

MPIA–Artificial Intelligence in Games: Lab Project 1

Due: Sun 19 Feb 2022 23:59 (CET)

The objective of this lab project is to create a small “steering library” on Unreal. Your implementation should also be able to display the programmed behaviours of your agents.

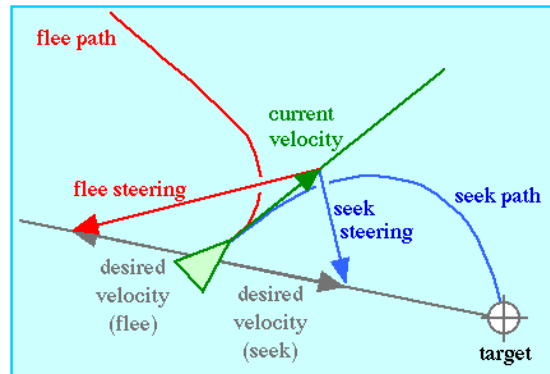


Figure 1: Illustration of seek and flee from C. Reynolds paper

Your program should be able show a result that is similar to the one on the following address:
<https://www.youtube.com/watch?v=j7IzUToM0eY>.

The implementation must follow the guidelines seen on the lecture about Steering. You must at least implement the following behaviours:

- **Seek:** the character moves in order to reach a fixed target.
- **Flee:** the character moves away from a fixed target.
- **Pursuit:** the character moves in order to intercept a moving target.
- **Evade:** the character moves in order to evade a pursuer.
- **Arrival:** the character moves in order to stop on a fixed target.

In addition to these basic behaviours, you must also combine some these to implement the following behaviours:

- **Circuit:** the character follows a path continuously. The end of the path rejoins the beginning, so that the character keeps following the same path indefinitely.
- **One way:** the character follows a path that ends in a certain point. The character “arrives” at that point and stops.
- **Two ways:** the character follows a path that ends in a certain point. The character “arrives” at that point and then starts to follow the path on the opposite direction. When the character “arrives” at the starting point, it starts to follow the path on the original direction again.

What to submit

You must create a GitHub project for your implementation. The submission will be done by creating a “release” of your implementation and then uploading a text file containing the link that release to Moodle. Your release should include a “readme” file with instructions on how to install and run your implementation on Unreal.

Note: be careful to not make changes on the release once it has been submitted, for the date of the last change will be considered as the submission date of your project.