Assignment – 2

CS-662: Mobile Virtual Reality and Artificial Intelligence

Fall 2024

Note: This is a group assignment. Please mention all team member names and roll numbers on your solution. Please submit a single solution per group in pdf format with still photos of your game for different question and their parts. Also, please provide a link to the zipped project folder for Q1 and Q2 via a Google drive link.

Submission Deadline: Submit before 11:59 PM on 10th September 2024.

Question 1: Please do the following in Unity 3D: [6]

  a) Make a floor and a wall in the environment like the one shown in lecture.
  b) Please give an appropriate color to the floor (red) and the wall (blue).
  c) Now, add a bullet (sphere) into the scene of an appropriate color (yellow) and size, where the bullet will be propelled towards the wall and collide with the wall with a certain force due to the left mouse button click.
  d) Next, please create explosion effects at the site of the collision between the sphere and the wall.
  e) Please ensure that the explosion effect involving cubes and bullets disappears in 3 seconds after getting generated.

Question 2: Please do the following in Unity 3D (installing Unity ML Agents): [4]

DOWNLOAD AND INSTALL ML- AGENTS (For any doubt we can refer instructions from

official documentation GitHub mentioned at the end)

  a) The following ML-agents GitHub Repo needs be cloned/downloaded https://github.com/Unity-Technologies/ml-agents
  b) First create a virtual env by command: "python -m venv NAME" …. Where NAME is the name of our new virtual environment
  c) To activate it just type this in cmd prompt: "NAME/Scripts/activate"
  d) Pytorch install for windows: pip3 install torch torchvision torchaudio

An alternate way mentioned at the official repo, if we want to make modifications to mlagents or mlagents_envs; we should install the packages from the cloned repository rather than pip

e) We need to install packages from cloned repo …. Cloning is not sufficient, but we ALSO NEED TO INSTALL PACKAGES inside repo

      1. cd ml-agents-envs

      2. pip install -e .

      3. cd ..

      4. cd ml-agents

      5. pip install -e

GitHub official page:

https://github.com/Unity-Technologies/ml-agents/blob/main/docs/Installation.md#installthecomunityml-agents-unity-package