RECOVERY TEAM REPORT

WEEK 7

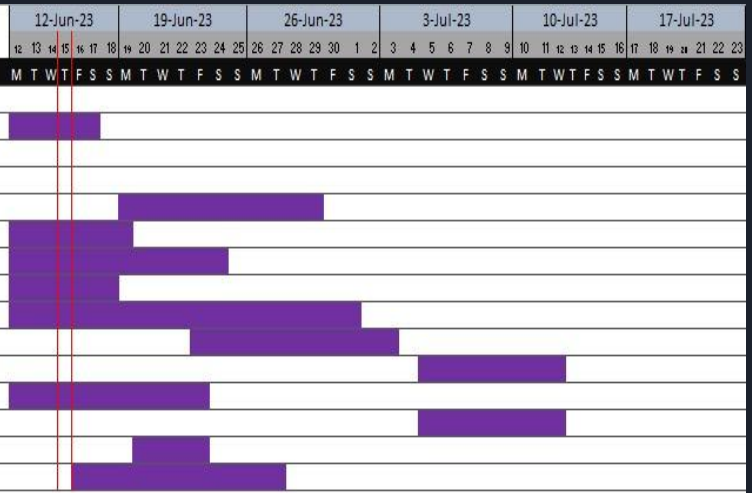
TASKS ACCOMPLISHED

1. Testing the Kalman Filter
2. Designing of the Ejection Cap
3. Redesigning of the Piston
4. Redesigning of the Piston holder
5. PCB etching

