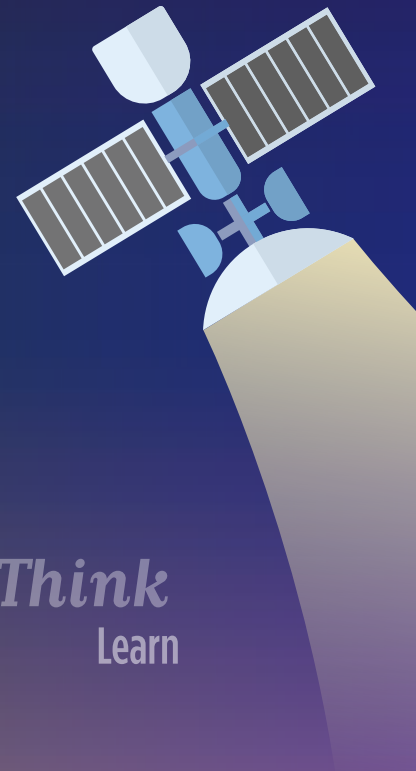




Connect
Collaborate
refine

Think
Learn

2017 MISSION REPORT

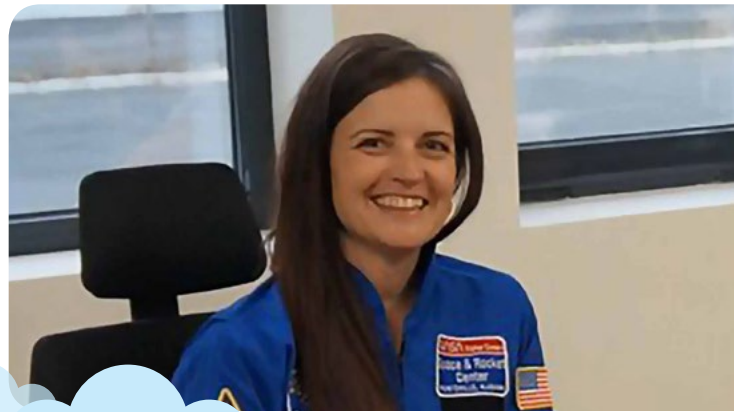
Develop Grow
Create *Respond* Teach

Make
Design



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“ I’m motivated to join NASA’s Space Apps Challenge because this is an event that brings an opportunity for all the people around the world to collaborate together and to innovate together towards new projects that can impact life on Earth and in space.”

**- Milena Krumova, PhD.,
Space Apps Sofia (Lead)**



EXECUTIVE SUMMARY

NASA's International Space Apps Challenge is an open innovation incubator and a hackathon that inspires a global community of technologists, scientists, artists, students, engineers, artists, and Earth and space enthusiasts to come together and build project solutions to challenges. Space Apps 2017 was our largest event yet, with a staggering 63% increase in participation, and the addition of nine new countries to our global community. Our Mainstage sites in Palo Alto and in New York City led the charge of bringing prominent speakers and educational Data Bootcamps to first-time participants in their cities, and to livestream viewers around the world.

The Space Apps Global Organizing Team, comprised of individuals from NASA, SecondMuse, and Chalk + Chisel, is managed by NASA's Earth Science Division.



SECONDMUSE





WHAT IS SPACE APPS?

