# Unity3D Test

**What will be evaluated:**
- Quality/readability of the code.
- Organization of the classes and relationships.
- Performance on Mobile (using UGUI and unity 5.1 or newer).
- Optimize what you can and write a comment on other things that would involve a 3D artist.

**Editor Tasks:**

1)Define a closed path using the unity editor.

Requirements:
- Can add and remove nodes.
- Can change the position of the nodes.
- Display the path in the editor.
- Serialize the information of the nodes in a way that is always updated.
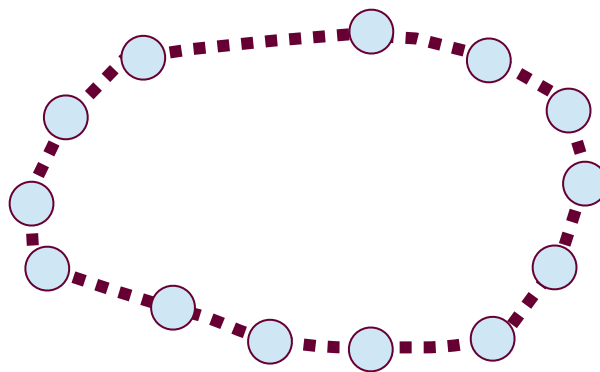


**Runtime Tasks:**

1)Parse the json file "data.txt" placed in the streaming folder and store in memory. It contains the players information and the other game settings.

```
{
 "GameConfiguration": {
   "lapsNumber": "4",    (after 4 lap  the race end)
   "playersInstantiationDelay": "8000"    (milliseconds to wait before instantiate a new player)
 },
 "Players": [
   {
     "Name": "Pippo", (name of the player)
     "Velocity": "16", (velocity of the car)
     "Color": "#5adb72", (color of the car)
     "Icon": "http://image0.flaticon.com/icons/png/128/70/70078.png" (player icon to display in the ui)
   },
…
…
```

2)Randomly choose 8 players that will take part in the race.
Order the 8 players by the velocity, from the slowest to the fastest, and instantiate them every x milliseconds (*playersInstantiationDelay*).

3)Every player must follow the path with a uniform velocity which is provided by the player information. They must move using the engine physics system and should collide with the track.
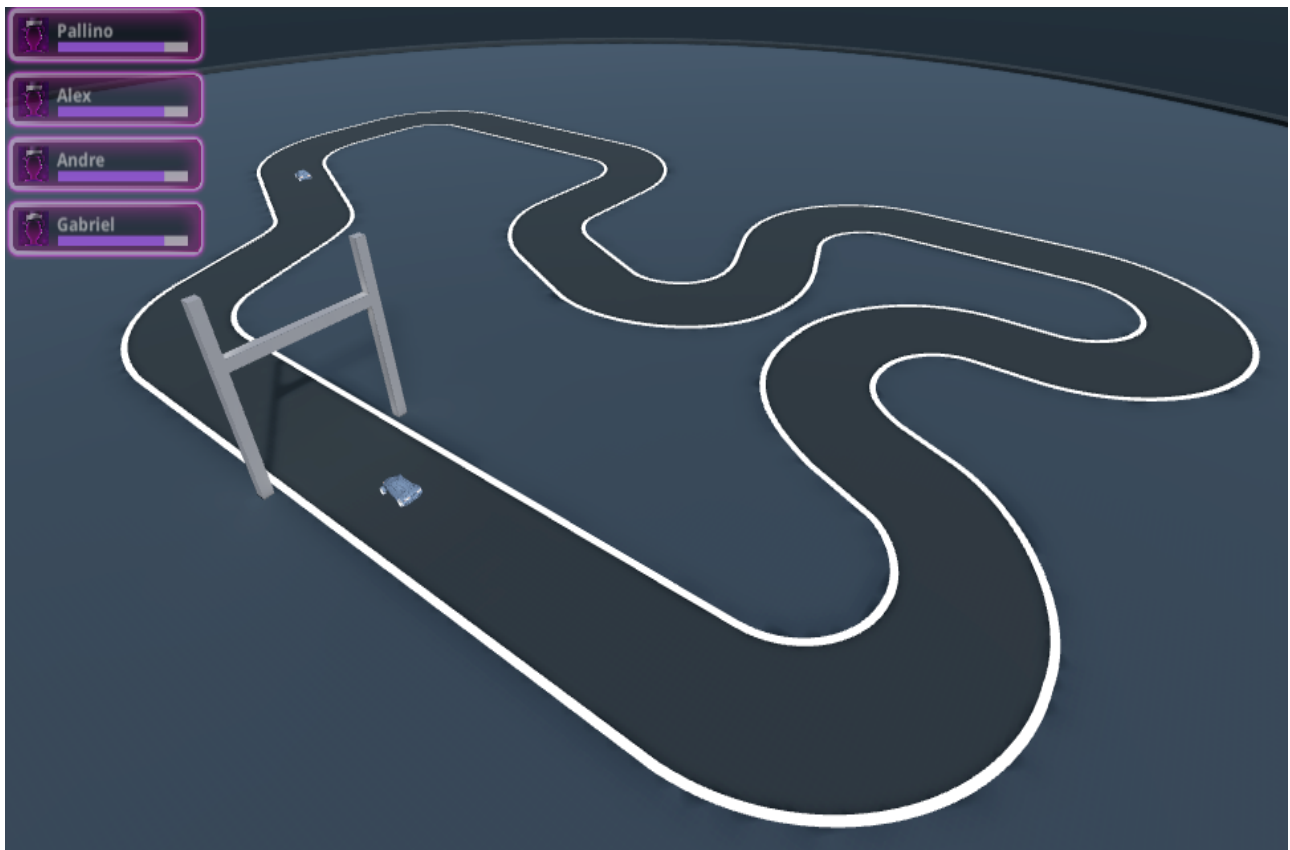
4)The players must avoid colliding with each other for which you should provide only some basic AI.

5)Display the rank in the UI during the race. It has to be sorted by the player's position. The rank must be updated and reordered at runtime and every cell should contain that information:
Player name
Players profile picture
Total Laps progress



6)After X race laps (*lapsNumber*) the match should finish and a popup must be displayed with the winner's information. The user must be able to close the popup and restart the match.