RECOVERY TIMELINE

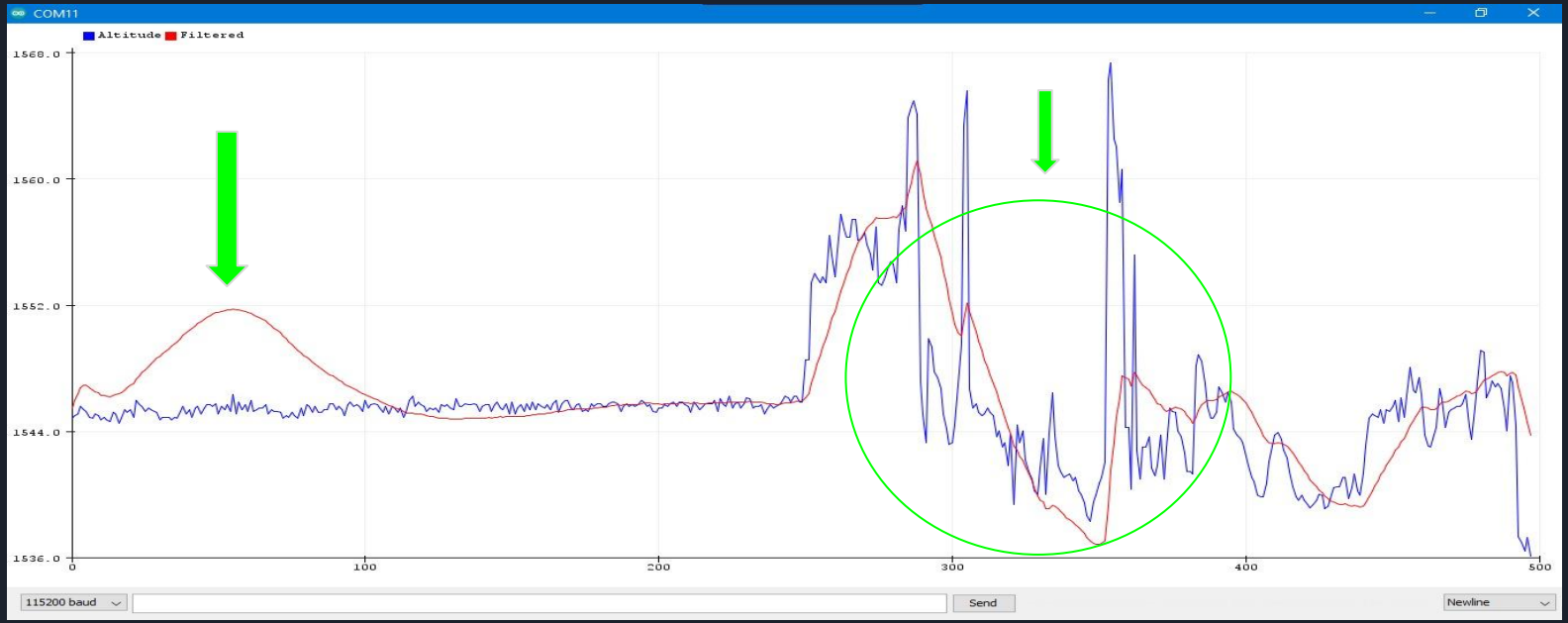
Display Week: 7

TASK	ASSIGNED TO	PROGRESS	START DATE	END DATE	DURATION
Introduction	N/A	100%	2-May-23	5-May-23	3
Design and fabrication of the Piston	E/T	60%	8-May-23	17-Jun-23	40
Implement the OTA updates to the system	V/C/B	100%	15-May-23	19-May-23	4
Rectifying the code for the piston test	S/B	100%	17-May-23	19-May-23	2
Design the Mechanism for holding the flight computer	B/E	10%	19-Jun-23	29-Jun-23	10
Design and fabrication of the ejection cap	B/E	50%	12-Jun-23	19-Jun-23	7
Determine the amount of crimson powder to be used	E/T	10%	22-May-23	24-Jun-23	33
Design and fabricate the PCB for the flight computer	P/C	25%	22-May-23	18-Jun-23	27
Design the mechanism to hold the piston in the rocket	B/E	0%	5-Jun-23	1-Jul-23	26
Test the ejection system with the nose cone		0%	23-Jun-23	3-Jul-23	10
Test how to log data from the flash memory		0%	5-Jul-23	12-Jul-23	7
Research the best time to eject the parachute	V/T	5%	22-May-23	23-Jun-23	32
Test the flight computer		0%	5-Jul-23	12-Jul-23	7
Test the communication system		0%	20-Jun-23	23-Jun-23	3
Video transmission from the rocket		12%	16-Jun-23	27-Jun-23	11