25,140

individuals
from



69 COUNTRIES
together in



in just

48 HOURS
SPACE APPERS
DEVELOPED

2,017 solutions
to



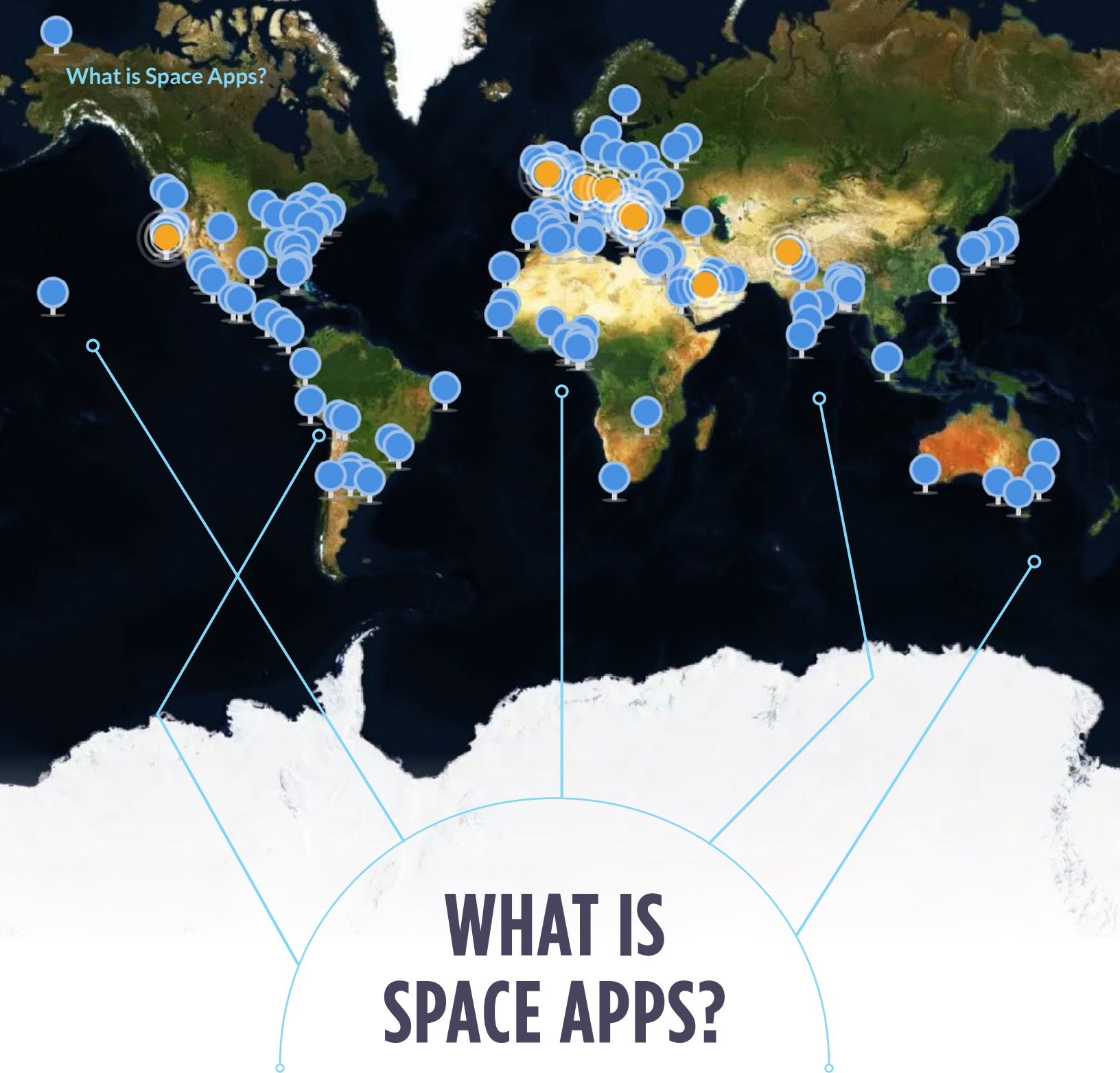
ON OUR HOME PLANET,
EARTH!

What is Space Apps?

AN OPPORTUNITY FOR THE PUBLIC TO ENGAGE MEANINGFULLY WITH NASA'S OPEN DATA

Space Apps engages a massive global community of developers, data scientists, hardware experts, designers, entrepreneurs, scientists, storytellers, artists, and others with NASA data. Participants form teams that build a project from scratch in response to a NASA-designed challenge statement, which sets parameters and defines a problem that is ripe for innovation. Each challenge statement includes NASA-curated datasets that teams incorporate into their projects. At Space Apps 2017, over 2,000 solutions were produced by participants from 69 countries across six continents.





What is Space Apps?

WHAT IS SPACE APPS?

A DISTRIBUTED INTERNATIONAL HACKATHON ORGANIZED BY LOCAL VOLUNTEERS

Space Apps is the culmination of the efforts of local volunteers who host Space Apps events in their communities. Organizers go through an application process and spend between two and six months preparing their hackathons. All of the global events follow the same basic format, but each has its own local flare. The events are hosted simultaneously over the same weekend.



What is Space Apps?

