Task 5

App for Grading of Progress Task

[*Last Updated on:* ***30th January 2021, 13:00 Hrs***]

Before testing the solution make sure you have **plugged in your laptop to power source** and **closed unnecessary applications** open in your PC.

NOTE: The installation of all software/libraries has been tested **only** on the following **64 bit OS**:

- ***Windows 7, 8 and 10***
- ***Ubuntu 16.04 and 18.04***
- ***macOS Big Sur v11.0.1***

General Instructions

- **It is recommended to create a backup of the current scene (`task_5_scene.ttt`) before starting the evaluation.**
- The ***Grader App*** will **ONLY** call the **main function** as defined in the Table 8 of Progress Task documentation.
- `init_remote_api_server()` and `exit_remote_api_server()` functions are already defined in the executable and hence should **NOT** be called by the teams.
- Remember to initialize the **Video Recorder** before beginning the evaluation. Refer Figure 7 of Develop Ball Navigation Algorithm.
- It is **COMPULSORY** to orient the camera as shown in Figure 6 of Progress Task documentatior
- During the evaluation, Teams are **NOT** allowed to **disturb the simulation**.

NOTE:

- Certain buttons and toolbars will be **disabled** as soon as the evaluation has begun. After the **evaluation is completed**, the scene will be **set back to the initial state**.
- If an **error/exception has occurred** during the evaluation, **wait for at least 20 real-time seconds** for the scene to get back to the initial state.

Follow the below mentioned instructions for **your respective Operating System**. These steps are necessary for the GUI to function normally.

For Windows OS

A. Adding Conda to Path Variable

- It is **MANDATORY** for teams to **add Conda path to the System's Environment Variable**.
- You can refer the tutorial by GeeksforGeeks or Post @80 on Piazza.

NOTE: You can also access **Advanced System Settings** via the **Settings** application of your Windows Machine.

- Go to **Settings** application
- Click on **System**

- Scroll to the bottom and click on **About**
- Again, scroll down and click on ***Advanced system settings***.

B. Updating Conda

- It is **MANDATORY** for teams to **update the Conda to version 4.9.2 or above**.
- In order to update, open your ***Anaconda Prompt*** or ***Command Prompt*** and paste the following command:
  - Make sure the machine has an **active Internet Connection** before running the followin command.
  - Also, make sure **no Conda environment** is activated inside the prompt, **not even base** environment should be activated.

```
conda update conda
```

- After the process is completed, check the version of conda by using the following command:

```
conda --version
```

- Make sure the Conda version is now **equal to greater than** `conda 4.9.2`.

C. Installing the Grader App

- Download the executable package ***NB_Task5_GUI-1.0.0_win.exe*** from this page.
- After the download is complete, **double click on it** to open the installer.
- Your **antivirus software might warn you** about the installation as shown in Figure 1.