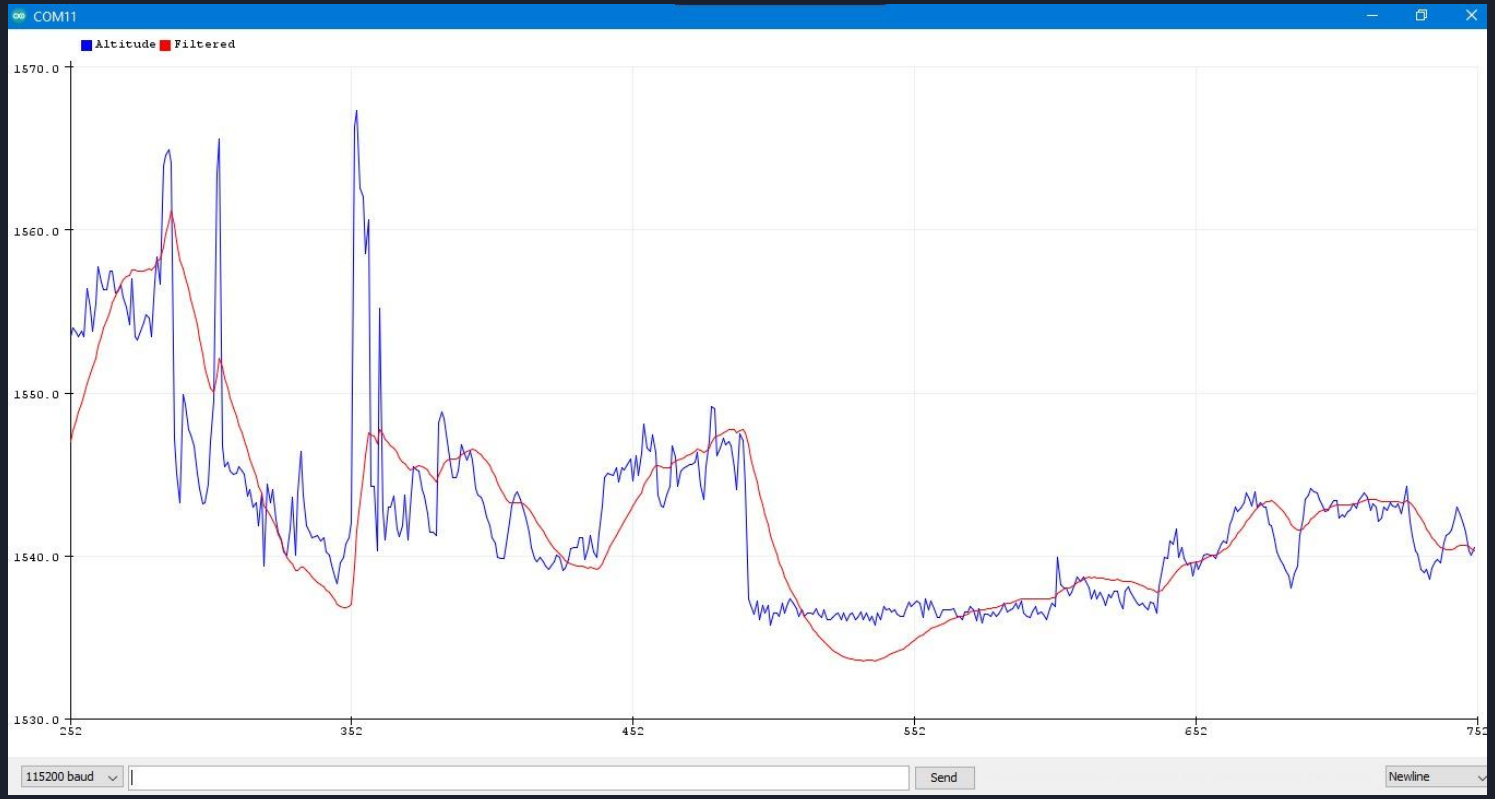


KEY:
B-Barbara
E-Erick
T-Tonny
P-Patrick
C-Catherine

TESTING THE KALMAN FILTER



Plotted above are the filtered and unfiltered results.

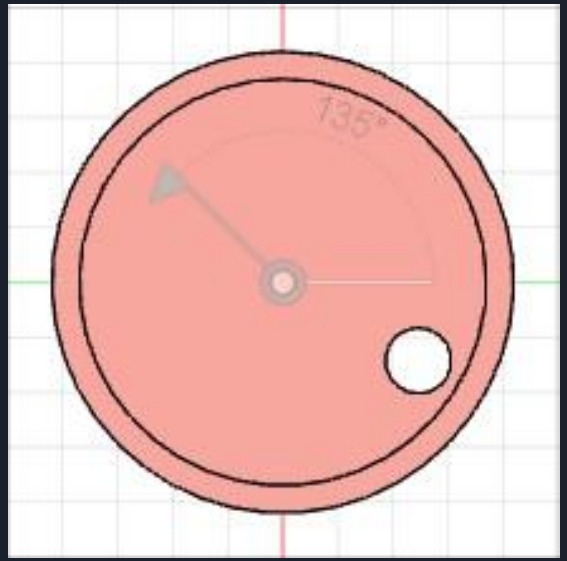


The filter is displayed to be efficient as shown above

Designing of the Ejection Cap

This is the top view of the Ejection cap.

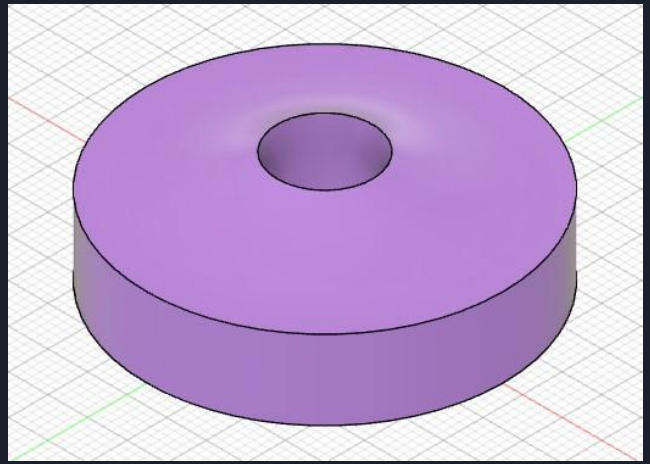
The shock cord is attached to the parachute,nose cone and the piston holder.

