

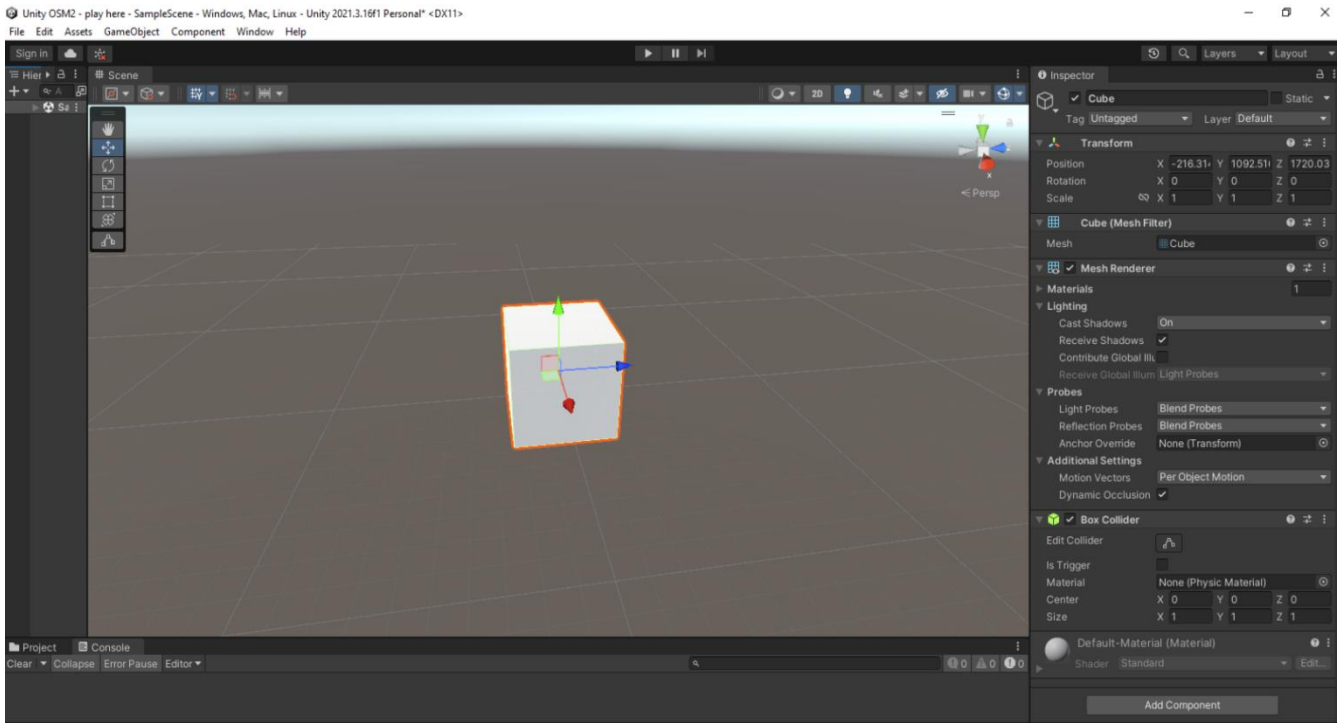
# Unity app to view the 3D map of a location

