



When the “Why” is Clear

The “How” is Easy

- Someone



Group - 32

Team Name

Avengers

Domain

Health-care



Topic

Vaccine Drone(VD).

Project is to design a Drone to deliver various packages, where packages contain Covid-19 vaccine and to deliver the vaccine to their destinations(hospital's) and optimizing for time and quantity.



Team Members:



Bhushan Kolhe



Cromwell Mendes



Harshal Rathod



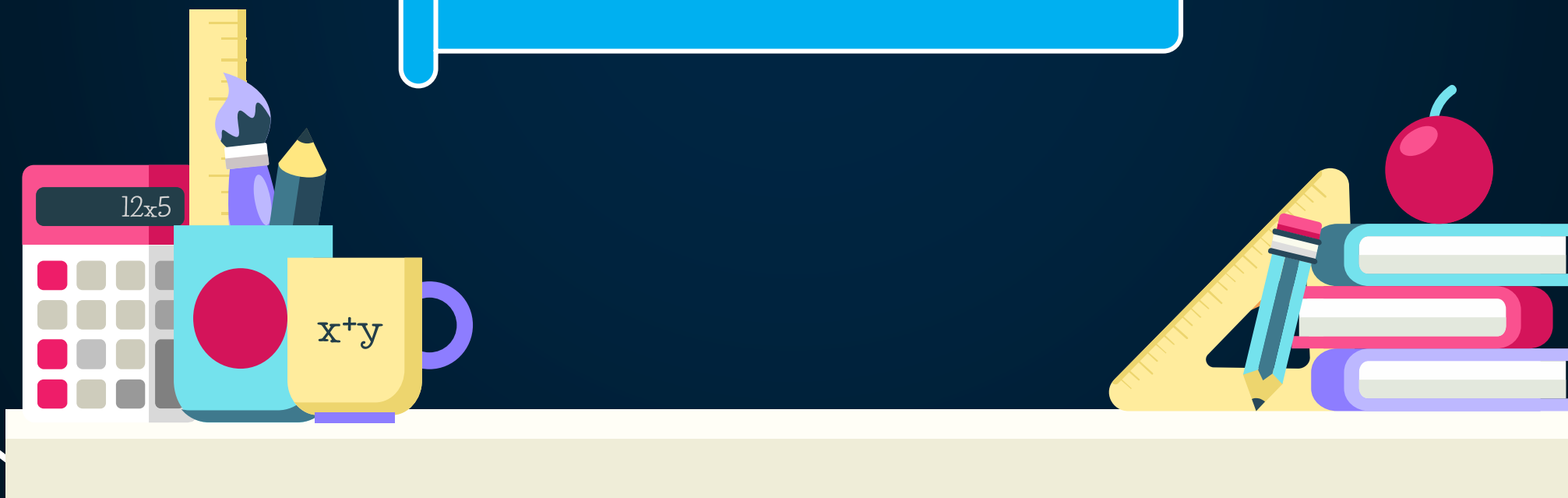
Atharva Bondre



Vaccine Drone

01

Work Done





The objective of Task-1 is to achieve position control for [eDrone](#) in ROS-Gazebo environment.