AN OPPORTUNITY FOR THE HANDS-ON DEVELOPMENT OF STEM SKILLS AND COLLABORATION BETWEEN PARTICIPANTS WITH DIVERSE SKILLSETS AND BACKGROUNDS

Space Apps provides an educational opportunity for students and professionals alike. Those new to coding have a chance to test and hone their skills as they're faced with the challenge of building a presentable project in just one weekend. Experienced professionals have a chance to learn new technical skills and utilize creative problem solving. Participants also develop valuable team skills. Space Apps seeks to include non-traditional hackathon participants to foster a dynamic and collaborative environment. Participants are encouraged to form teams that include diverse skillsets and backgrounds. What results is an enriching participant experience.

AN INTERNATIONAL COLLABORATION SPURRED BY NASA

Space Apps brings together more than 500 organizations from the public sector, academia, corporations, non-profits, and others who partner with local organizers. The NASA-led collaboration includes notable organizations such as the European Space Agency, several US Embassies, Stanford University, Amazon Web Services, and many more who support the program's mission.



COUNTDOWN TO SPACE APPS WEEKEND



December

-  Space Apps 2017 announced
-  Host application opened
-  Website development
-  Development of host resources
-  Host application outreach
-  Ongoing planning support to Leads begins

January

-  Challenge development begins
-  Orientation for new Leads

February

-  Global collaborator outreach begins

LEGEND

-  WEB
-  COMMUNITY MANAGEMENT
-  STORYTELLING
-  CHALLENGES
-  MAINSTAGES
-  SPACE APPS WEEKEND



March



Website goes live



Mainstage coordination



Blogposts begin



Participant outreach



Global Planning Call #1

April



Global Planning Call #2 and #3



Challenges announced



Reddit AMA



Space Apps Pre-events



Space Apps Weekend

LEGEND



WEB



COMMUNITY MANAGEMENT



STORYTELLING



CHALLENGES



MAINSTAGES



SPACE APPS WEEKEND

SPACE APPS ORIGINS

“ When we conceived of Space Apps on the back of a napkin in a hotel lobby in the heart of San Francisco, we never dreamed it would grow into the innovation movement it has become today. We are so inspired by all the participants from every continent (and space) that have participated over the years!”

-Nick Skytland, NASA



“ On the NASA side, not only did we receive unexpected, innovative solutions, but we witnessed individuals alter the trajectory of their lives based on Space Apps experiences. Volunteers joined teams. Winning teams created businesses. Participants returned as organizers. Organizers volunteered to mentor new organizers, and created accelerator programs to support interesting project teams. Participants changed jobs, shifted career paths, declared new college majors, and more, all while forging lifelong friendships with strangers they met at Space Apps.

-Beth Beck, NASA



CHALLENGES



The challenge design process for Space Apps begins months before the hackathon weekend. This year, the Space Apps team solicited exciting and relevant challenge ideas from Earth science communities within and outside NASA.

All Space Apps 2017 challenges were designed by NASA subject matter experts to bring global attention to and address real-world problems.

NASA's Earth Science Division is committed to solving global sustainability challenges, as described in the United Nations' Sustainable Development Goals (SDGs). This year, several Space Apps challenges were designed by NASA experts to address all three interconnected pillars of these goals: economic growth, social inclusion, and environmental sustainability. Each Challenge was reviewed by NASA subject matter experts, including researchers and global leaders in respective fields. These experts also identified and collated openly available online resources to assist the Space Apps participants in solving the challenges.

HI-SEAS V CREW





The challenges were released approximately one month before the competition and fell into five categories:

The Earth and Us challenges asked participants to combine NASA Earth Science data with sociological and economic information to generate new understanding and perspectives on human-environment interactions.

Planetary Blues challenges asked participants to analyze and visualize NASA's data on the hydrosphere (surface and groundwater, etc.) and the cryosphere (sea ice and ice sheets, etc.).

Warning! Danger Ahead! challenges asked solvers to analyze NASA data to assist in monitoring natural disasters and phenomena associated with health risks, and to assess their impacts on life and property.

Our Ecological Neighborhood category featured the use of NASA Earth Science data to study ecological systems and generate solutions to understand life here on Earth better.

Ideate and Create! category asked participants to interpret NASA Earth Science data creatively and design new means to experience NASA Earth Science data and technologies.