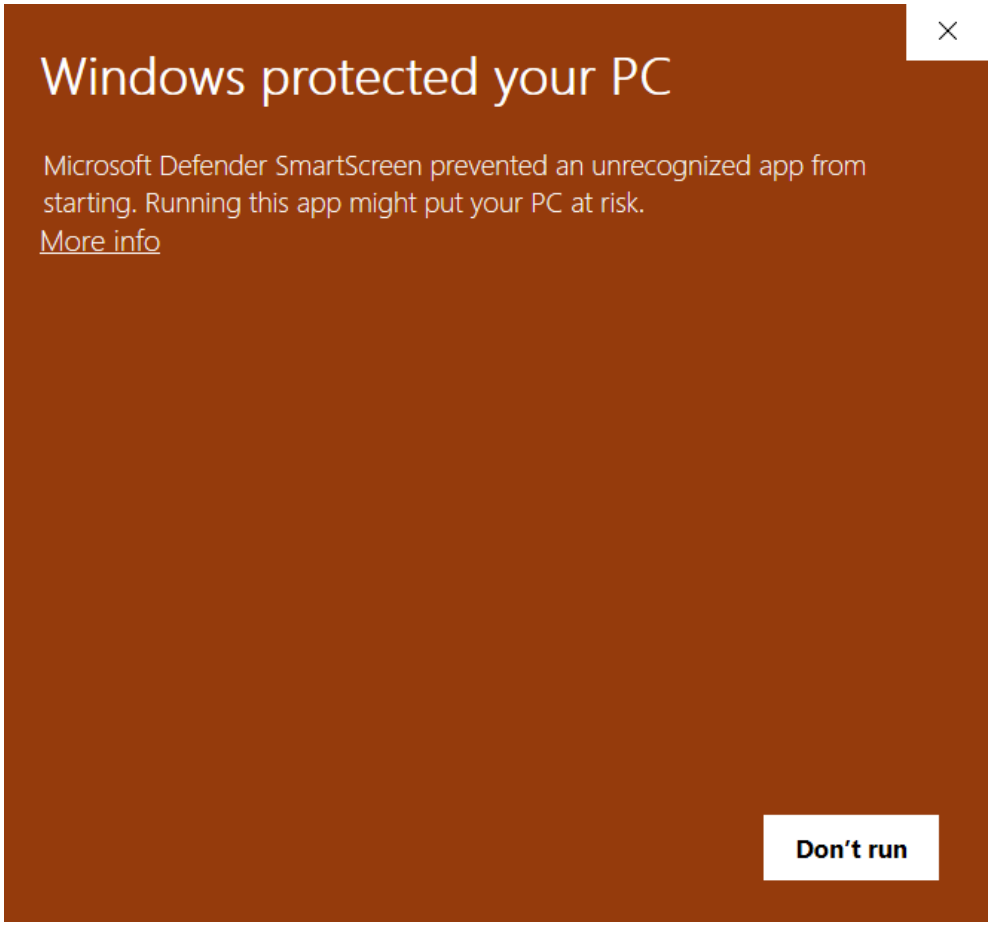

Figure 1: Warning of Antivirus Software can be safely ignored.

- However, you can **safely proceed to install** the GUI. Click on ***More info*** and then on ***Run Anyway***, as shown in Figure 2, to proceed ahead.