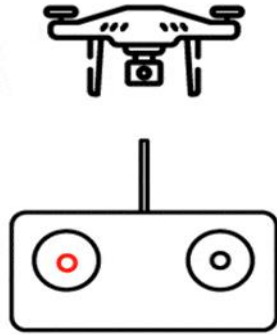


Problem Statement



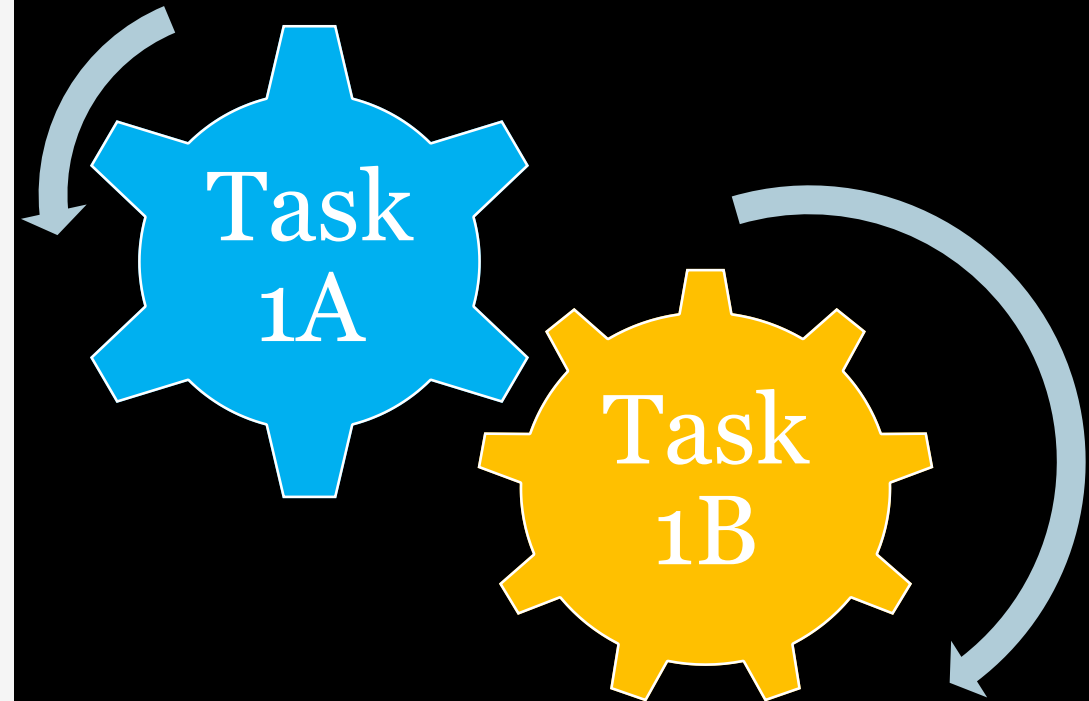


Designing
altitude controller
for the *eDrone*

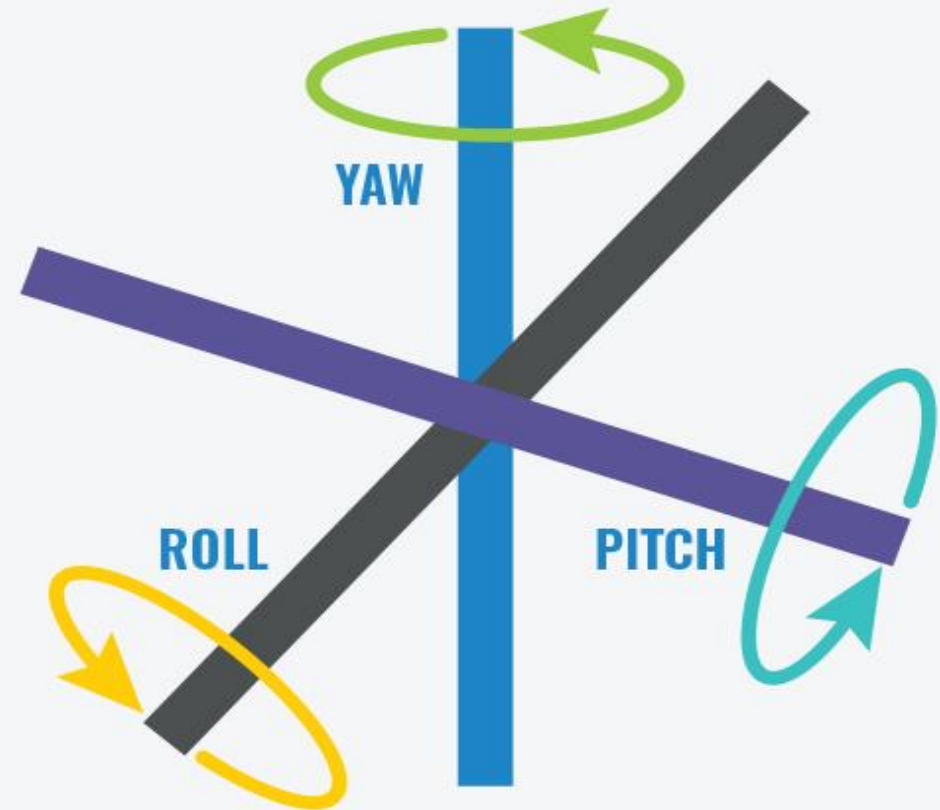
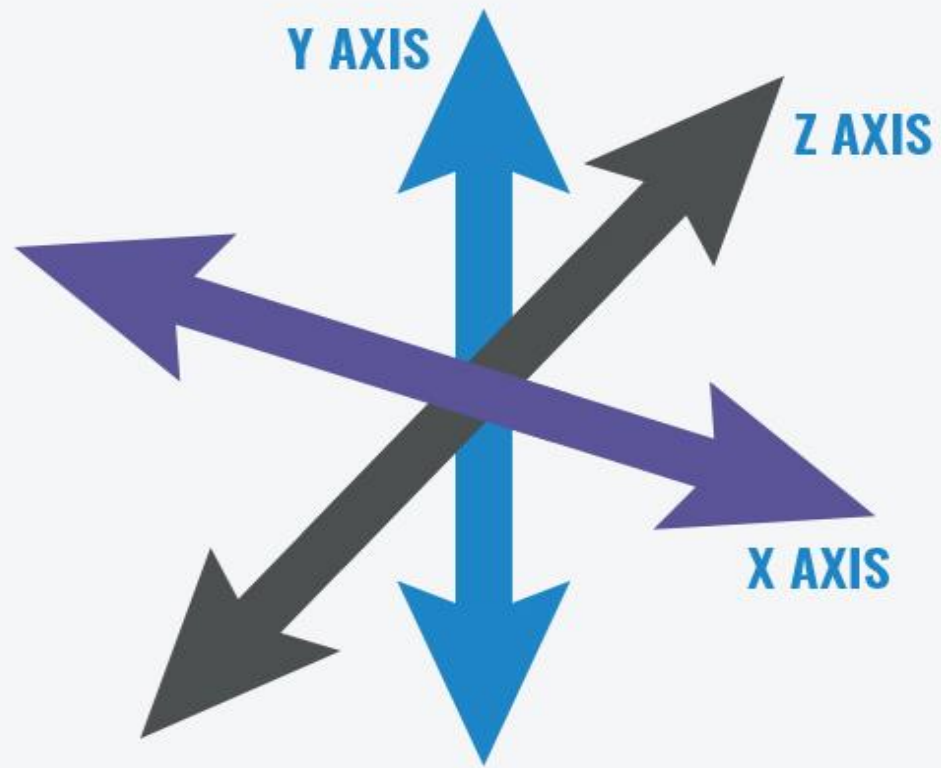