## Preparatory steps:

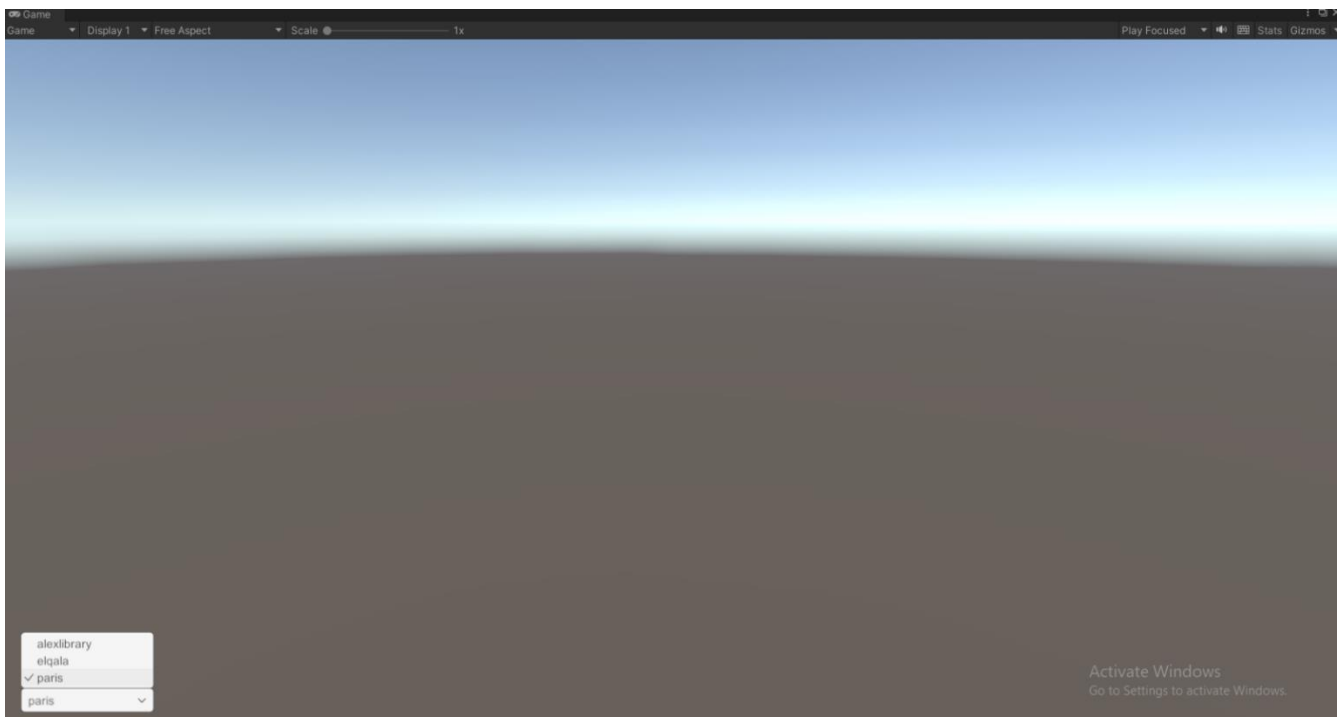
1. Creating a GitHub Repository: <https://github.com/MaroClay155/3D-Maps-in-Unity.git>
2. Sharing the GitHub Repo with *iliesaya*
3. Adding a .gitignore file to discard unwanted files while pushing the project files

## Technical Steps:

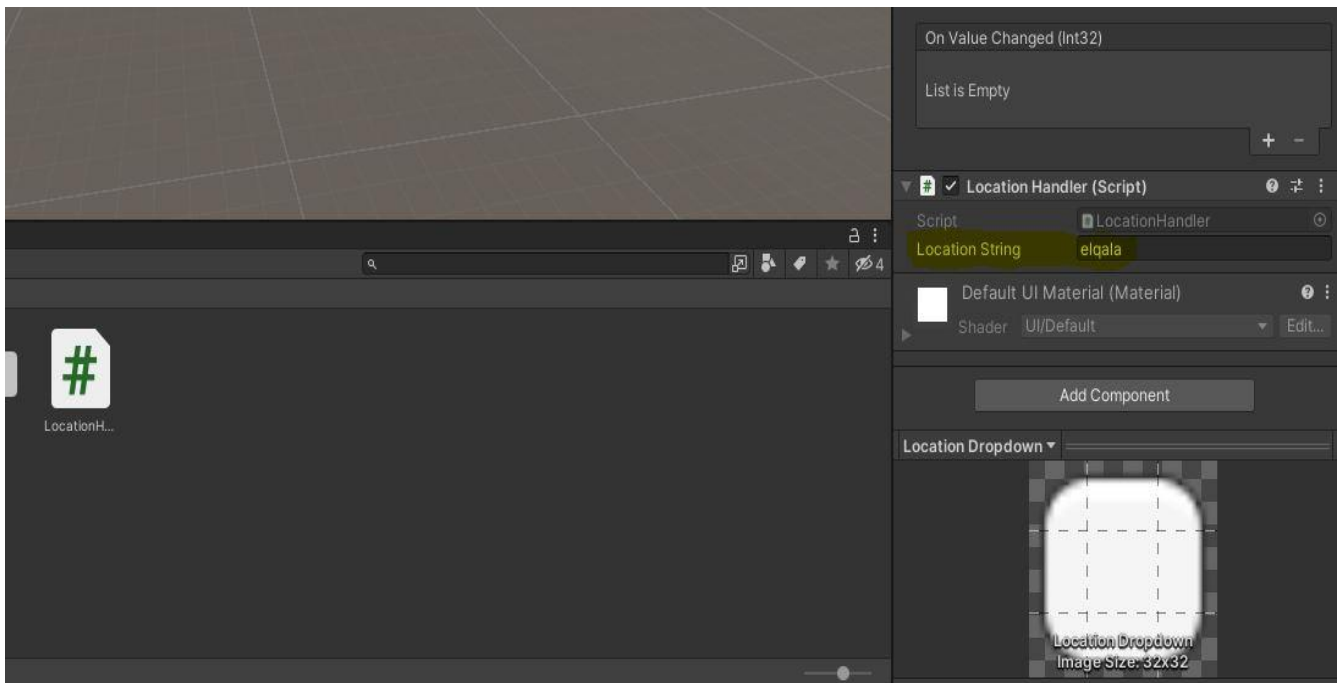
1. Creating a new 3D unity project.



