

# GURU NANAK INSTITUTE OF TECHNOLOGY

## SPACE APPS CHALLENGE (Pre-Qualifier Round)

### CONCEPT:

The International Space Apps Challenge is an international mass collaboration focused on space exploration that takes place in different cities around the world. The event embraces collaborative problem solving with a goal of producing relevant open-source solutions to address global needs applicable to both life on Earth and life in space. NASA is leading this global collaboration along with a number of government collaborators and over 100 local organizing teams across the globe.

**DATE:** 31<sup>st</sup> August and 1<sup>st</sup> September 2019

**DURATION:** 24 hours.

**LOCATION:** GURUNANAK INSTITUTIONS, Ibrahimpatnam.

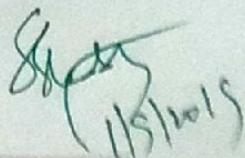
### ORGANIZERS:

#### Faculty Coordinators:

1. Dr. D. Stalin Alex
2. Dr. M.I. Thariq Hussan

#### Organizing Team:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>● Ramani Gowrishetty</li> <li>● K Sai Prabhu</li> <li>● G Samba Siva Reddy</li> <li>● B Abhilash</li> <li>● Lalit</li> <li>● Poojitha Ipparthi</li> <li>● D Manikanta</li> <li>● Sai Binish</li> <li>● Leela Madhav</li> <li>● P Sai Ram</li> <li>● Saymon Acharya</li> </ul> | <ul style="list-style-type: none"> <li>● Manjeet Milan Das</li> <li>● Sanketh Reddy</li> <li>● Sri Harsha</li> <li>● Sai Subhash</li> <li>● Keerthi Samhitha</li> <li>● G Pavan</li> <li>● Leela Krishna</li> <li>● Bharat Kishore</li> <li>● Harsha Vardhan</li> <li>● Giridhar Rao</li> <li>● N Charak</li> </ul> |
|--|---|


  
 15/8/2019

- Chandan Kumar Kapar
- Vignaan Vardhan
- Jatin Kumar
- K Pranav
- Itharaju Shiva Kumar
- Sai Tarun
- G Deekshitha
- Deepak Reddy
- Saadhvi Devineni
- M Praneeth
- A Vaibhavi

**Number of Volunteers:** 60**GOALS:**

- To bring forth innovative ideas and solutions to the problem statements provided by Space Apps Team.
- To encourage students to know about hackathon culture and how to solve real time issues or problems using NASA open data
- To form Space Apps Student Community in tier 2 and tier 3 colleges
- People selected in Pre Qualification will be sent to local level of hackathon where they will be competing with different zonal winners.

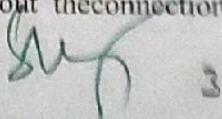
**BOOTCAMPS CONDUCTED:****GURU NANAK INSTITUTIONS:****Date :** 20<sup>TH</sup> August 2019**Guests :** Sai Kiran Katapally (Founder of SUMVN),**No of students attended:** 900

The boot camps for pre-qualifier round of hackathon were conducted by the GNI organizing team where our guest Mr. Sai kiran, who is the local lead of Space Apps Hyderabad, introduced our students about the event and its importance. He gave a presentation on how the event was conducted back in 2016-2018. He talked about how the pre-qualifier event would be conducted in the college including the procedure to register, innovate and a few tips on how to pitch an idea and also about the impact it would create on their career. He talked about his plans to start a Space Apps Community to help students interact with each other and build up their projects for the next year's challenges. It would be a technical community which would ensure to teach students new skills and encourage them to work on their projects and ideas. He introduced the challenges of previous year on which the students need to work and gave them a detailed information about what the themes dealt with. The

students were also made to join the interactive session where they had the opportunity to have a clear picture about the event.

**ABOUT THE EVENT****PREVIOUS YEAR CHALLENGES ON WHICH THE STUDENTS WORKED ON:****Design an autonomous free-flyer to inspect a spacecraft for damage from Micro-Meteoroid and Orbital Debris (MMOD)**

- Develop a sensor to be used by humans on Mars
- Create a tool to track international rocket launch information.
- Pose your own challenge, and create a solution of your own choosing!
- Use NASA Earth imagery data to create 1) an art piece, or 2) a tool that allows the imagery to be manipulated to create unique pieces of art
- Create and deploy web apps that will enable anyone to explore Earth from orbit! Visualize Earth science satellites and mission data using interactive virtual globes, such as NASA's Web WorldWind. Use data sets from NASA's Open Data Portal to present fire, ice, clouds, meteorites, or water temperature spectra\
- Create a short documentary to capture the essence of NASA's International Space Apps Challenge.
- Create an easy-to-use way for people to develop their own, custom checklists – both items and plans – for specific kinds of disasters. Use NASA images, videos, or data visualizations to illustrate each disaster type, to help people understand how to prepare.
- Build a crowdsourcing tool for citizens to contribute to early detection, verification, tracking, visualization, and notification of wildfires.
- Tell the world about the asteroid named Bennu. Tell the world about the asteroid named Bennu.
- Analyze and/or display data to communicate interesting findings or improve public understanding of our home planet
- Analyze and/or display data to communicate interesting findings or improve public understanding of our home planet
- Integrate NASA Earth science data and citizen science data to learn more about the connections

A handwritten signature in blue ink, appearing to read "S. N.", is located at the bottom right of the page. To its right is a small, faint number "3".

between human, animal, and environmental health.

