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Assignment Two Overview

Overall Architecture

Each steering algorithm, Cohesion, Separation, Group Alignment, and Flocking, all have their own steering class. The Flocking class stores an array full of a struct that holds a steering object and a weight. The weight is then used to blend all of the steering algorithms together to form believable flocking behavior.

The Cohesion class iterates through the map of units and checks if they are within a radius and then applies force to keep them close together. The Separation class also iterates through the map of units and checks if they are within a radius then applies force to keep them apart. The Group Alignment class iterates through the map of units and applies force to keep the units in a radius to face the same way.

Settings are stored in a file and imported into the application through the SettingsFile class. Data is stored and modified in the application in the SteeringDataModifier class. The SteeringDataModifier class holds all of the values that can be changed in the application as well as a handle to the SettingsFile class for easy saving at the end of the application and easy loading at the beginning of the application. All data is stored in the steering_data.txt file.

Challenges Faced In Development

The most challenging part of this assignment was implementing the blend steering algorithm. I was having issues was the blending algorithm and compounding accelerations.

Areas Of Improvement

I would have loved to make a UI for changing the weights of the steering algorithms. Currently, it prints out feedback in the console, but it would be nice to add UI in the future if I have more time. I also think the flocking algorithm could be tweaked more to be more believable and responsive to other boids.