Exercise – Steering Behaviours continued

Exercise1:

Based on the lecture notes, implement a **PursueForce** and an **EvadeForce** that derive from **SteeringForce**.

Exercise 2:

Based on the lecture notes, implement a **WanderForce**. This will need more than just a Target member variable.

Wander requires an Offset, a Radius, and a Jitter amount, in addition to storing the previous wander target (which is a position or rotation, rather than a **GameObject** target).

Implement a project that has multiple **GameObjects**, each with a **SteeringBehaviour** that is using a **WanderForce**.

Exercise 3:

Alter the **SteeringBehavior** class to support having multiple **SteeringForce** objects active at the same time.

There are many ways to implement this, many of which apply a **Weight** value to each force to indicate how much of the force will influence the final force that is added to the **GameObject**:

* Weight 1.0 = full force
* Weight 0.5 = half force
* Weight 0.25 = quarter force

You can then apply the weights as a running sum. Each **SteeringForce** is evaluated in a set order, multiplied by its Weight value, then accumulated. After each force is accumulated the force is clamped to the **GameObject’s** **MaxForce**. This means that later forces might not actually influence the force that is applied to the **GameObject**.

Challenge Exercise:

Implement an **AvoidForce** that works by avoiding circle regions. It should create a force to push the **GameObject** away from the regions.

Create a project that demonstrates combining the **AvoidForce** with **GameObjects** that are also using the **WanderForce**.

* See [this](http://gamedevelopment.tutsplus.com/tutorials/understanding-steering-behaviors-collision-avoidance--gamedev-7777) tutorial for help getting started.

References:

* A great tutorial for revision on the Arrival behaviour can be found [here](http://gamedevelopment.tutsplus.com/tutorials/understanding-steering-behaviors-flee-and-arrival--gamedev-1303).
* A great tutorial for revision on the Pursue and Evade behaviours can be found [here](http://gamedevelopment.tutsplus.com/tutorials/understanding-steering-behaviors-pursuit-and-evade--gamedev-2946).
* A great tutorial for revision on combining steering behaviours can be found [here](http://gamedevelopment.tutsplus.com/tutorials/understanding-steering-behaviors-movement-manager--gamedev-4278).
* A great tutorial for revision on the Avoidance behaviour can be found [here](http://gamedevelopment.tutsplus.com/tutorials/understanding-steering-behaviors-collision-avoidance--gamedev-7777).