Tecnológico de Monterrey

Setup Guide

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Modeling of Multi-Agent Systems with Computer Graphics

Group 301

Tecnológico de Monterrey

Set Up Guide

This setup guide aims to show the series of steps and requirements to be able to correctly execute and visualize the project as intended by the team.

Requirements:

- Python 3.10.5+ working installation

  Despite python being very flexible, packages could be deprecated or modified in other versions, therefore this version must be used for this project.

- Working IDE (capable of running python)

  For the project to be executed (simulated), the IDE must be able to run the python server file (python_file). The team's recommended IDE for this project is Visual Studio Code.

- Unity 6000.0.27f1 version working installation

  This requirement means having a working installation of Unity Hub and Unity 6000.0.27f1, which can be downloaded directly from Unity Hub once installed.

- ZIP extractor working installation

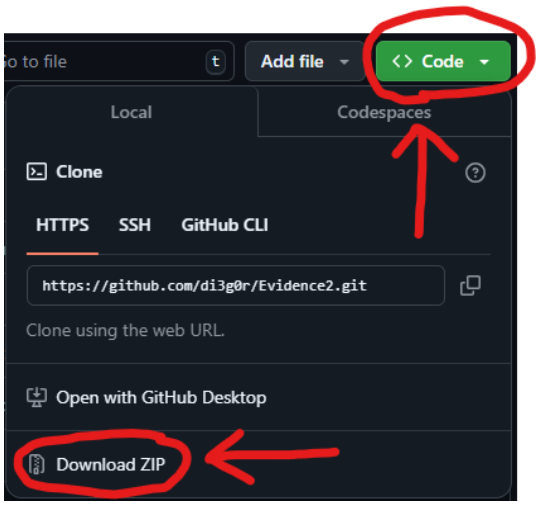
  Windows users already have one by default, but can also use programs such as 7Zip or WinZip.

- Virtual Environment (Optional)

  Not a requirement per se, but using a virtual environment could prevent possible conflicts between packages versions and other installations in our computer.

Once this requirements have been fulfilled, the process to successfully simulate the project is the following:

- Go to the project repository: Click here
- Download the project as zip folder (image below to locate easier):
    - Click the “code” button
    - Click “download ZIP”



- Once the ZIP has been downloaded, extract it.
- Open Unity Hub and click “Add” button in the upper right corner.
    - Select “Add project from disk”
    - Select the location of the project folder
- While Unity loads and opens the project, do the following:
    - Open the IDE
    - Open the python file contained in the extracted project folder named “evidence2_Flask.py”
    - Run the python script
    - Wait until the output/terminal shows the message shown below

```
Drone 4 initialized at landing station (10, 10).
 * Serving Flask app 'evidence2'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

    - Once this message is displayed, return to Unity
- In Unity, wait until the scene is fully loaded, then click the play button and watch the simulation.
- Once the simulation is over click stop (or at any wanted moment).
- On the Python Logs you can see the step by step state of the simulation, including the position of different agents, what the drone is seeing, etc.
- On the Unity Logs you can see info about what Unity is receiving from the Python Server.