitter is tied to the creatures location?)

In addition, you should improve upon your last submission based on the feedback from the code review.

Learning Objectives

- Extend classes.

- Use inheritance and polymorphism.

- Create a class hierarchy.

Deliverable

Submitting your assignment:

1. Put a comment at the top of your programs with your name, date assignment description, and collaboration statement.

2. Bring a hardcopy of your program (i.e., the source code) to class.

3. Submit a zip file of your program via Moodle. The zip file should expand into a folder named `cmsc157-project7-lastname-firstname` with the Processing sketch inside of that folder.