GAM 376/476 : Homework 2

Due Date: **2/4 11:59pm**

Download: Homework 2 from D2L

Submission: Submit to Homework 2 folder on D2L (see instructions below)

Resources:

To Get Started:

- Download "Homework 2" from the Homework section of D2L which includes…
  - This PDF
  - The Homework2 unity project
  - The SteeringExamples folder, which contains executable files to showcase different steering states
- Vector Arithmetic & Steering lecture notes
- For extra help you can reference **Understanding Steering Behaviors**, an Envato Tutorial
  - https://gamedevelopment.tutsplus.com/series/understanding-steering-behaviors--gamedev-12732

Description

Time to move! You will be implementing *steering behaviors* into some enemy AI bots to give them realistic movements in accordance with the player's location.

In the project you'll find three different scenes – Basic, Collision, and MultiBot. These scenes represent different map types and will help us test our AI in different scenarios. Recall that you can change active unity scenes by clicking them in Assets/Scenes. Each scene will have at least one of each of these two game objects:

Player: White Ship, controlled by clicking the mouse.
Bot: Purple Ship, this is our enemy AI that will wander, chase, etc

The goal for this assignment is to get the enemy AI bots to match the movement of those SteeringExamples provided with the zipped project.

All the work done for this assignment should be done in the **AI_Control** script (AI_Control.cs is located in Assets/Scripts). There is a functioning state machine and some skeleton functions, but note that you are welcome to change the class in any way you'd like to achieve & to showcase the desired behavior.

Required AI Behaviors:

- Seek
- Flee
- Arrive
- Pursue
- Evade
- Wander
- Hide
- Obstacle & Wall Avoidance
- Group Behavior
    - Separation
    - Cohesion
    - Alignment

We'll go over *Seek, Flee,* and *Arrive* together in class

Obstacle & Wall avoidance is not meant to be its own state, but rather an action to be performed during all states when obstacles are present

Submission

Submit the following things to D2L

1. **Your zipped project to D2L folder, titled "Homework 2"**
    - Delete all folders EXCEPT:
        - Assets
        - Packages
        - ProjectSettings
    - Essentially it should have the same major folders as the project you downloaded from D2L, plus any extra scripts you wrote
2. **A ~5 minute demo video where you explain your code and the outcome**