Space Apps, Berkeley



Challenges



This year's challenge design process also featured a special collaboration with the HI-SEAS V (***Hawai'i Space Exploration Analog and Simulation V***) crew in their Mars habitat simulation in Manoa, Hawaii, USA. The HI-SEAS project is a long duration Mars habitat simulation operated by the University of Hawaii with support from NASA. The HI-SEAS goal is to develop a better understanding of human spaceflight to Mars, and the crew helped write two of this year's Space Apps challenges, ***Small Spaces***, ***Big Ideas*** and ***You Are My Sunshine***, to invite Space Apps crew members to join in their scientific explorations!

**HI-SEAS**
@HI_SEAS

Follow

The [@HI_SEAS](#) crew is looking forward to [@SpaceApps](#) this weekend! Check out our challenges: bit.ly/2q9zZR8 & bit.ly/2ozrrWA

6:44 AM - 27 Apr 2017

1 Retweet 6 Likes



**HI-SEAS**
@HI_SEAS

Follow

[#SpaceApps](#) weekend begins with some help from [@HI_SEAS](#)!



Behind The Scenes at the HI-SEAS Mars Habitat
HI-SEAS (Hawai'i Space Exploration Analog and Simulation) is a Habitat on an isolated Mars-like site on the Mauna Loa side of the saddle area on the Big Island...
vimeo.com

5:08 PM - 28 Apr 2017

1 Retweet 3 Likes







COMMUNITY MANAGEMENT



Tactical planning, creative problem solving, and teamwork all come to mind when thinking about skills that a successful hackathon team needs to exhibit. The community of organizers must also utilize those skills and more to plan a successful hackathon.

At the core of Space Apps is its grassroots model, where local organizers from around the world volunteer to invest time and effort to bring the hackathon to their local communities. Over the course of about four months, local organizers are tasked with finding a hackathon venue, recruiting participants and local partners, and carefully designing an event that will inspire innovation and collaboration.



This year, the team produced the Space Apps Pre-event Planning Kit to offer organizers resources to plan an event in the weeks leading up to Space Apps. Pre-events included the Space Apps Data Bootcamp, a full-day event focused on engaging first-time hackathon participants, featuring interactive workshops on hackathon skills like basic coding, pitching, and UX design, as well as inspirational talks. The Data Bootcamp was introduced as part of the Space Apps 2015 Mainstage and was expanded to multiple cities in 2016. In addition to the Data Bootcamp, the team designed a framework for a pre-event meetup to bring participants

together to get to know one another and set the stage for team formation. The pre-event meetups were also designed to help participants connect with organizers in advance to ask questions and get all the information they need to show up on Space Apps weekend ready to hack. In total, 81 Space Apps Pre-events were hosted in the lead-up to Space Apps 2017.

