RECOVERY TEAM

WEEK 5

LAST WEEK'S FOCUS

Wi-fi range tests #25

Ejection charge tests #26

Dashboard improvements #17

Wrap-around patch antenna research and design #20

OVERVIEW

1. WI-FI RANGE TESTS #25

GOAL

The main goal of the range tests is to ensure there will be real-time communication over the desired distance during the actual launch.

ACHIEVEMENTS

We were able to attain seamless communication up to 540m. This was very promising as communication was stable over the range.
Serialized the data to csv to be received at the dashboard.

2. ANTENNA DESIGN #20

The wrap around patch antenna was put on halt following lack of some required parameters that would only be determined after the range tests.

3. EJECTION TESTS #26

Following the recommendations given on research of better piston materials tests were rescheduled since the current ones require more explosive power to deploy.

Fire bolts assembly- we were not able to carry out this since the bolt material is made of stainless steel which could not drill.

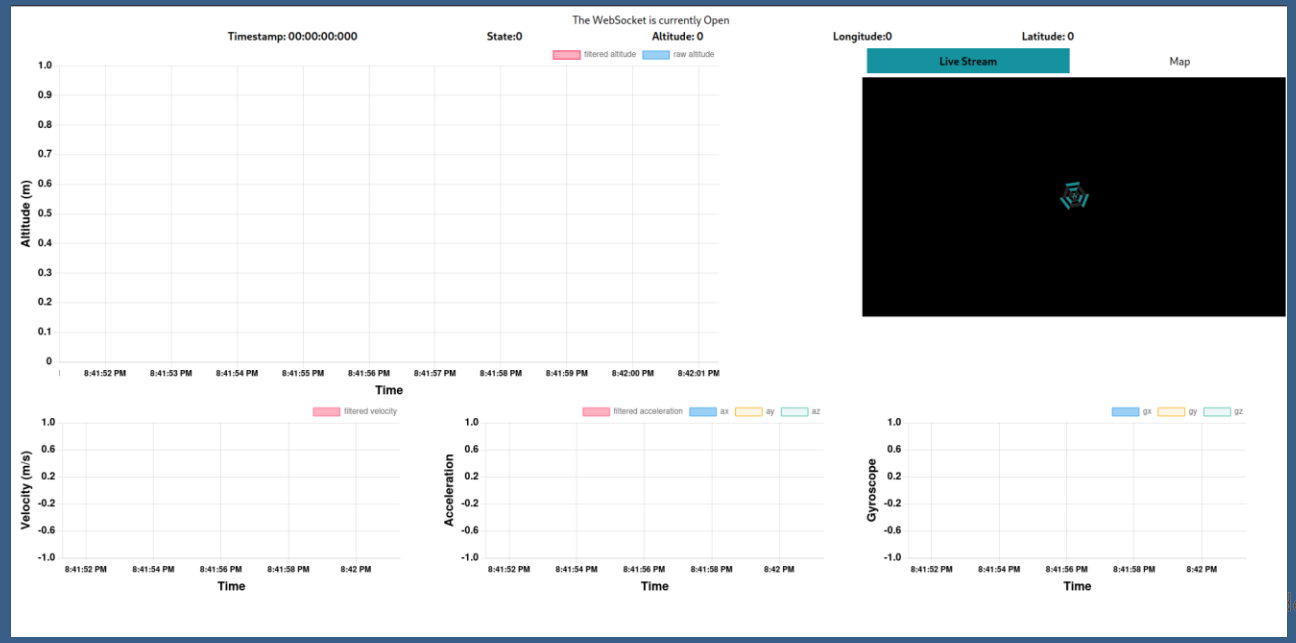
4. DASHBOARD IMPROVEMENT #17

