INTRODUCTION

This is the university project I worked on during the second semester of the 2018/2019 academic year for the “**Artificial** Intelligence for Video **Games**” exam.

This project represents the natural evolution of “Hypogeum” , a multiplayer driving / shooting / battle car game made with Unity for PC & Mac.

In the game, four teams of two players face each other in an enormous arena (called, in fact, Hypogeum), trying to defeat their enemies and be the last standing. Each team belongs to one of the four existing factions and is composed of two players from the same species, that represent the champions. The battles are fought on cars, with one player as driver and one as shooter, each of them equipped with a faction-specific weapon.

The teams, in addition to the other players, have to pay attention to the surrounding environment: different traps and NPCs could interfere with the battle and increase the difficulty of the match. However, the heroes are not alone: each team has its supporters in the audience and, through thrilling actions, can increase their excitement up to push them to help their favorites with useful power-ups.

Hypogeum participated to the New Game Designer 2019and won the “Best Multiplayer Game” and “EDI Special Award” awards.

SPECIFICS

The challenge and the purpose of this project are to develop a believable AI for enemies’ cars for several reasons:

* Fill the lobbies if there aren’t enough players;
* Substitute a disconnected driver player in order to let the shooter one continue his match;
* Play in a training mode with “bots” where players can explore the map and develop new skills and strategies;

MOVEMENT

To develop the movement of the cars I used the solutions presented by Professor Dario Maggiorini during the Artificial Intelligence for Video Games course, in particular the classes used are (slightly modified to fit at best with the underlying game):