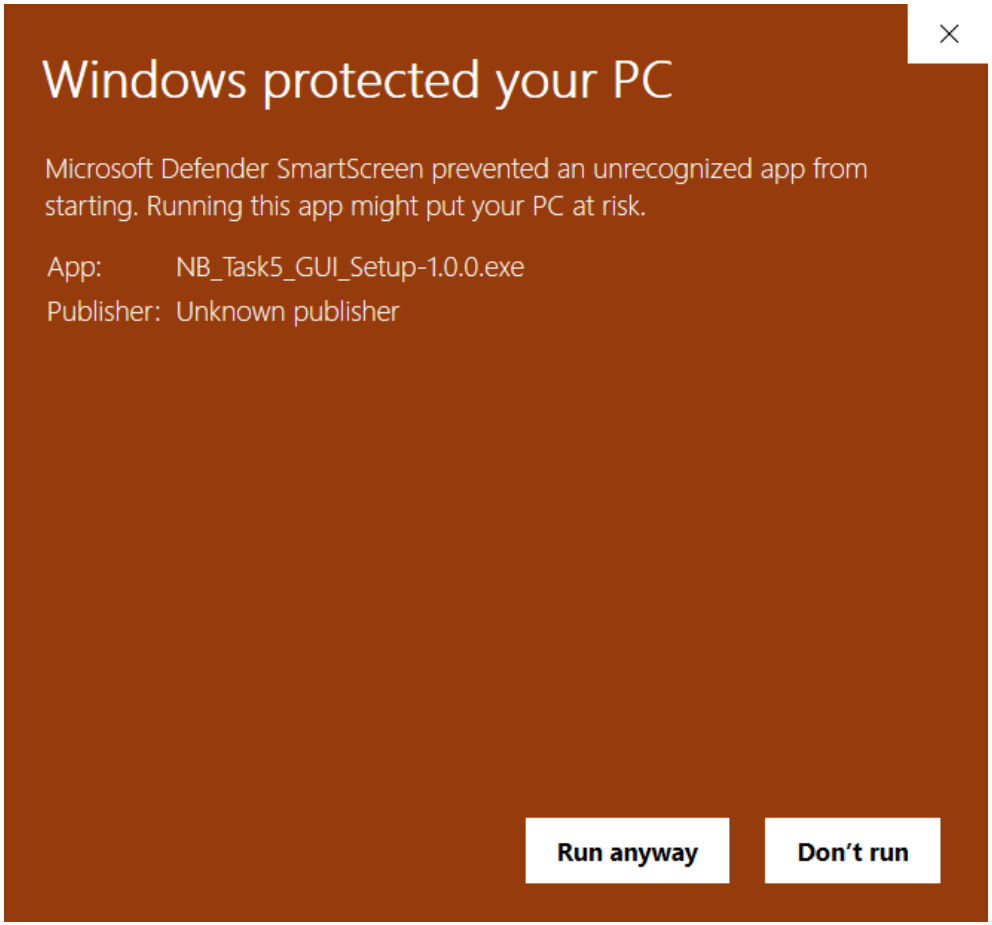

Figure 2: Proceeding ahead with the installation.

- A **dialog box**, as shown in Figure 3, **will appear** during the installation.

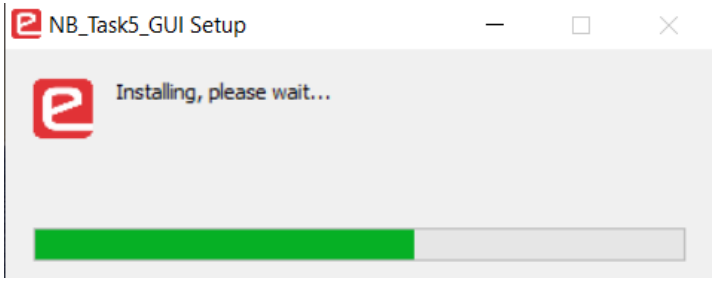

Figure 3: Installation in progress.

- After the installation is complete, you can run the application by the name of ***NB_Task5_GUI***.
- As soon as the application is opened, you will see the **screen as shown in Figure 4**.

- Enter your **Team ID** and **Path of Directory** to begin.
- Path of Directory should contain the path where all the task files such `sim.py`, `remoteApi.dll` `task_5.py` etc. are present.

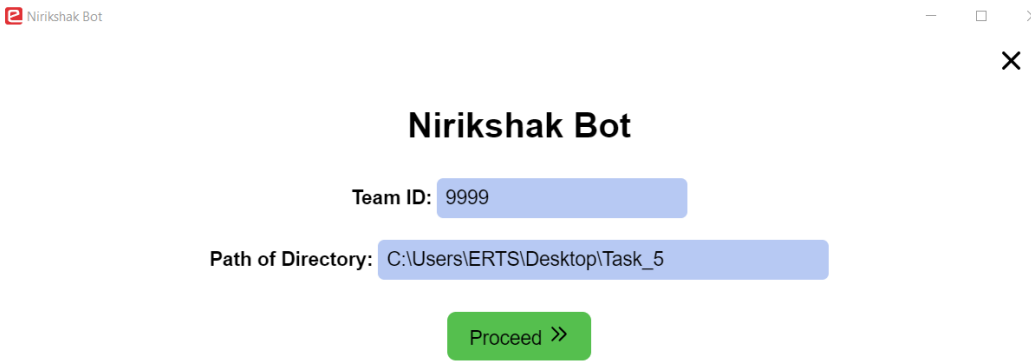

Figure 4: Initial screen of Task 5 GUI.

- Now, click on ***Proceed***. A new screen as shown in Figure 5 will appear.

Figure 5: Testing screen of Task 5 GUI.

- Now, open the scene file i.e. `task_5_scene.ttt` edited by your team.
- Click on ***Start*** button to begin the evaluation process.

NOTE: It may take upto 2 minutes for the initialization to complete.

- During the evaluation you will see the screen as shown in Figure 6.

