

EE/CprE/SE 492 STATUS REPORT 2

01/31/2025 – 02/13/2025

Group number: 9

Project title: Space Cyclones - COSMIC CAPSTONE CHALLENGE 2024-2025

Client &/Advisor: Bo Varga, Benjamin Rupp, Rachel Shannon

Team Members/Role: John Beuter (Team Lead), Daniel Sprout, Maheeka Devarakonda, Tanvi Mehetre, Riley Heeren, Ben Swegle

○ **Weekly Summary**

Week Objectives: Work on developing the prototype and fill in some gaps in our design including weight of nets, narrowing down thrusters etc

○ **Past week's accomplishments**

• John Beuter:

Plan to update the Gantt chart and create new deadlines for various goals and checkpoints. Create objectives and deadlines documents. Our goal is to focus on prototype development and continue to research the technical details of our design.

• Daniel Sprout:

Worked on creating the testing plan for our prototype, development progression goals, and subdividing the mission plan into defined steps to achieve our defined goal for the prototype.

• Maheeka Devarakonda:

Worked on creating the physical model for the prototype. Created a basic arduino replica through ultrasonic sensor and servo to demonstrate the functioning of our payload.

• Tanvi Mehetre:

Researched more on prototype development and came up with a rough idea in the team meeting. Looked more into programming the arduino.

• Riley Heeren:

Focus of research and development of a launching mechanism prototype. Brainstorming with some group members on how to proceed with design and function of the prototype.

- Ben Swegle:

Met with the engineering team to review the spring launcher mechanism. Then updated the CAD model so a physical prototype can be built.

- **Pending issues** *(If applicable: Were there any unexpected complications? Please elaborate.)*

- John Beuter: N/A

- Daniel Sprout: N/A

- Maheeka Devarakonda: N/A

- Tanvi Mehetre: N/A

- Riley Heeren: N/A

- Ben Swegle: N/A

- **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
John Beuter	Create objectives and deadlines documents.	2	27.5
Daniel Sprout	Developed Operation set and Testing Criteria for the prototype	2	24.5
Maheeka Devarakonda	Worked on creating the electrical components of the prototype	4	29
Tanvi Mehetre	Researching more about prototype development.	2	24
Riley Heeren	Focused on research and development of a launching mechanism prototype	3	20
Ben Swegle	Updated CAD model of spring launcher mechanism	2	30

- **Plans for the upcoming week:**

Continued development of an analogous system prototype for our launching and targeting mechanism. Different teams will continue to work together to implement a software/electronics and also the physical launching mechanism. Eventually these systems will be combined to create the whole system.

- Summary of weekly advisor meeting:

N/A