Space Apps, Nicaragua



MAINSTAGES

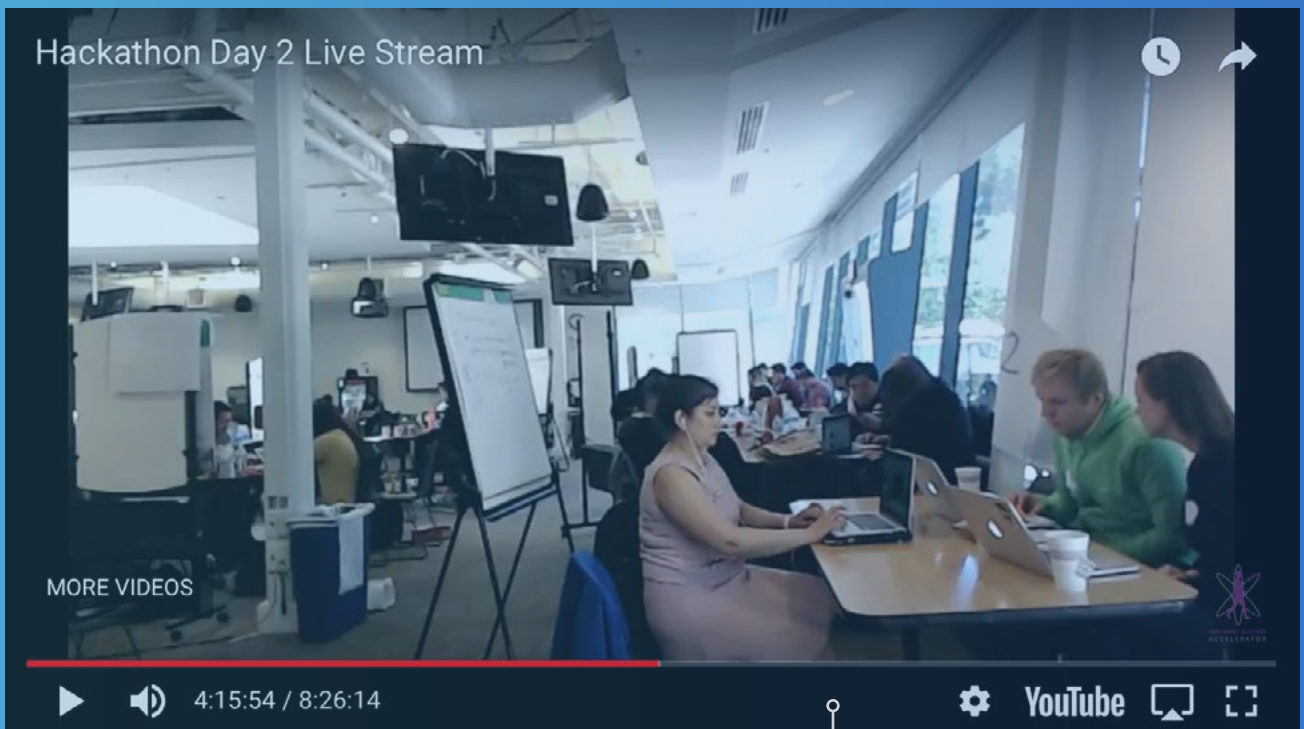


Drawing upon lessons learned from the global event about the power of collaboration between organizers, in 2017 the Space Apps Mainstage was expanded to two sites, Silicon Valley (Palo Alto) —the Mainstage West and NYC —the Mainstage East. The Space Apps Mainstage has traditionally been the featured Space Apps event that kicks off Space Apps weekend with a livestreamed Space Apps Data Bootcamp event. This year, The experienced Mainstage host, New York City, teamed up with the new Mainstage host, Silicon Valley, to team up and form a supportive small community of Mainstage hosts. The two sites worked together successfully to coordinate their events on a 12-hour livestream, support each other with event design, and share connections to partners and speakers.

The two city model created additional visibility with Mainstages on the east coast and west coast, shared sponsorship opportunities, and mentorship for the Mainstages to collaborate and develop shared best practices.



Space Apps, NYC



 **MAINSTAGE: WEST**
Space Apps, Silicon Valley



WEB



The team also added a number of noteworthy features to spaceappschallenge.org in an effort to enhance the experience for the community.

Working with with returning organizers to seek feedback and suggestions, the Web team provided location pages that were more responsive to the needs of hosts. The new location page included a new page layout and additional functionalities like the schedule feature. Hosts also used the site to communicate with one another in a new chat platform, which facilitated collaboration between organizers in the weeks leading up to Space Apps weekend and on the weekend itself. Participants were treated to an enhanced project page that better enabled them to tell the story of their team and project throughout the weekend.



“We are glad to be able to show the merits of use of data provided by NASA and the immense opportunities that we can take advantage of using earth observation technologies.”

- Brian Amu, Space Apps Nairobi (Lead)

WASTENOT! | WHAT'S FOR DINNER?

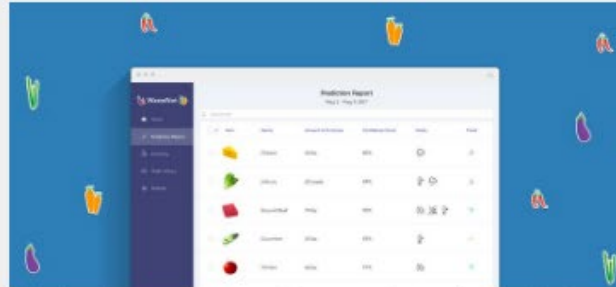
New York, NY

Updates

Project

Members

Team Updates



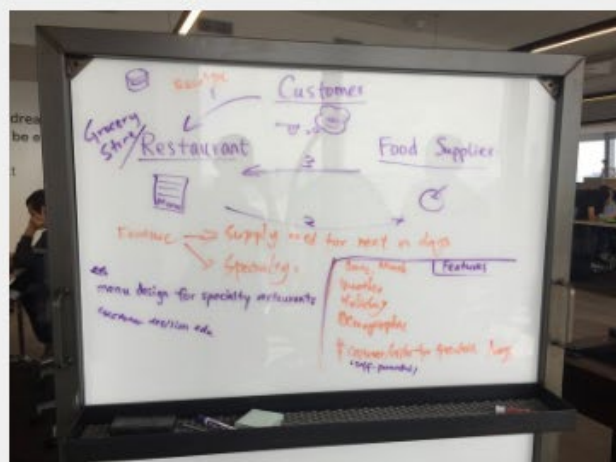
We've been fine tuning our interface design!