Figure 6: Evaluating the code and scene using GUI.

- If the **evaluation is successful**, you will observe that the **status will indicate 'Success'** as shown in Figure 7. It will also show the values of Scoring Formula parameters in accordance with the run and your solution.

Figure 7: Successful evaluation of the student code and scene.

- However if the evaluation failed, you will observe that the **status will indicate 'Error'** as show in Figure 8.

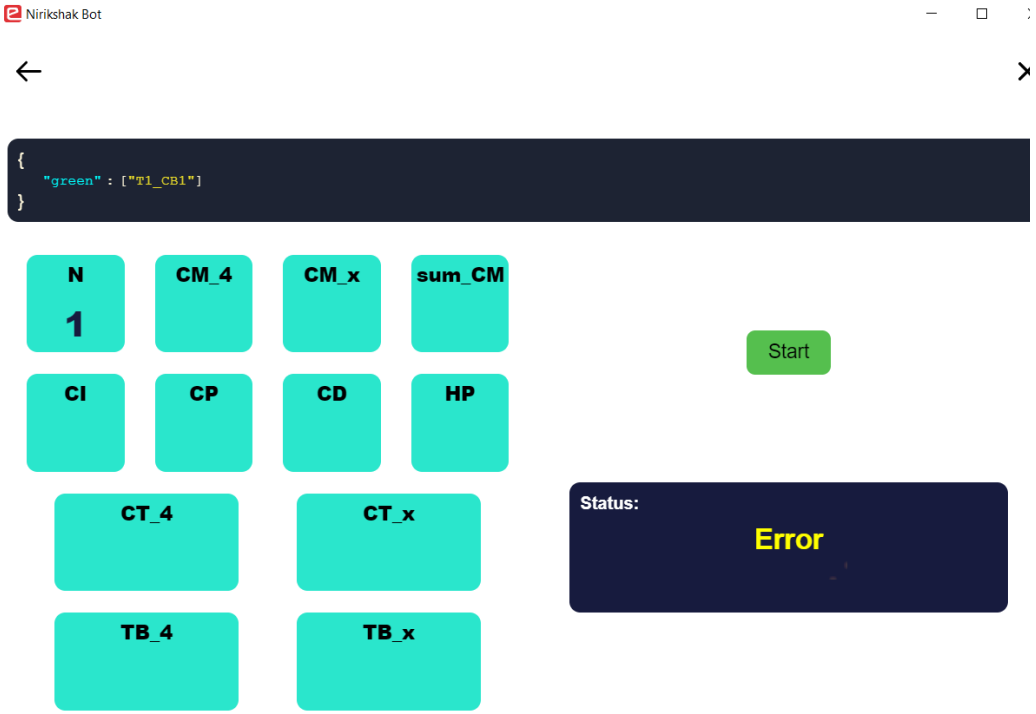

Figure 8: Unsuccessful evaluation of the student code and scene.

D. Debugging your solution

- The ***Grader App*** while executing will save all the print statements and errors encountered (if any) into **log files**.
- These **two log files** are namely:
  - `nb_info.log` - it will contain the print statements written inside your code.
  - `nb_error.log` - it will contain the reason behind encountering of an error and failed evaluation.
- You can find these files in the below mentioned path of your system:

```
C:\Users\{User_Name_of_Machine}\AppData\Roaming\NB_Task5_GUI\logs\
```

> **NOTE**: `AppData` is a hidden folder. Make sure to ***uncheck the Hidden Items*** option in the ***View*** tab of ***Windows Explorer***.

For Ubuntu OS

A. Updating Conda

- It is **MANDATORY** for teams to **update the Conda to version 4.9.2 or above**.
- In order to update, open the ***Terminal*** and paste the following command:
  - Make sure the machine has an **active Internet Connection** before running the followin command.
  - Also, make sure **no Conda environment** is activated inside the prompt, **not even base** environment should be activated.

```
conda update conda
```

- After the process is completed, check the version of conda by using the following command:

```
conda --version
```

- Make sure the Conda version is now **equal to greater than** `conda 4.9.2` .

