APSC 200 P2: Week 5 Outline

Department of Mathematics and Engineering
Queen's University

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1 Objectives

The general objectives for this week are

1. to finish development of the simulation app,
2. to begin testing and evaluating potential designs, and
3. to begin writing the Final Report for the project.

1.1 Formation Algorithm

1. Introduce cost and/or energy function to the *moveAgents.m* to attach limitations on the movements made by the agents.
2. Test various design parameters to determine the optimal solution for your application.

1.2 Flocking Algorithm

1. Introduce cost and/or energy function to the *updateVelocity.m* to attach limitations on the movements made by the agents.
2. Test various design parameters to determine the optimal solution for your application.

1.3 Opinion Algorithm

1. Introduce cost and/or energy function to the *updateNodeData.m* function to attach limitations on the movement made by the agents.
2. Test various design parameters to determine the optimal solution for your application.

1.4 Lloyd's Algorithm

1. Write code for the *moveAgents.m* function to move agents towards their centroids.
2. Write code for the *velocityFunction.m* function to determine how agents move, given a velocity magnitude and direction.
3. Write code for the *energyFunction.m* function to compute the change in agent energy after moving.

2 Lectures and Workshops

There are two workshops scheduled for this week. During these times, you are to work on the above tasks and ask TAs any questions you may have about your project.

3 Deliverables

This weeks deliverables are

1. Progress Report 2.