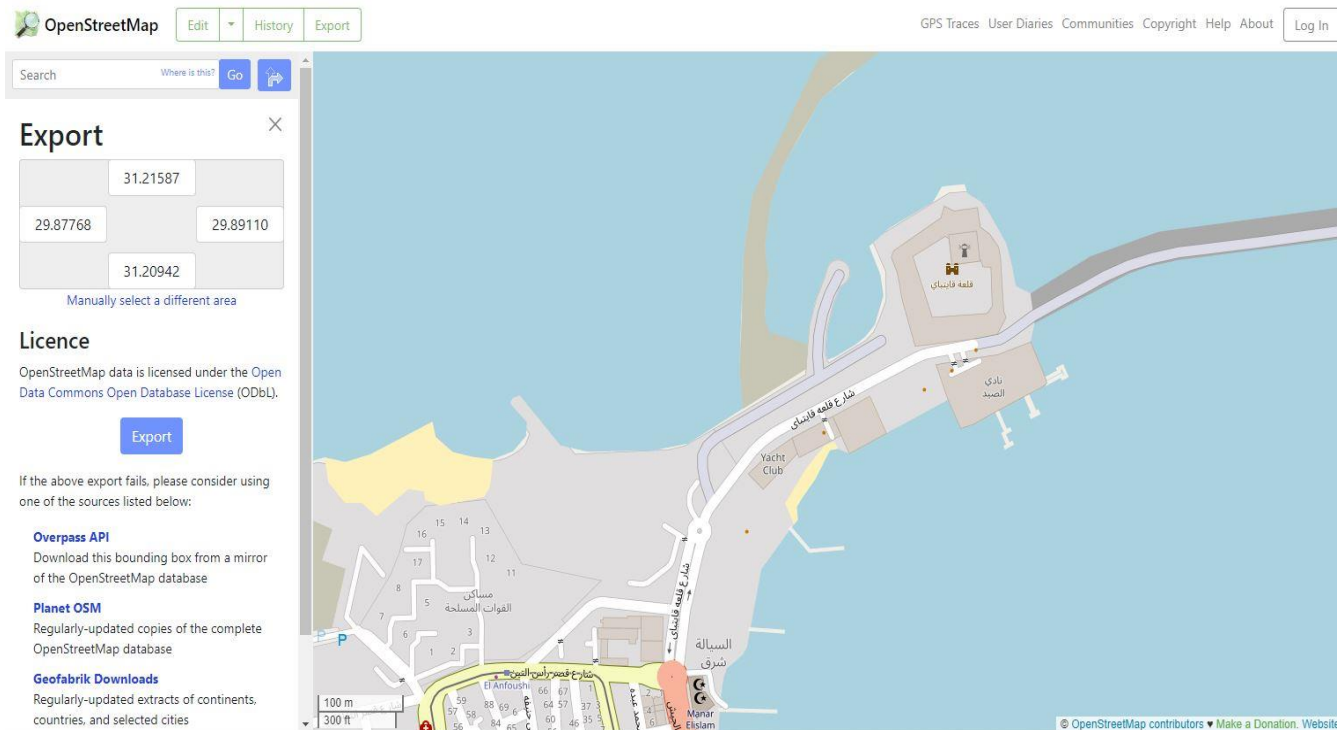
2. Creating a Dropdown menu with 3 different location to view.