Designing
position
controller for
the *eDrone*

Stages of Task-1



SIX DEGREES OF FREEDOM

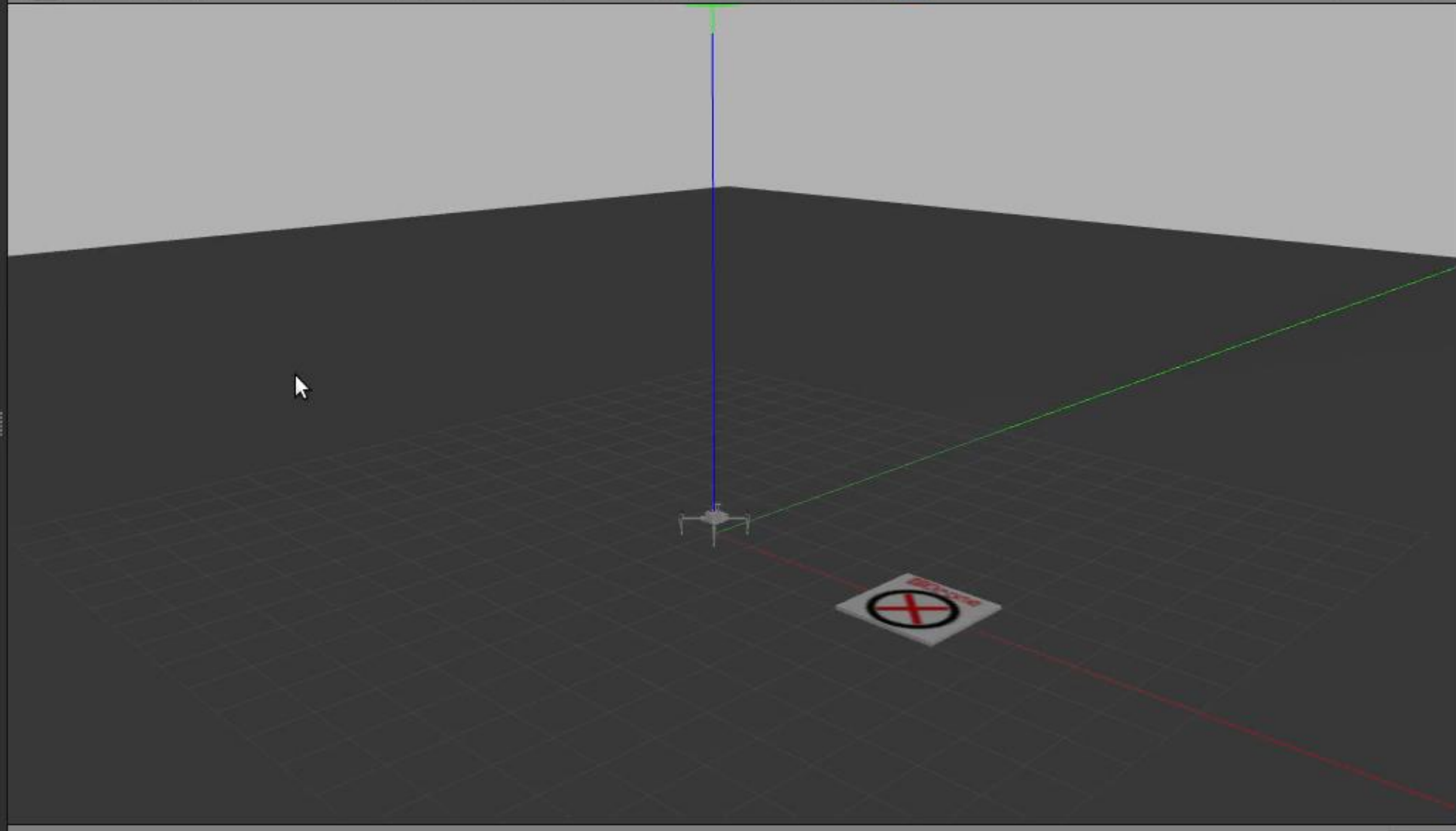
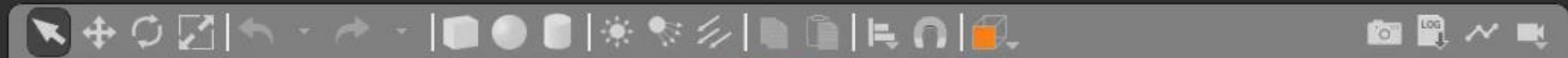




