Methodology

I made an application!!!

I did it!

Cake for me.

An application was produced to test the hypothesis. This application used the Games Education Framework [reference], a light framework with little overhead. This was very early on chosen over the framework chosen in the proposal as it had a much larger overhead when producing the environment space in DirectX11. This switch was confirmed as best by two lecturers.

What did the application do?

The application simulated an environment, in which two flocks interact (one of which is improved via a genetic algorithm) within a limited space of scarce resources, with the aim of finding out if a flocking algorithm improved by a genetic algorithm can outcompete one without.

How was the flocking algorithm designed? (what influenced your choices?)

The design of the flocking algorithm was produced

The boids forces were modelled primarily off of the paper [reference here]. This is a modified version of the expanded boids algorithm, optimised for the environment in which it is placed in. The forces each boid experiences are: Cohesion, Alignment, Separation, Food Attraction and Flock Avoidance.

Separation

Maths Equation Here…

What design process/decisions did I take to create the application/genetic algorithm? [could ref. any relevant theory here]

* No mention of results (i.e. how well the bots worked)
* But method of **how** u tested to see how well they worked
* And any **alterations** made further based on tests, i.e. X method was used; if outcome A observed then technique 3 used, but if outcome B observed then technique discontinued/technique 4 used

Sections:

1. Design of software application (maths behind the code)
   1. How I went from bad to good flocking algorithm design (This may be a result, but write it just in case anyway and then copy to results if it’s not in the right section)
   2. Iterative Design process
2. Outcome (the code/application)
3. Testing