Shan Liu



go team!

Shan Liu



skateholder relationship & feature design

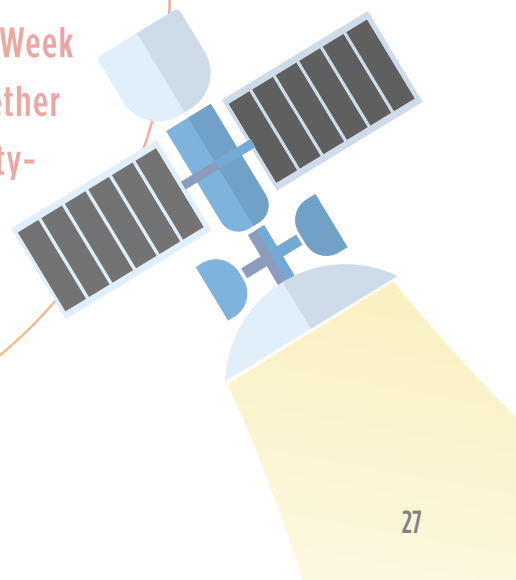
Shan Liu



STORYTELLING



In 2017
the team focused on
using digital channels to showcase
the new focus on Earth, and to leverage
relevant events and the community. These
efforts included the first Space Apps Reddit Ask Me
Anything (AMA) and joining conversations around
digital events like Computer Science Education Week
and Digital Learning Day. The team also cut together
a “We Are Space Apps” video using community-
submitted videos from around the world
to encourage others to participate
in a hackathon.





Ultimately, Space Apps 2017 started a conversation, allowing the community to interface with the organizing team like never before, through a Reddit AMA, including 15 questions answered by the Space Apps Global Organizing Team. In addition, the Space Apps community was at the heart of Space Apps storytelling. The team produced a number of blogposts highlighting community members like father-daughter hacking team, Michael and Laura Doyle as well as Space Apps 2016 global winners. Submitting self-filmed videos explained the value of participating in a hackathon (particularly for the benefit of first-time participants) and welcomed participants to Space Apps 2017 during the weekend. Putting a face to Space Apps 2017 served to showcase the diverse voices and perspectives that make up the community and showed that all are welcome at Space Apps festivities.

[-] [apithamawaddo](#) 4 points 2 months ago

Hi Dr. Shobhana, We are hacking through the virtual event and would like to know how the judging happens in it? As all local events has its own winner, are you planning on selecting winners based on county from the virtual event or one winner for the entire virtual event ? Thanks in advance.

[permalink](#) [embed](#)

[-] [SpaceAppsGlobal](#) [S] 2 points 2 months ago

Hey apithamawaddo! So cool that you'll be hacking with us virtually on Space Apps weekend! Just like the in-person events, we will select two global judging nominees from the teams hacking in the Virtual Event. The only difference is that since you aren't pitching to an in-person judge, we'll ask you to film a 30-second project video as part of your project page so the judges can evaluate your project. Best of luck to you and your team!

[permalink](#) [embed](#) [parent](#)

[-] [gaturroleon](#) 3 points 2 months ago

First time using Reddit. I hope im doing it ok haha.

Q: There is a limit of participants on a team? We are seven people and maybe we finally be 9.

[permalink](#) [embed](#)

[-] [SpaceAppsGlobal](#) [S] 2 points 2 months ago

A: Hello Gaturroleon! Welcome to Reddit - You're doing great! We do not set a rule limiting team size at the global level! While there is temptation to build larger teams to include different skillsets and perspectives, we have found teams of 4-6 people to be an optimal size for efficiency and productivity. If you are planning to have a larger team, something good to think through ahead of time will be how to divide the work among team members and collaborate efficiently. Best wishes!