3. Creating a [Location Handler](#) class in order to expose the selected location as a public value.  
(Attach the class to the Dropdown object).



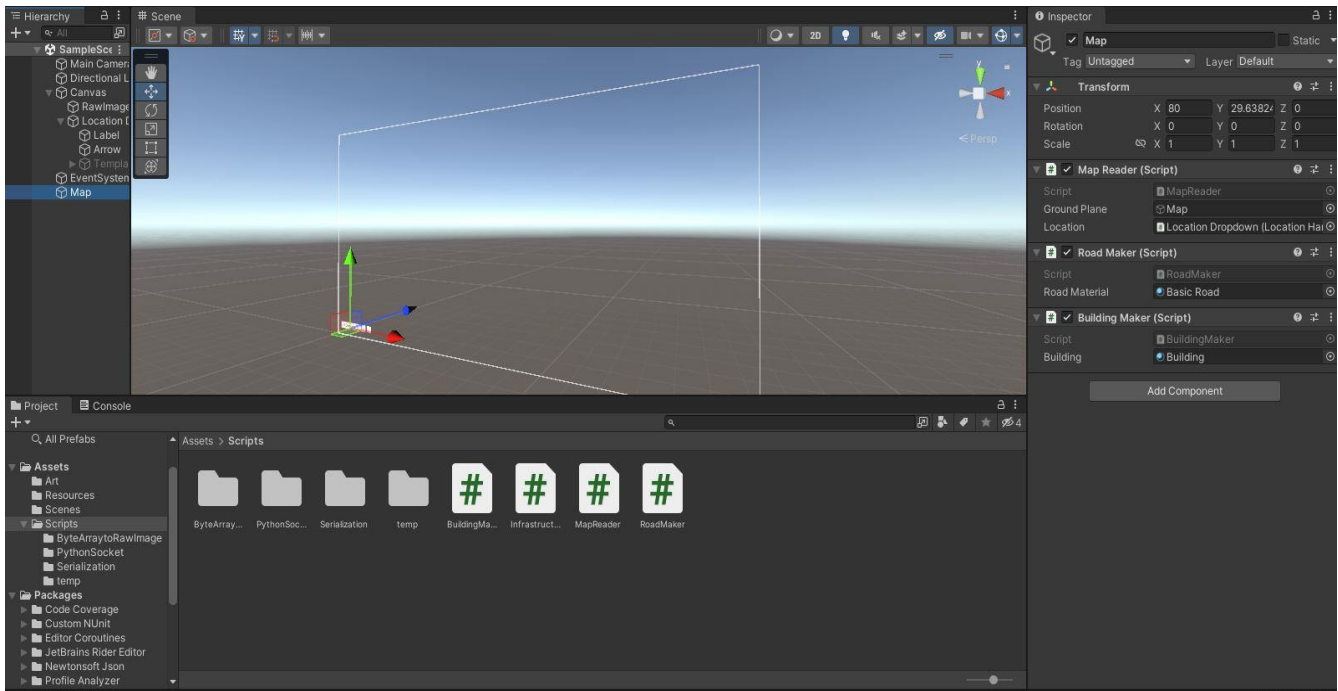
4. Exporting Open Street Maps [OSM](#) for 3 different locations.



