**Research AI Mechanics**

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# **Goals**

* Investigate how some existing AIs work in games.
* Investigate Unity NavMeshAgents.
* Investigate State Machines.

# **Findings**

I watched a couple of videos, most from Game Maker's Toolkit, and found some facts about enemy/combat design and how some interesting game systems worked. My search results for AI related videos didn’t seem to get me what I was looking for. In the future, I need to be more specific with search keywords.

A picture containing chart

Description automatically generatedI moved on to watching some videos on the NavMeshAgent in unity and I setup an environment to experiment with unity’s built-in path finding system. Here the two green capsules that navigate towards the red dot avoiding obstacles, including each other.

Lastly, I investigated state machines where I watched a couple of videos to see a couple of different approaches, between using standard behaviours added to enemies, and then at the animator behaviour which allows you to add different states for both animations and behaviours. The state machine has plenty of events useful for creating an AI, so I started work on a behaviour where an enemy would circle the player. I attempted to have the enemy start walking backwards away from the player, but I ran into a problem where the enemy needed to rotate towards the direction it was Graphical user interface

Description automatically generatedmoving in. Further investigation is needed to see if this problem can be solved.