World Insert Layers

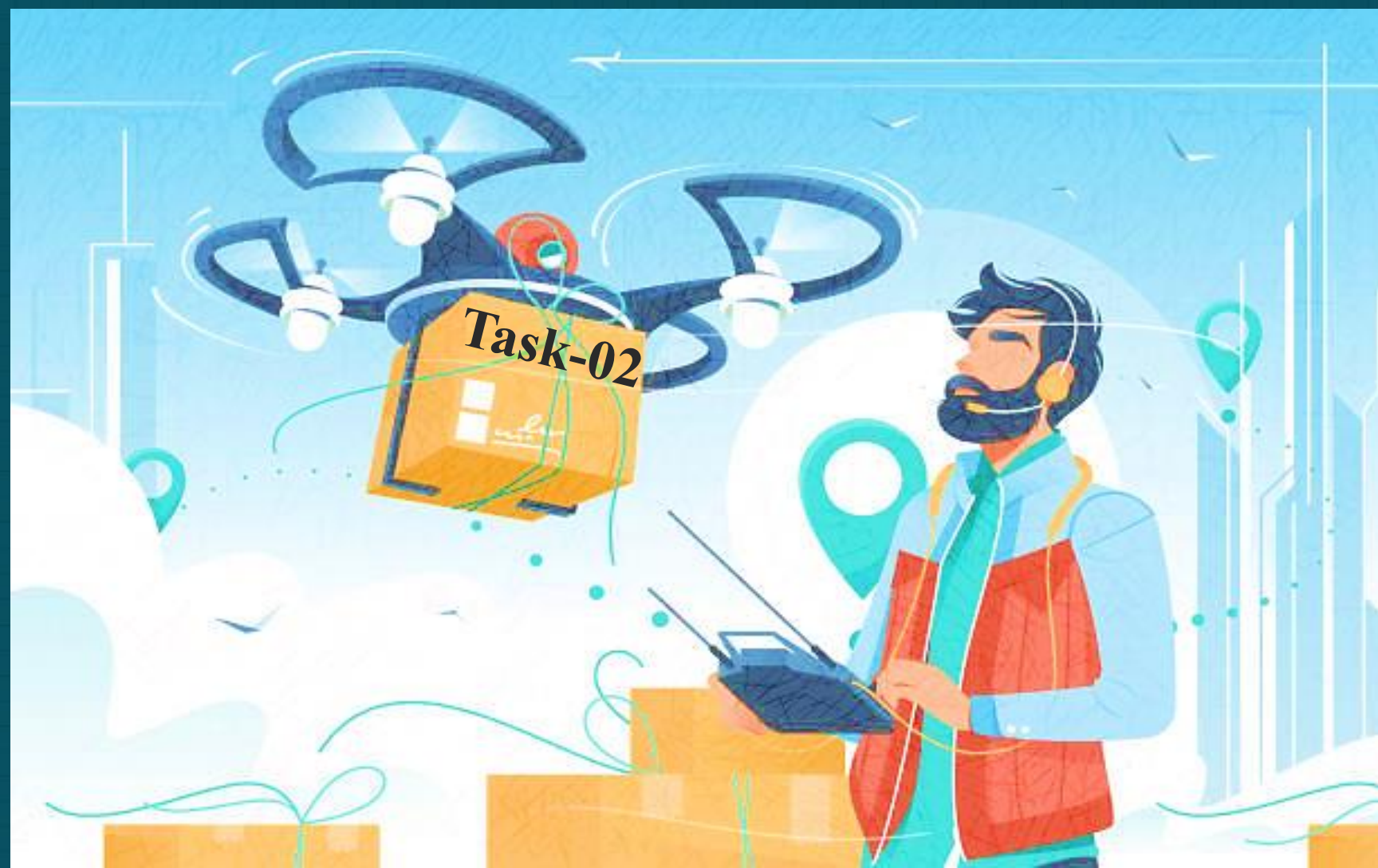
GUI
Scene
Spherical Coordinates
Physics
Atmosphere
Wind
▶ Models
▶ Lights