- Design a quest-like game to teach others about polar environments and how they are changing. Use NASA data to help adventurers plan their quest and present them with challenges along the way.
- Design an app that lets a user pick a location and learn about the parts of Earth's cryosphere that impact that location.
- Design a data analysis and/or visualization tool to show the spatial and temporal changes in Arctic and Antarctic ice to a general audience.
- Create a game using images from the Hubble Space Telescope as integral components!
- Develop a concept for a time capsule with content to educate an extraterrestrial civilization about human culture and our solar system.
- Use NASA Data to Plan a Rover Mission on the Moon!
- Generate Virtual Reality environments for the surface of the Moon and Mars! Obtain 3D models from NASA resources, such as Moon Trek and Mars Trek. Integrate 3D models of surface exploration systems and habitats. Develop and deploy the virtual world at a hosting service.

**NO OF PARTICIPANTS ATTENDED: 297**

**NO OF TEAMS REGISTERED: 101**

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**AGENDA OF THE EVENT:**

**Day 1:**

S.No	SESSION	TIME	VENUE
1.	Registrations	9:30 to 11:00	Ground
2.	Inauguration by guests	11:00 to 11:15	Auditorium Hall
3.	Introduction to NASA Space Apps challenge	11:15 to 11:30	Auditorium Hall
4.	Team introduction and Elevator Pitching	11:30 to 12:40	Auditorium Hall
5.	Lunch	12:40 to 13:30	Auditorium Hall
6.	Working on ideas	13:30 to 15:30	Auditorium Hall

S/N

7.	Talk by Sai Kiran	15:30 to 16:00	Auditorium Hall
8.	Mapping and processing on Ideas	16:00 to 18:00	Auditorium Hall
9.	Break	18:00 to 18:30	Auditorium Hall
10.	Mentoring on ideated teams	18:30 to 21:30	Auditorium Hall
11.	Dinner	21:30 to 22:30	Auditorium Hall
12.	Networking and Prototyping	22:30 to 00:00	Auditorium Hall

**Day 2:**

S.No	SESSION	TIME	VENUE
13.	Networking and Prototyping	00:00 to 01:30	Auditorium Hall
14.	Fun session	01:30 to 02:30	Auditorium Hall
15.	Validation of Ideas	02:30 to 03:30	Auditorium Hall
16.	1st round of Scrutinization	03:30 to 06:30	Auditorium Hall
17.	Freshup and Breakfast	06:30 to 07:00	Auditorium Hall
18.	2nd round of Scrutinization	07:00 to 08:30	Auditorium Hall
19.	Final Pichings	08:30 to 08:45	Auditorium Hall
20.	Awarding Ceremony	08:45 to 09:10	Auditorium Hall
21.	Closing ceremony	09:10 to 09:30	Auditorium Hall

**ABOUT THE EVENT (in detail):**

The event began with an inauguration ceremony after which the pitching started. Upto 101 teams were registered and participated as a part of the pre-qualifier round. During the elevator pitch, each team was given about 2 minutes to register their team into the competition.

Post lunch, the students started working on their ideas from given challenges. The mentoring was provided to students by experts on Android Developing, Web developing, Artificial Intelligence and Blockchain. They were also mentored on projects related to Civil, Electrical, Electronics and Mechanical backgrounds.

Students were able to interact with the mentors from SUMVN and get valuable inputs from them and validate their ideas and work on the loopholes their ideas might have. After which the mentor validated the ideas of students.

During the first scrutinization each team was given 3 to 5 minutes of time to pitch their idea among which top 21 teams were selected to move into the next round.

The second round of pitching started at midnight after which top 10 teams were selected by the jury. Post breakfast, the third round of pitching happened and the jury selected top 4 teams for the next level of Hackathon.

#### **MEMBERS OF THE JURY:**

- Mr. Sai Kiran Katapally (Local Lead of Space Apps, Hyderabad)
- Mr. Narendra Krishna (Local Lead Space Apps, Hyderabad).

The winners were selected based on how technically sound they were, their creativity and the open data sets used by the students.

#### **WINNERS:**

- **Team Asteroid –**

1. Vinay Prasad
2. Deepak
3. Dasari Hemanth
4. Gandla Venkatesh

- **Team Debuggg –**

1. K Sai Prabhu
2. Poojitha Ipparthi
3. Siri Chandana
4. Shruthi Agarwal

- **Eco Team –**

1. Navjot Singh Arora
2. Tarun Pasrija
3. Yedula Swetha Sri
4. Talluri Sravya

- **Team Nectar –**

1. Sai Tarun Reddy Maddula
2. M Sai Nikhil
3. Subhash Raj Purohit
4. Nimmoju Arun Kumar Chary



**RESOURCES PROVIDED:**

- Printing brochures and posters.
- Food (dinner and breakfast).
- Tea and snacks.
- Electricity.
- Wi-fi.
- Water supply.
- Faculty incharges.
- Photography.
- Social media support.
- Kits, ID cards and Tags.
- Certificates.