5. Creating the Map from the exported files.

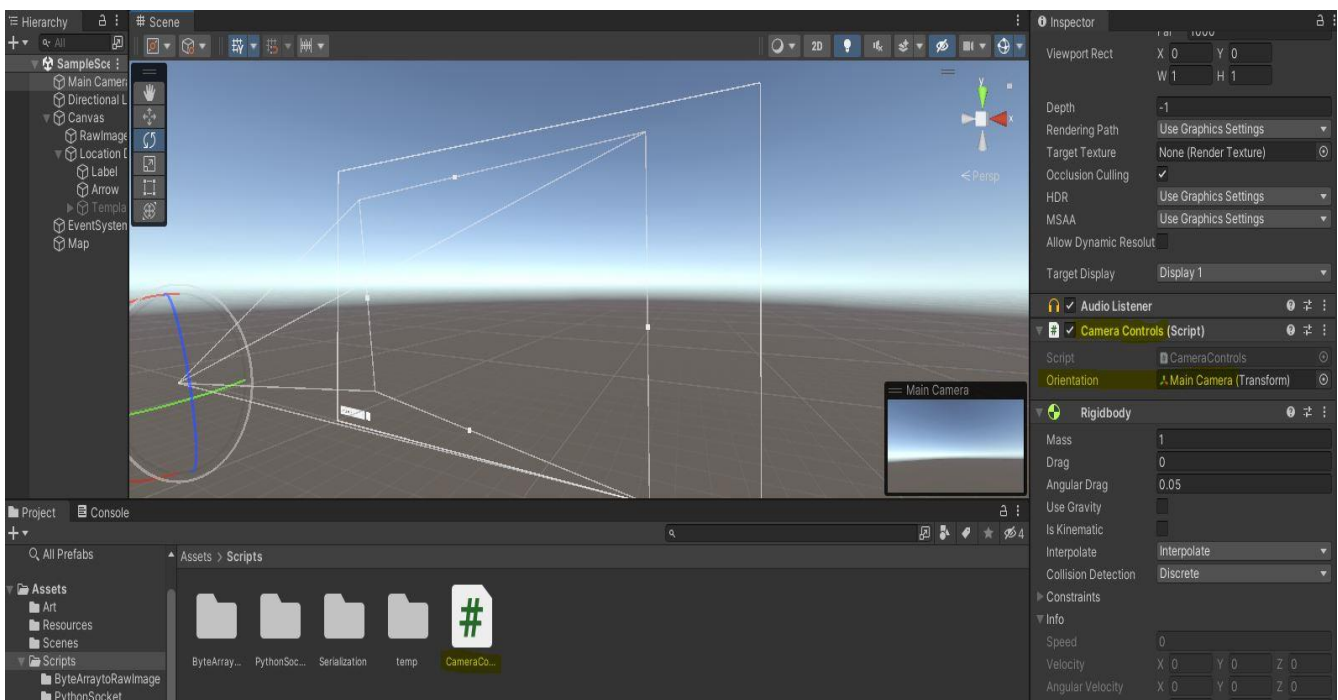
- Creating an Empty Object named Map.
- Creating a [Map Reader](#) class to parse each node in the XML file of the selected location.
- Creating a [Road Maker](#) class to create the roads.
- Creating a [Building Maker](#) class to create the roads.

(Attach the three classes to the Map object).



6. Creating a [Camera Control](#) class allow the user to rotate / zoom / move in the map.

(Attach the class to the Camera).



7. Creating a [Python](#) app with an UDP client to send a sine wave at 10Hz as a graph.
8. Creating a [Receiver](#) class with a UDP server to receive the sine wave graph.
9. Creating a Raw Image and attach the received image to it.