Property Value



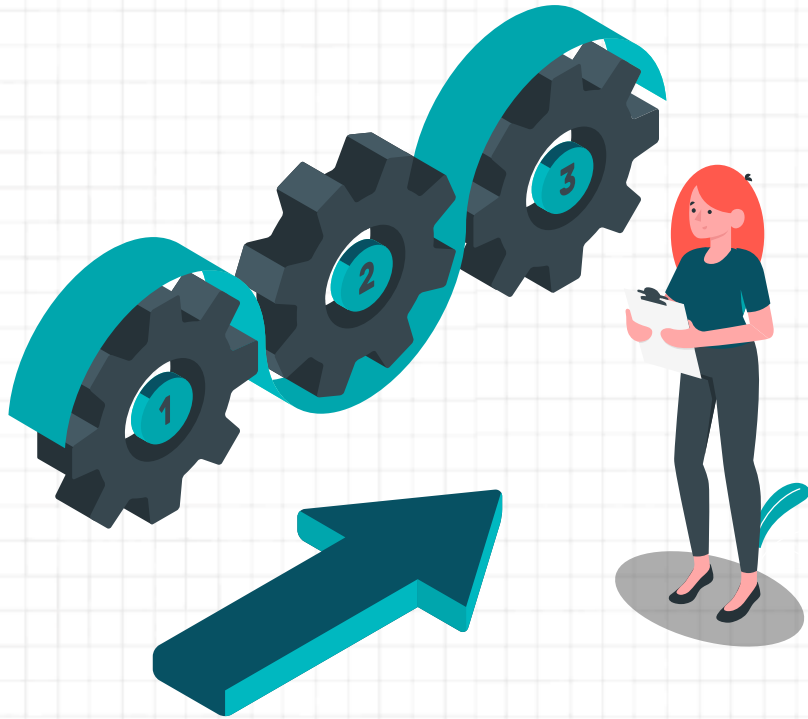


Problem Statement

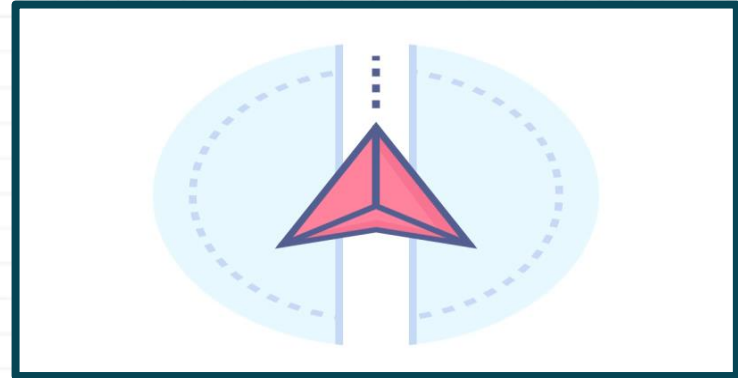


Detect the **landing markers** present in the general vicinity of the given **GPS** coordinates. The markers will be present in **close proximity** to the coordinates. Hover at certain height from the given coordinates and **scan** for the **landing marker** by applying **image processing** techniques and take the **eDrone** above the landing marker and eventually **land on it**.