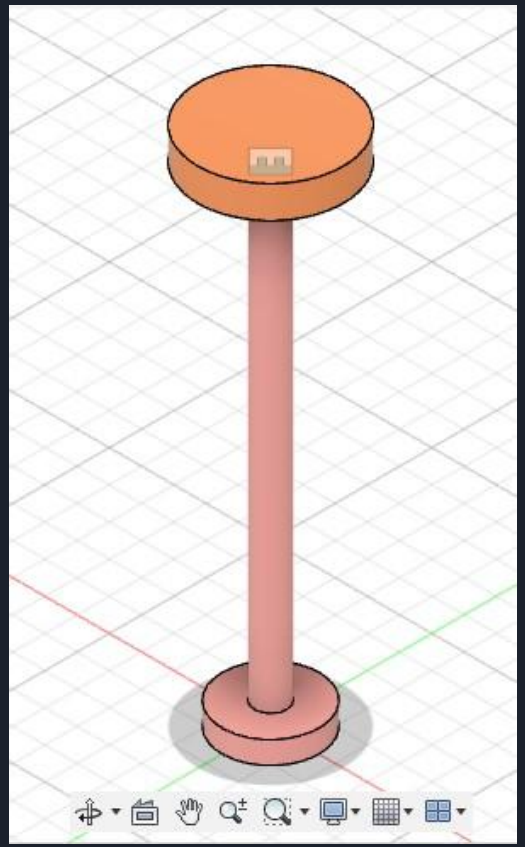


Redesigning the piston

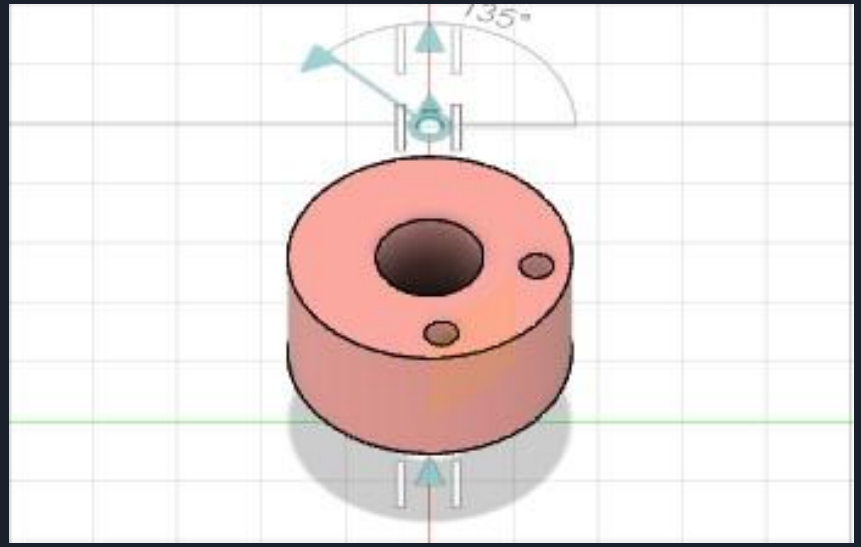
The piston head has been changed to PLA.

The rest of the body will be made of aluminium.

