Artificial Intelligence for Games – Project Research Workbook

## Game/Application/Simulation Research

[Primer’s Natural Selection simulation](https://www.youtube.com/watch?v=0ZGbIKd0XrM) ([interactive version by MinuteLabs.io](https://labs.minutelabs.io/evolution-simulator))

A simulation of natural selection over many generations with three distinct mutations: speed, size, and sense.

## Pathfinding Algorithm Implementation

A\* pathfinding will be used.

Resources:

* YouTube
  + [The Coding Train](https://www.youtube.com/user/shiffman) – [Coding Challenge 51.1: A\* Pathfinding Algorithm](https://www.youtube.com/watch?v=aKYlikFAV4k)
  + [Sebastion Lague](https://www.youtube.com/channel/UCmtyQOKKmrMVaKuRXz02jbQ) – [A\* Pathfinding (E01: algorithm explanation)](https://www.youtube.com/watch?v=-L-WgKMFuhE)
* [Nicholas Swift – Easy A\* (star) Pathfinding (Medium.com)](https://medium.com/@nicholas.w.swift/easy-a-star-pathfinding-7e6689c7f7b2)
* [GeeksforGeeks – A\* Search Algorithm](https://www.geeksforgeeks.org/a-search-algorithm/)

## How the Pathfinding Algorithm Will Be Used

Agents in the application will seek out sources to aid them in surviving – such as a food or water source.

Some agents’ food source is another agent and will begin seeking their food as it moves.