

Report on Team Spriha - Can Satellite Team

The Can Satellite team of the college took part in the **US International CANsat competition '24**. The mission of the competition was to create a Can satellite that adheres to certain protocols upon descent from a height of 1 km and shields an internally placed egg until landing. The team reached till Phase 2 of the competition - PDR Submission and Presentation

Result

As per online rankings posted by the competition officials

Team Spriha attained **PDR Percentage - 97.9167%**

ranked 10th amongst 18 countries and 75 teams in the world

This is the **first Spriha team**.

This is Team Spriha's **first participation** in this international competition.

There are only two selections from each country for the competition, for the same Team Spriha was unable to get selected.

Work

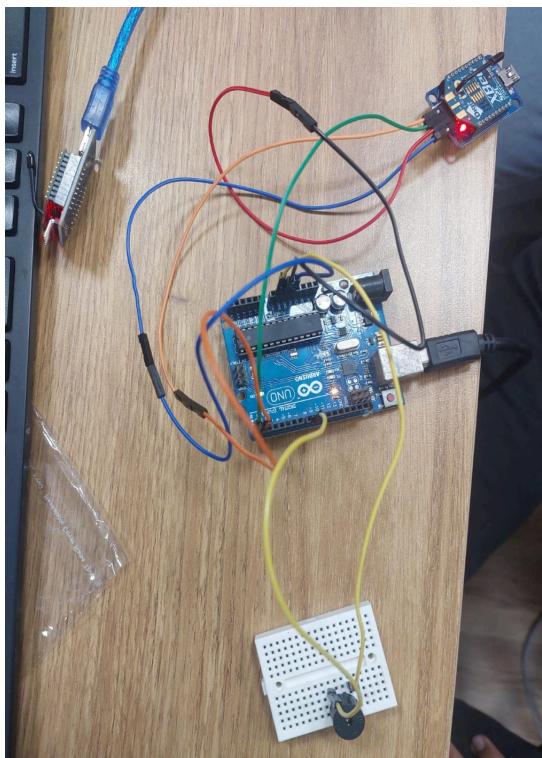
- *Created* block and circuit designs for common student satellite electronic components
- *Analyzed* and tested designs for Egg Protection mechanisms
- *Ideated* two separate Cansat designs for PDR submission
- *Held* online/offline team meetings for coordination and progress
- *Ideated* innovative designs in-built in Cansat design
- *Researched* and tested electronic communication systems and created precise antenna design
- *Assembled* and configured electronic components using Microcontroller
- *Created* website GUI as Satellite Ground Station
- *Built* and Designed 3D models of Cansat designs and parts in Solidworks and Blender
- *Designed*, Formatted and Filled PDR Submission Document
- *Presented* 156 slide presentation in 30 mins for Phase 2 PDR Submission

Equipments Use



Initial Days of testing different electronic equipment using Breadboard and laptop.

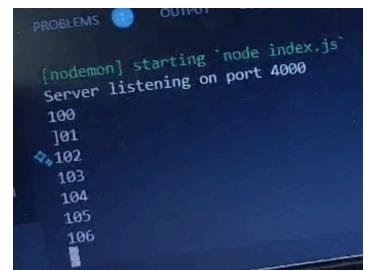
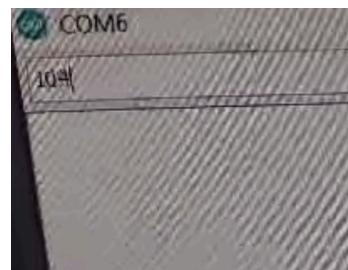
Attended - Amey, Chinmay, Ansh



Setup to display XBEE-Microcontroller transferred bits on Ground Station through Python, simulating a basic framework of telemetry.

Used Arduino, Breadboard(Small), Wires, 2 XBEE- One connected to Arduino other connected to Ground Station.

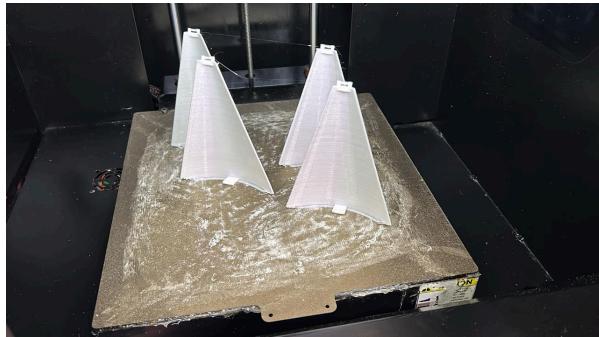
Attended - Amey, Chaitya, Ansh, Manjali and also Vivaan(from TagAlong)



Testing



Understanding the working of parachute build and dummy dimensions of satellite testing. Attended - Amey, Ansh, Chinmay, Shivani, Priyanka, Woodrow, Manjali



3D Printing of the canister satellite parts
Heatshield flaps and Egg protective shield



Outcome

- *Improved* understanding of different satellite subsystems
- *Understanding* workflow of international competition
- *Understanding* the requirements and basics involved in satellite design
- *Understanding* the underscoring physics behind satellite mechanism and design
- *Exposure* to new electronic equipment and systems
- *Learning* the process and work outlining teamwork
- *Developing* the knack for problem solving and instruction

Future Plan

1. *Completion* of proposed satellite design with the following steps
 - 3D printing mechanical parts of the satellite
 - Procuring/Making Parachute, Antenna, PCB
 - Connecting and fitting requisite electronics
2. *Documentation* of process
3. *Choice* of members and Mentorship of next team

All Team Members:

Amey Agarwal , Shivani Bhat, Anirudha Patil, Ansh Bhansali, Woodrow Gonsalves, Manjali Varma, Keshav Jha, Chaitya Dobariya, Priyanka Waghmare, Chinmay Thakur

Additional Help : Nachiket Narlawar, Shreyas Namange, Malhar Takawale

Mentor: Prof. Pallavi Nair

Team Captain: Amey Agarwal

Team Vice-Captain: Shivani Bhat

Electronics Team: Shivani Bhat, Ansh Bhansali, Woodrow Gonsalves, Manjali Varma, Keshav Jha, Chinmay Thakur

Mechanics Team: Anirudha Patil, Nachiket Narlawar, Shreyas Namange, Malhar Takawale

Coding Team: Amey Agarwal, Chaitya Dobariya, Priyanka Waghmare