**Results:**

- The event was successful with 297 participants.
- Among 101 teams, 4 top teams were selected for the next level of Hackathon.

**Feedback and learning points:****Principal: Dr. Sreenatha Reddy**

Our students has got good exposure to the real time scenarios by attending the pre qualification Hackathon organized by SUMVN at our college, and a new dimension thinking capability of the students has made them to innovate and explore the new ideas.

**Coordinator:Dr. D. Stalin Alex & Dr. M.I. Thariq Hussan**

The pre qualification Hackathon conducted at our college by SUMVN was very useful to our students in exploring their innovative skill and enhancing their knowledge levels.

**Future Development:**

- To create a community called Space Apps student community to ensure that the students learn about technology and build up their ideas into products and solve real time problems of world which will be addressing in upcoming hackathons which are going to be conducted in the future.
- To support the students selected to the next round of Space Apps hackathon by providing relevant mentors and technical experts.
- To support innovations in the community from layman and young students.

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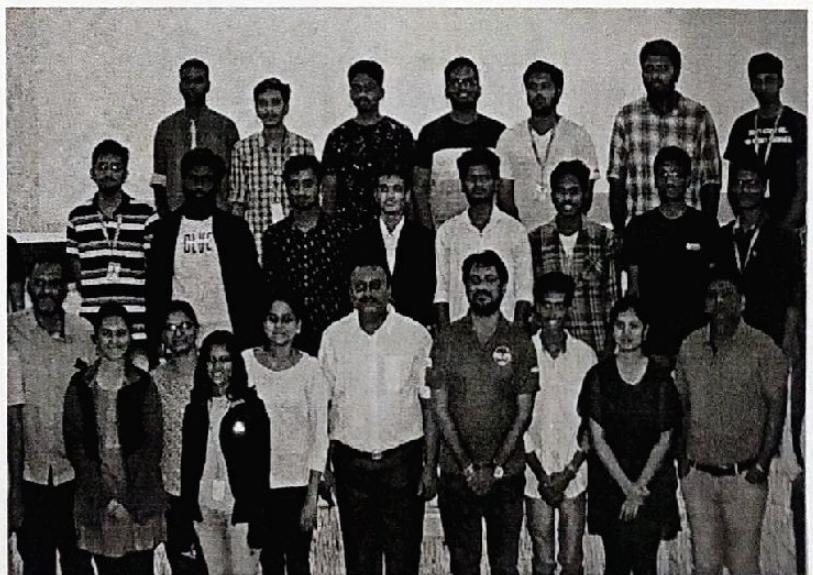
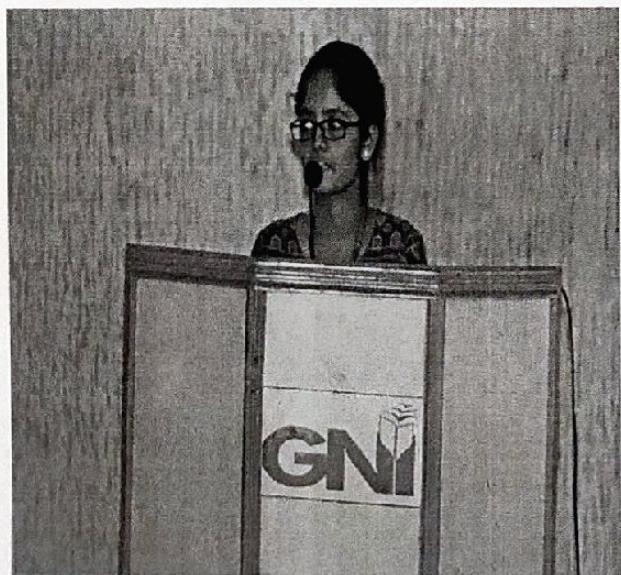
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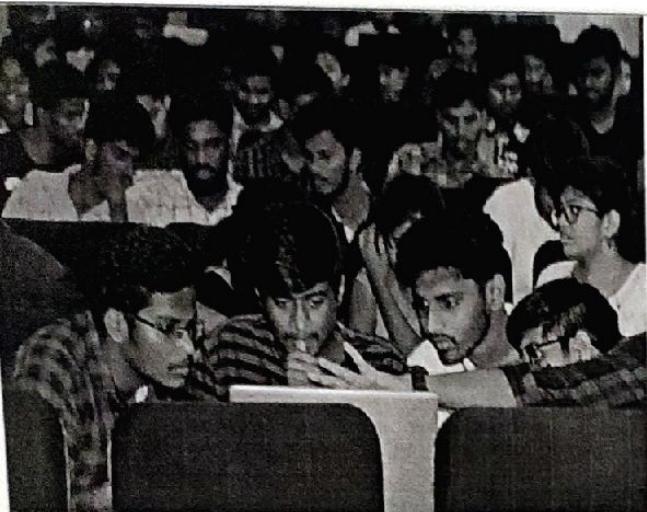
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