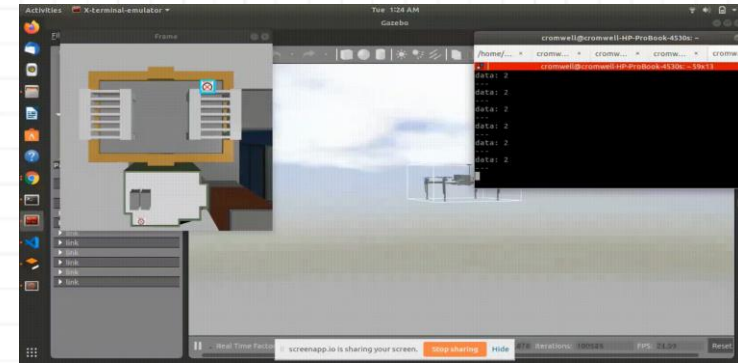
Stages Of Task 2



Navigation

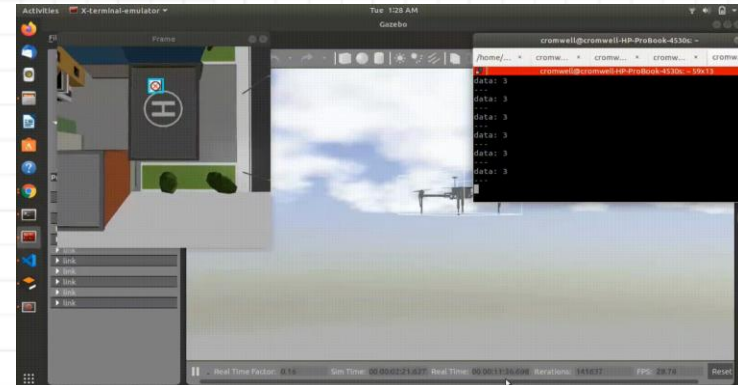


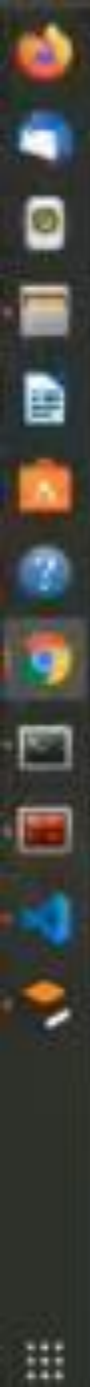
Marker Detection



- Indicate where you're going.
- Arrive at any of the GPS coordinates
- Commence detection stage, i.e. search for the marker
- Once detected, keep publishing X & Y error in meters at 1Hz

Landing





Online Screen Record

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screenapp.io is sharing your screen.

Stop sharing

Hide



Comments received from Judges on Previous Evaluation.

- Some Vaccine needs to be kept in some temperature, so how will you carry that whole package.
- Till how much distance can Drone will travel?
- How much Weight can Drone carry?
- In Climatic issues, what you will do?