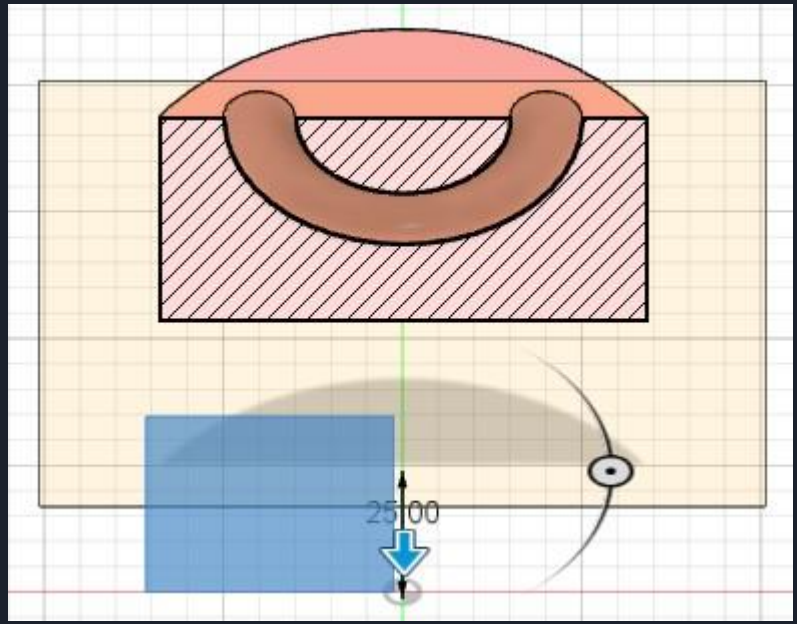




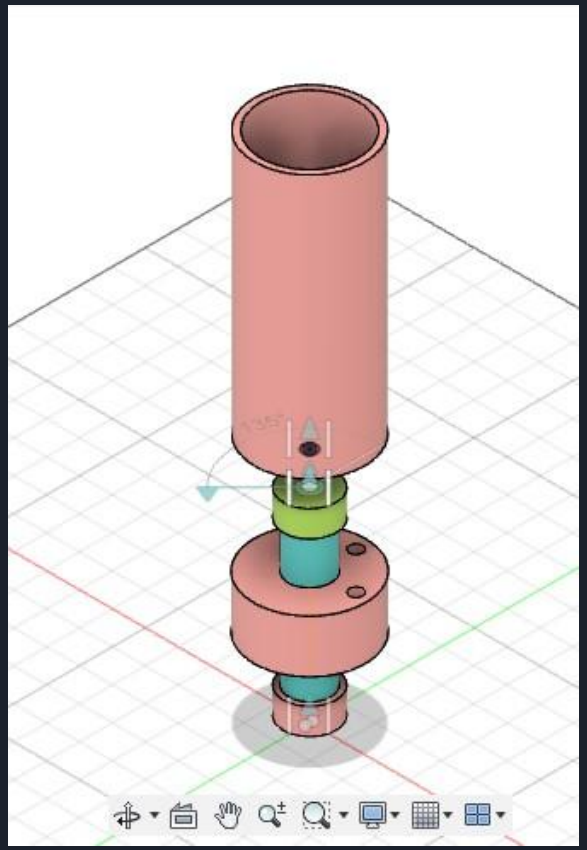
Redesigning of the Piston holder

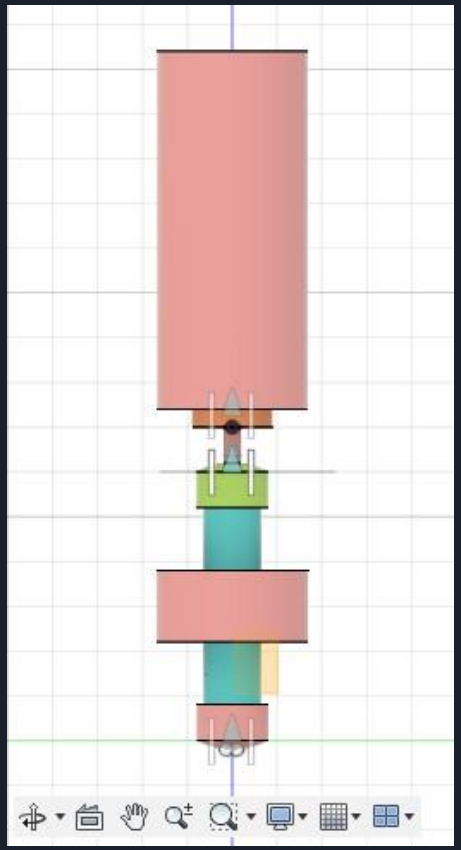


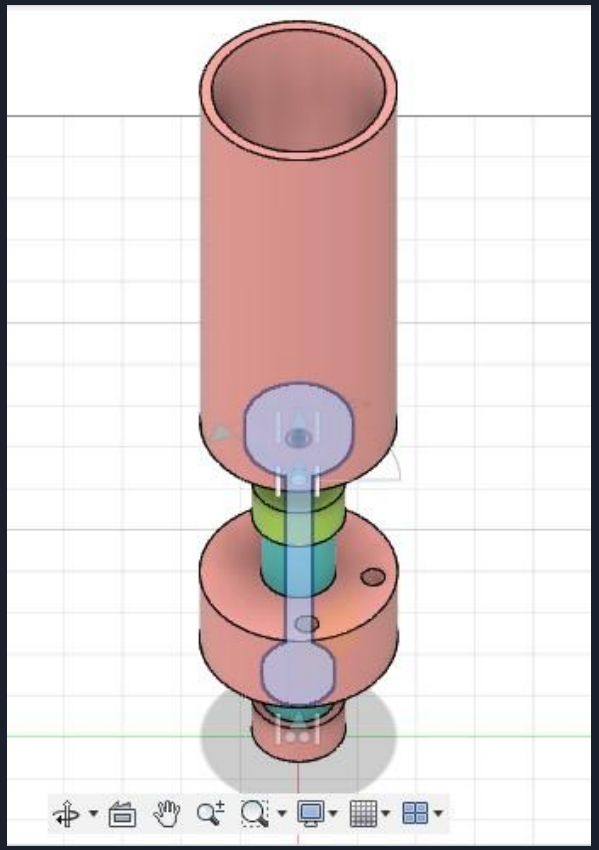
Isometric view



Sectional analysis



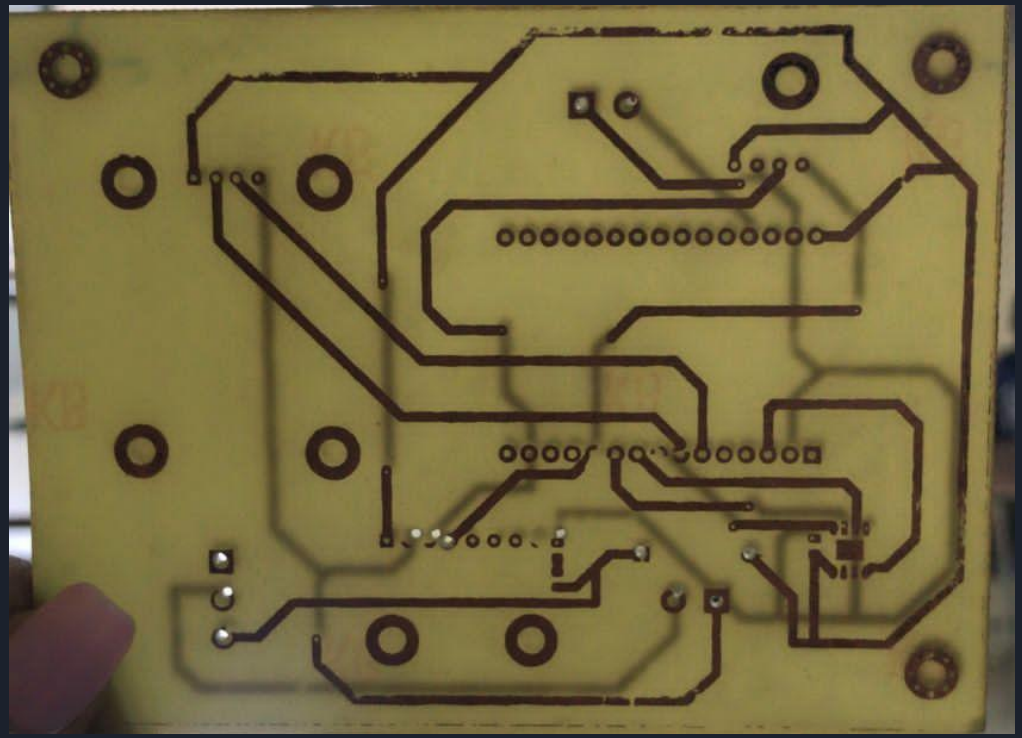




The whole assembly

PCB Etching

The etching was redone.



Challenges faced

1. Breaking of the drill bits
   - Fabrication of Flight Computer has been put on hold till we buy another one.
2. Transferring the Kalman Filter to Matlab was problematic

NEXT WEEK'S TASKS

1. Soldering of the PCB components for the Flight Computer
2. 3D printing of the piston head
3. 3D printing of the piston holder
4. 3D printing of the ejection cap
5. Testing the Kalman Filter

THANK YOU