The George Washington University
Department of Computer Science

CS 6555 Computer Animation, Fall 2021

Assignment 4 Due: 12/2/2021
Behavioral Motion Control System

Description: Implement a behavioral system like [Reynolds] flocking system. You can start with a set of simple behaviors that are mediated by simple weighted average then make extensions with more complex behaviors and better mediation schemes. The boids can live in 2-D space (e.g. earth-bound beings) or 3-D space.

Input: a) Geometric data for objects
b) Other data depending on complexity of your system (e.g. key-frame values)

Output: Animated view of the boids

Upload to Blackboard: a) A description of your system (short documentation) that will make it easier to understand your code.
b) The source code.

Upload to Blackboard discussion: Movie of your animation

Format of the source code: It is important that the grader understands your code. Put enough comments to make it clear what you are doing.

Extensions: Extensions include environmental obstacles and the presence of "predators" or "boids of the opposite sex." You might also like to include global control using key-framing. For the objects themselves, you can use any simple data (e.g. arrow, box) or more complex articulated figures.
You can try to make them bank according to how fast they are going and the radius of curvature. You can implement learning systems (e.g. GA/GP) to determine the parameters.