Problem Statement

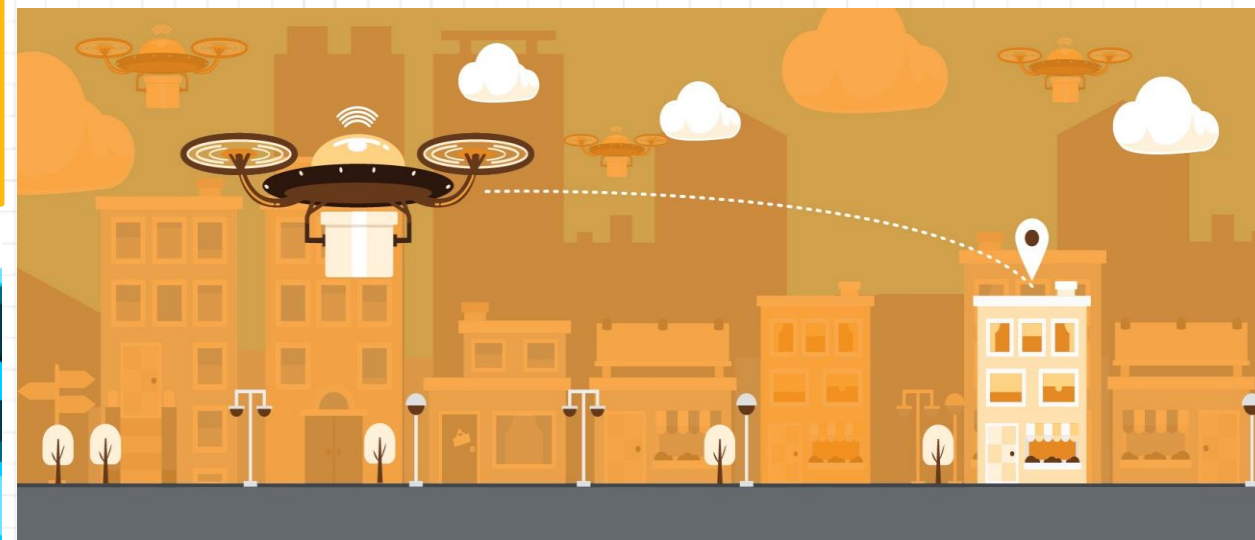
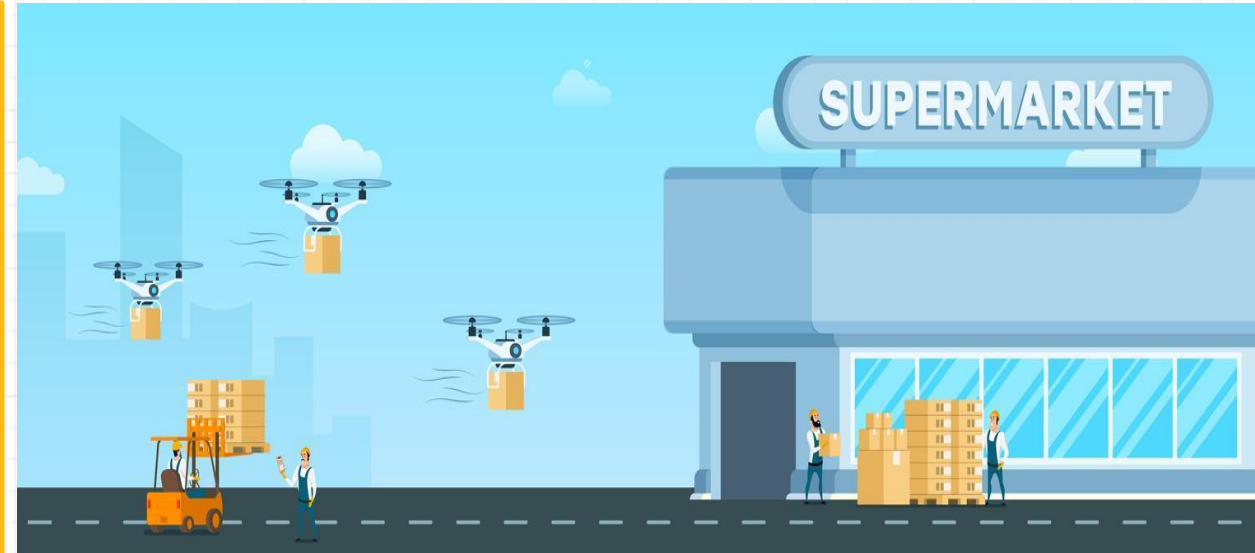


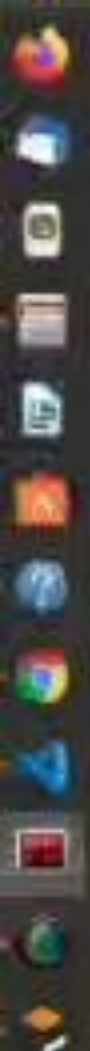
Vaccine

Aim of this task is to complete a **set of deliveries (Vaccines)** from **warehouse** to their **destinations avoiding obstacles**.

Task - 03

- ☐ The eDrone will spawn.
- ☐ The warehouse will have a grid.
- ☐ GPS coordinate pointing to the Centre of cell.
- ☐ After dropping a box eDrone need to go to the warehouse location to perform next delivery.
- ☐ After completing all the deliveries, the eDrone must land back to the start coordinate.