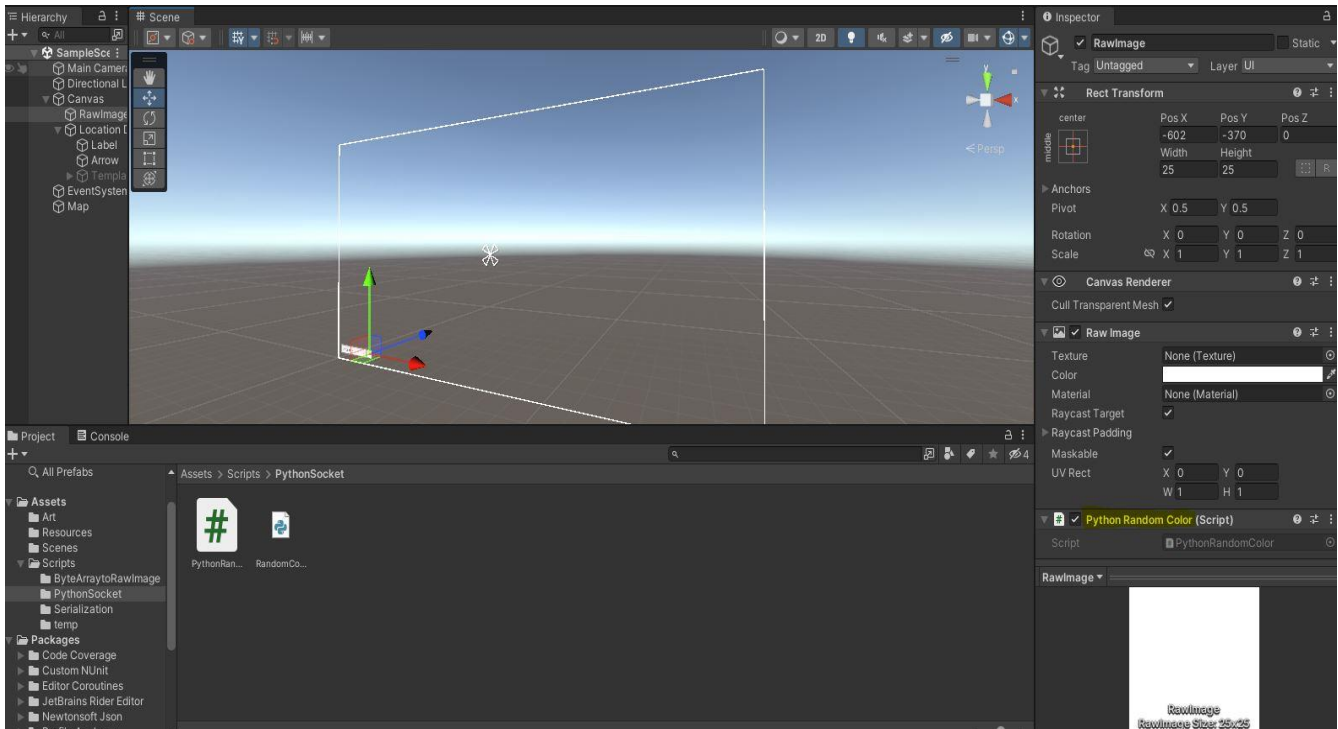
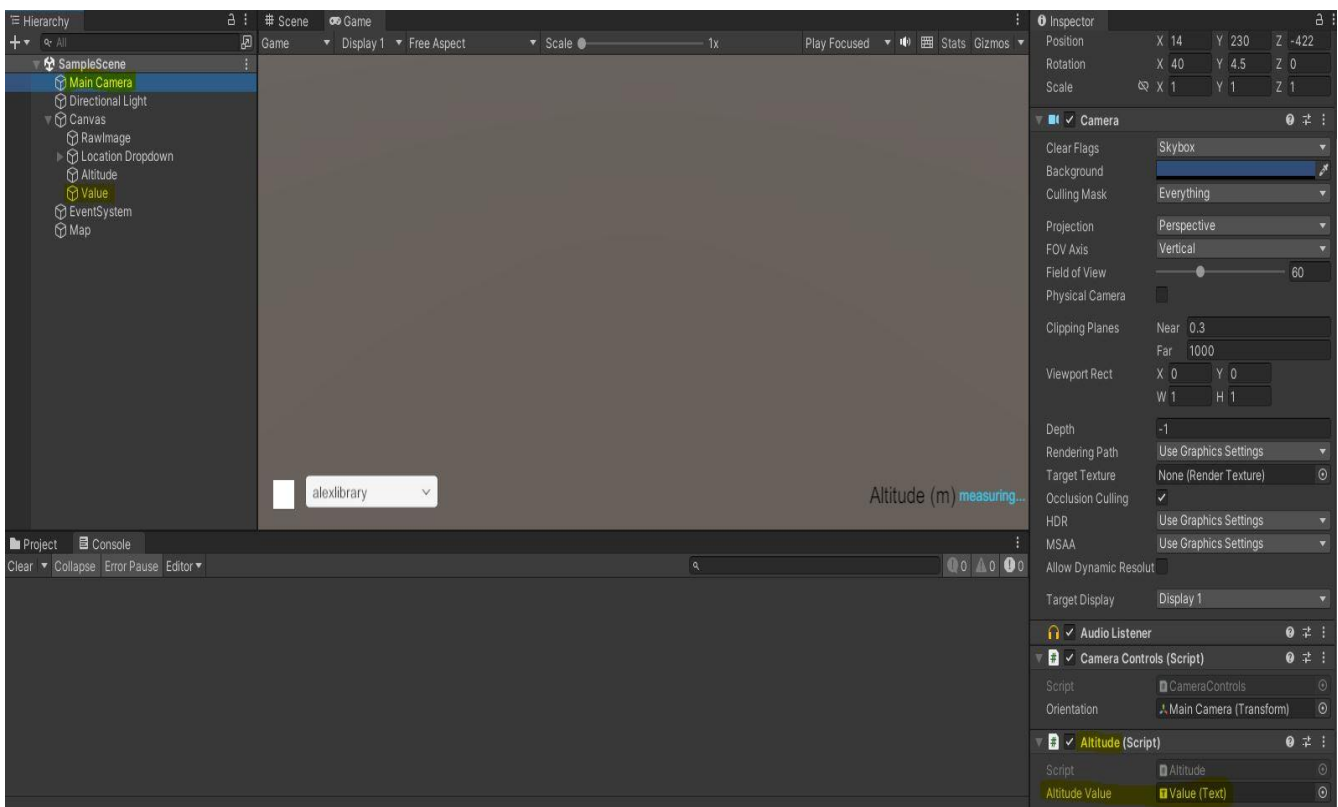