B. Running the Grader App

- Download the executable package ***NB_Task5_GUI-1.0.0_linux.AppImage*** from this page.
- After the download is complete, open ***Terminal*** and navigate to the folder where the above fil was downloaded.
- Now, run the below command to make the above downloaded file executable.

```
$ sudo chmod u+x NB_Task5_GUI-1.0.0_linux.AppImage
```

- Then, run the Grader App with the below command.

> **Note:** There is no need to activate any Conda environment.

```
$ ./NB_Task5_GUI-1.0.0_linux.AppImage
```

- The App will start and you will be greeted with the screen as shown in Figure 4 above.
- Follow the steps as mentioned above for entering the **Team ID** and **Path Directory**. Click on **Proceed** button to begin. You will see the screen as shown in Figure 5 above.
- Open the scene file `task_5_scene.ttt` edited by your team and click on **Start** button to start the evaluation.
- You will see the output on screen as shown in Figure 6 and 7 with **'Success'** message if the **evaluation is successful**. It will also show the values of Scoring Formula parameters in accordance with the run and your solution.
- If the **evaluation failed**, you will see **'Error'** message as shown in Figure 8.

C. Debugging your solution

- The ***Grader App*** while executing will save all the print statements and errors encountered (if any) into **log files**.
- These **two log files** are namely:
  - `nb_info.log` - it will contain the print statements written inside your code.
  - `nb_error.log` - it will contain the reason behind encountering of an error and failed evaluation.
- You can find these files in the below mentioned path of your system:

```
~/.config/NB_Task5_GUI/logs/
```

> **NOTE**: `.config` is a hidden folder. Press **Ctrl+H** to make all hidden files and folders visible in a directory inside the **Nautilus** or **Files** app. Navigate to the above directory to locate the log files.

For Mac OS

A. Updating Conda

- It is **MANDATORY** for teams to **update the Conda to version 4.9.2 or above**.
- In order to update, open the ***Terminal*** and paste the following command:
  - Make sure the machine has an **active Internet Connection** before running the followin command.
  - Also, make sure **no Conda environment** is activated inside the prompt, **not even base** environment should be activated.

```
conda update conda
```

- After the process is completed, check the version of conda by using the following command:

```
conda --version
```

- Make sure the Conda version is now **equal to greater than** `conda 4.9.2`.

B. Installing and Running the Grader App

- Download the executable package ***NB_Task5_GUI-1.0.0_mac.dmg*** from this page.
- Run the downloaded package to install the Grader App on your system by dragging the App into the ***Applications*** folder.
- After the installation is complete, open ***Terminal*** and navigate to the folder mentioned below:

```
~/Applications/NB_Task5_GUI.app/Contents/MacOS/
```

- Now, run the below command to make the App executable.

```
$ sudo chmod u+x NB_Task5_GUI
```

- Then, run the Grader App with the below command.

Note: There is no need to activate any Conda environment.

```
$ ./NB_Task5_GUI
```

- The App will start and you will be greeted with the screen as shown in Figure 4 above.
- Follow the steps as mentioned above for entering the **Team ID** and **Path Directory**. Click on **Proceed** button to begin. You will see the screen as shown in Figure 5 above.
- Open the scene file `task_5_scene.ttt` edited by your team and click on **Start** button to start the evaluation.
- You will see the output on screen as shown in Figure 6 and 7 with **'Success'** message if the **evaluation is successful**. It will also show the values of Scoring Formula parameters in accordance with the run and your solution.
- If the **evaluation failed**, you will see **'Error'** message as shown in Figure 8.

C. Debugging your solution

- The ***Grader App*** while executing will save all the print statements and errors encountered (if any) into **log files**.
- These **two log files** are namely:
  - `nb_info.log` - it will contain the print statements written inside your code.
  - `nb_error.log` - it will contain the reason behind encountering of an error and failed evaluation.
- You can find these files in the below mentioned path of your system:

```
~/Library/Logs/NB_Task5_GUI/
```

ALL THE BEST!!