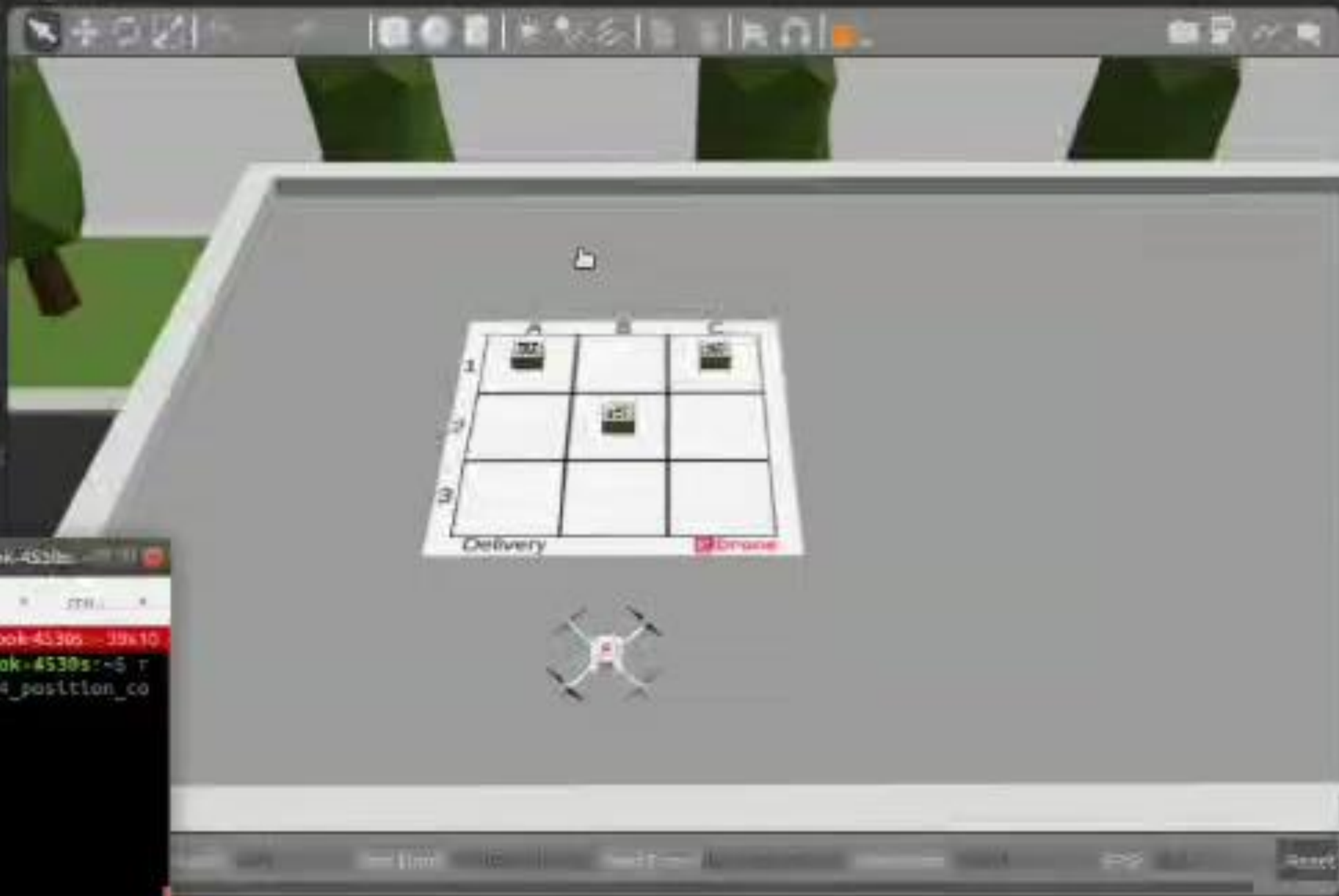




World Insert Layers

GUI
Scene
Spherical Coordinates
Physics
Atmosphere
Wind
Windows
Lights

Property	Value
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cromwell@cromwell-HP-ProBook-4530s ~

/bin/ls -la /home/cromwell

cromwell@cromwell-HP-ProBook-4530s ~\$

rosrun vitarana_drone Task_4_position_co

ntroller.py

Thank You For Listening & Fly with Drone