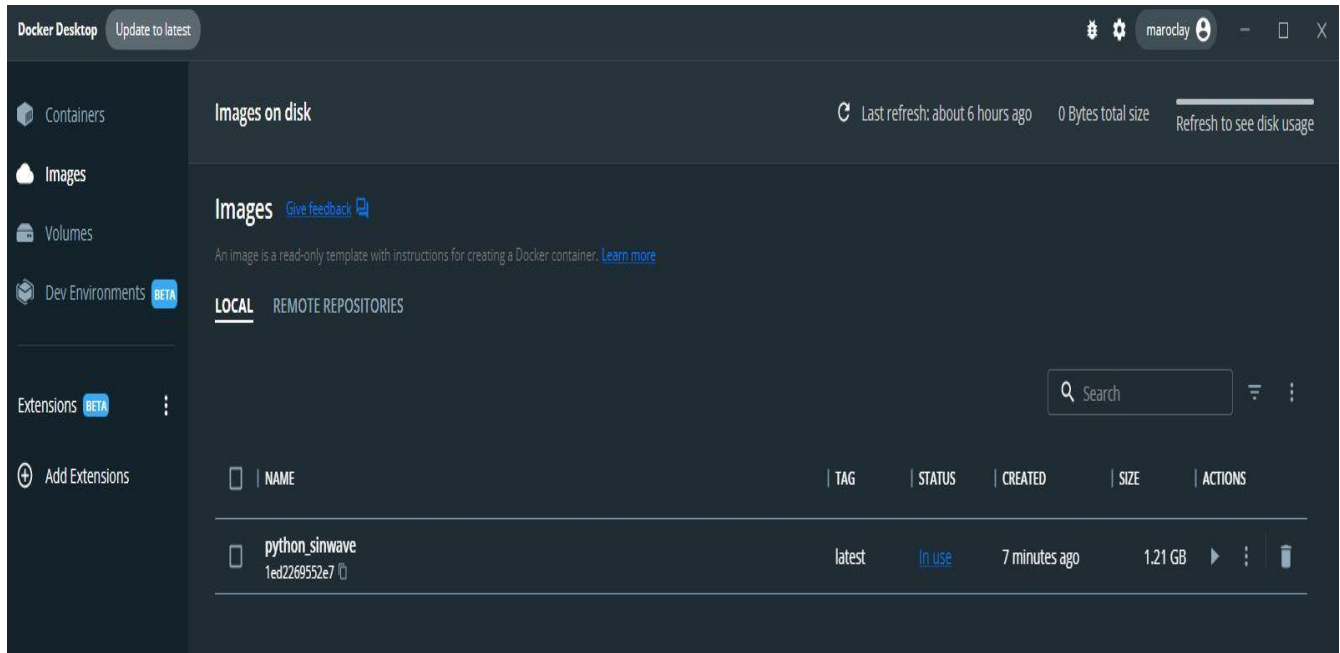


