Aeromodelling Club

Projects undertaken this semester(Sem 1, 20-21)

Aeromodelling Club, IIT Delhi, has decided to undertake the following projects for 1st semester 2020-2021 :

a) Designing, Simulation and Optimization
b) Auto-Piloting of Drones and Planes using Python
c) Model Report and Database

Following are the project details including aim, mentors and current progress

1. Designing, Simulation and Optimization :

Project details and Aim:

a) Various plane models would be designed using software like Autodesk Fusion 360. The designs would also be simulated and optimized, according to the results of the simulation.
b) The design files would also be exported to Corel Draw files, which would help in laser cutting.
c) This project would help us have various designs ready for manufacturing, as soon as the campus reopens.
d) It will also help the freshers obtain skills like designing and simulation.

Mentors: Priyanka and Muskaan

Progress:

a) Introduction session conducted, divided members into teams, discussed the problem statements - 4/10/2020

2. Auto-Piloting of Drones and Planes using Python :

Project details and Aim:

a) With the help of python codes, the flights of planes and drones would be pre-planned and programmed. Dronekit library of Python is used to achieve this .

b) The project would also involve the use of flight controllers like Raspberry Pi and PixHawk (Currently, the team members would simulate using virtual controllers. As soon as the campus reopens, they can work hands on with these flight controllers).

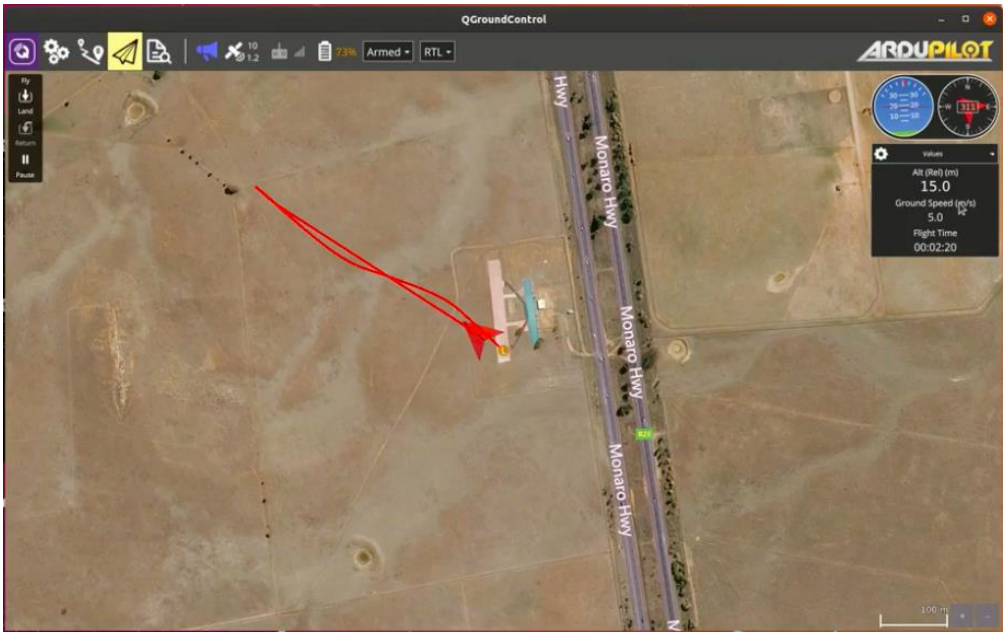
c) This would help the club evolve in the direction of automation and also enhance the coding skills of the team members.

Mentors: Pushp Raj and Vishnu Teja

Progress:

a) Intro session conducted to help freshers install the relevant software : 2/10/2020
b) Demo of the software given : 4/10/2020

- Simulation of an automated return journey of a drone :



3. Model Report and Database **:**

Project details and Aim:

a) Each member of team would choose/ be assigned a real-life plane model to study about.
c) Details(both technical and non-technical) of the model would be studied by the members and all the specifications would be collected.
d) The specifications for all the models would then be stored in a database so that it comes in handy when manufacturing of planes is to be done.
e) The team can work in synchronisation with the design team to add design files to the database.

Mentors: Vasundhara, Chandrudu, Anshul

Progress: Intro session conducted, and models assigned to the team members. They have been given some time to study about it - 3/10/2020

Examples of models to be studied:

Cessna 172

Corsair