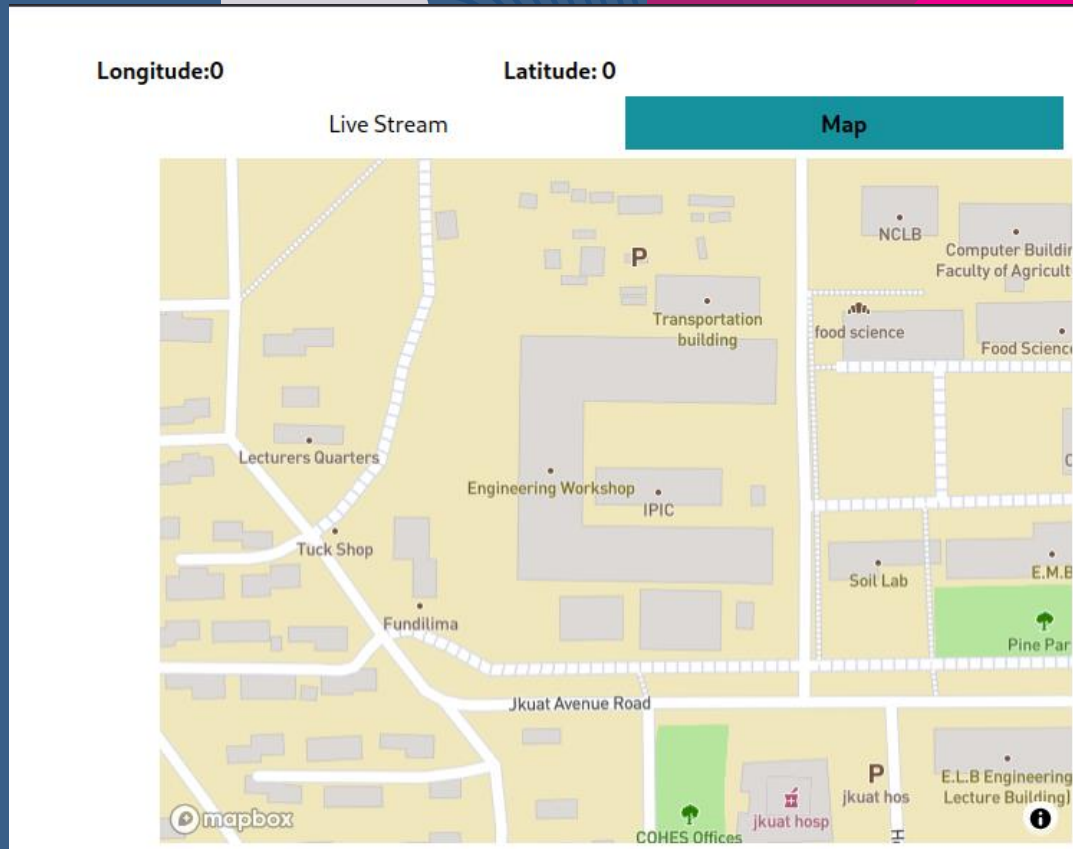
GOAL

To incorporate real time tracking of the rocket on the dashboard from the GPS data on the flight computer using Mapbox.

ACHIEVEMENT

Successfully read GPS data from a script to Mapbox and was successfully mapped.





THIS WEEK'S OBJECTIVE

Manual override system #15

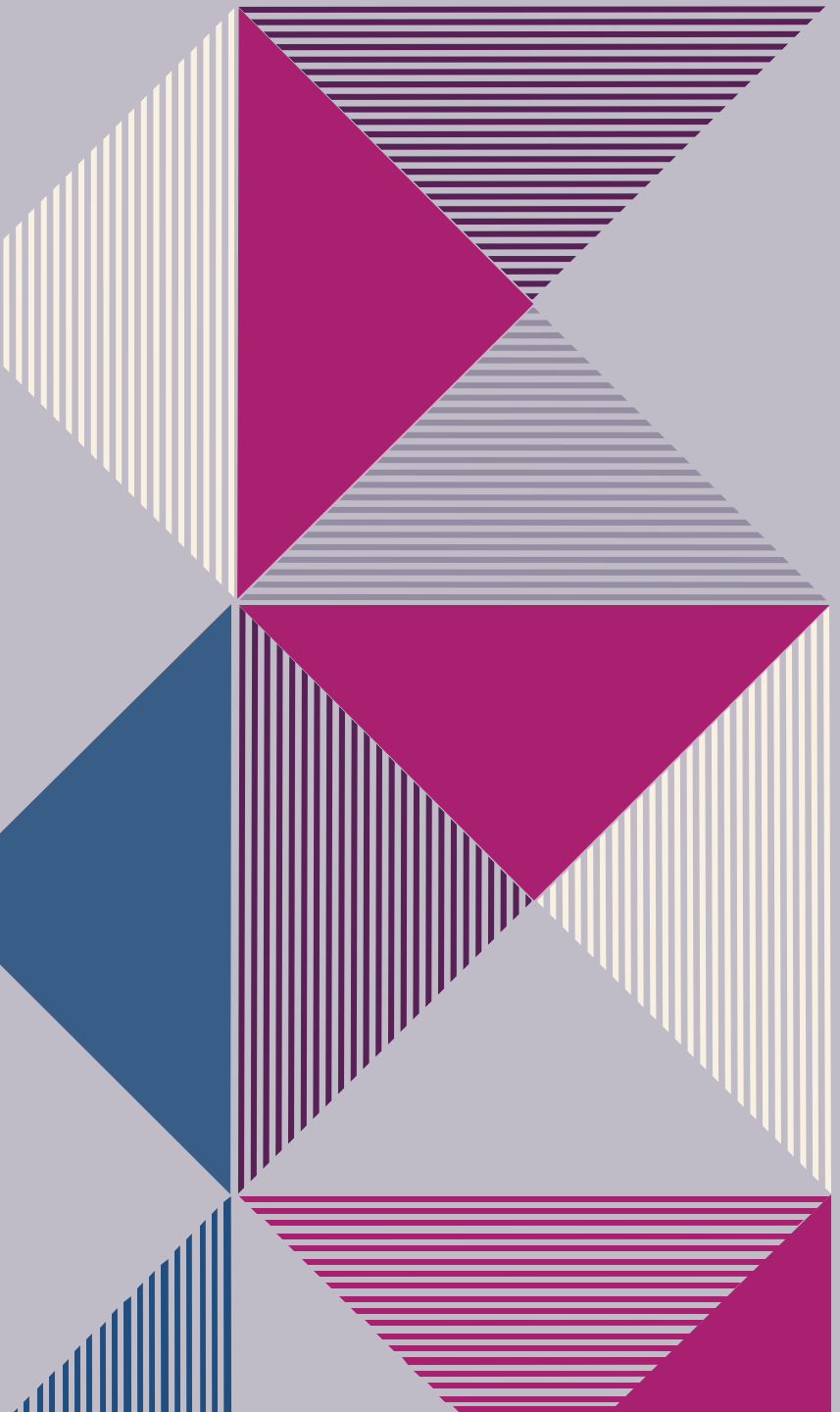
- It was put on halt since we required to have made successful communication over the range, this week we implement a set up for it.

Wrap around patch antenna design. #20

THIS WEEK'S OBJECTIVE

EJECTION CHARGE TESTS #26

- Replace the fire bolts with mild steel M10 bolts for easier machining.
- Continue to research for a better material for the piston.
- Simulation on thrust generated by the crimson powder.
- Fabrication of the ejection cup using fiber glass to use for the ejection system.
- Thursday, test the explosive mechanism and deduce the pros and cons.



CHALLENGES

We have encountered some challenges with the esp32: core 1 panic ERROR:GURU MEDITATION ERROR
We haven't found a solution though it works then fails sometimes.

THANK YOU