Figure 1:( Hint: The attached Receiver class receives a random color for a testing purposes)

10. Creating an Altitude class to expose the height of the camera.  
(Attach the class to the camera, Attach the Text object to the public altitude value)

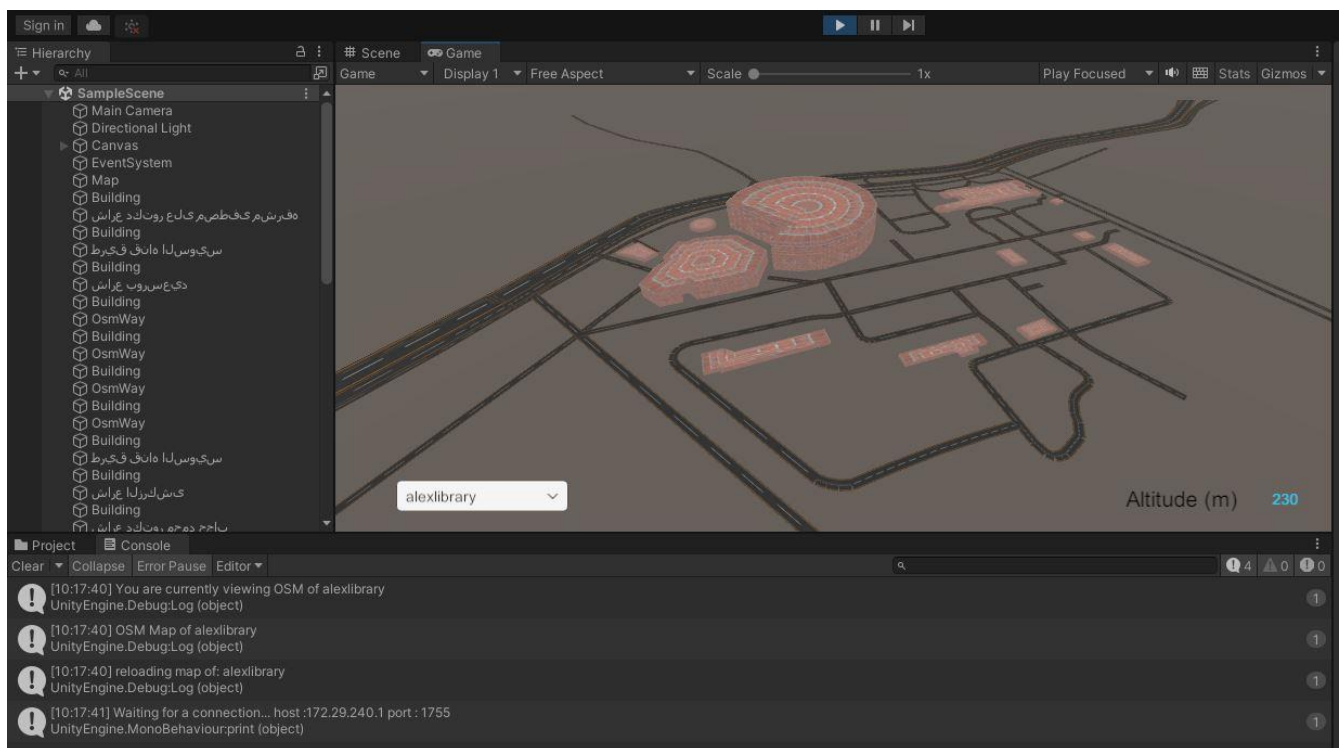


## 11. Dockerizing the [Python](#) app and uploading the files to the Repo.



## 12. Running the final version.

- Viewing Alex library as selected from the Dropdown.
- Showing the altitude of the camera.
- Listening to IP: Port for the incoming data.





13. Demo of the received data as Random Colors  
(Showing the altitude of the camera).