[permalink](#) [embed](#) [parent](#)

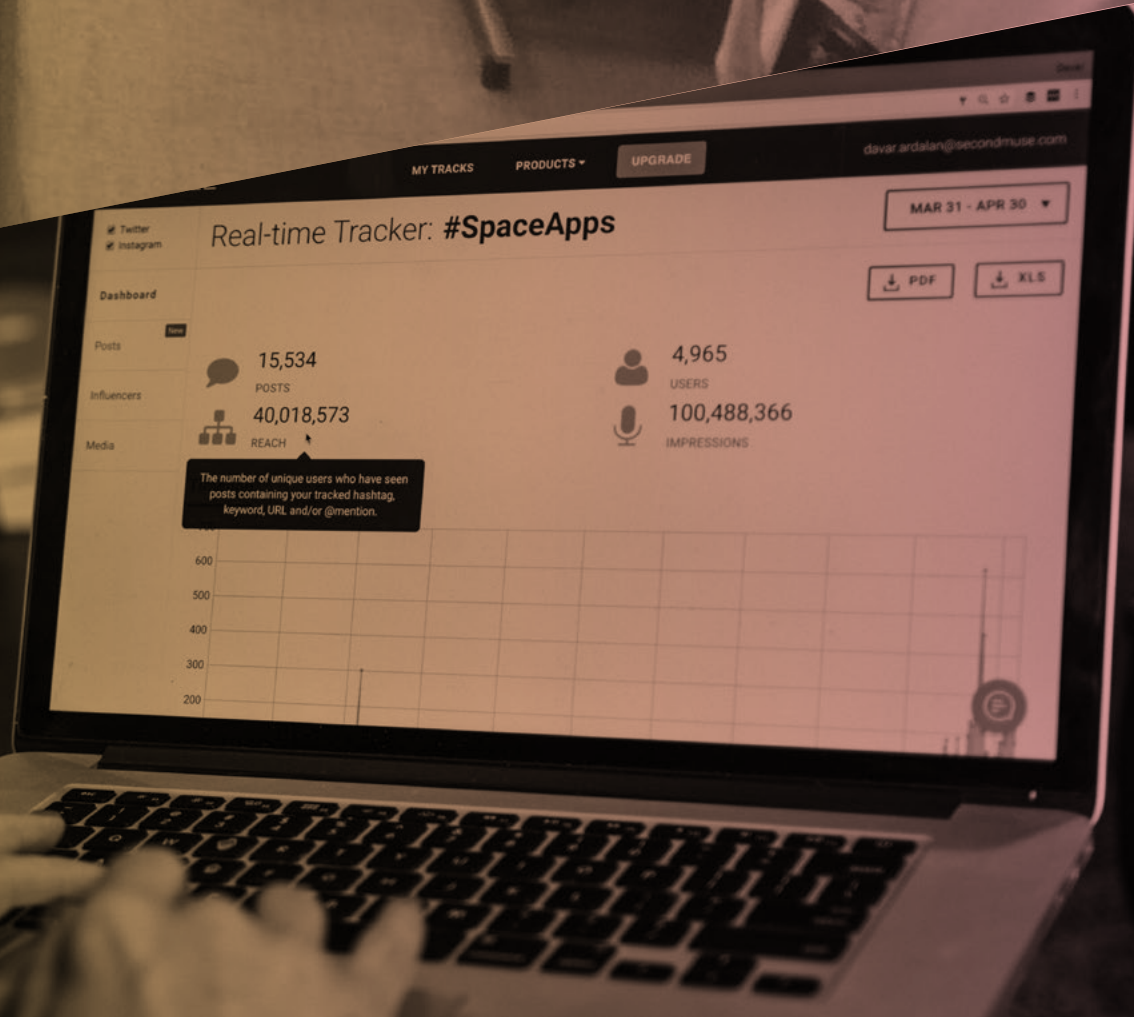
[-] [MakeItHackin](#) 3 points 2 months ago

can a person be on two different teams at one location?

[permalink](#) [embed](#)



#SpaceApps





On the weekend of Space Apps 2017, the team leveraged the momentum that was generated in its build-up, beginning with the premiere of two videos – the “We Are Space Apps” welcome and a welcome by the HI-SEAS Mars Habitat. Throughout the weekend, the team collected 40+ video interviews and sorted through many of the 12,000+ social media posts, resharing posts from many of the 3,500+ people who used the #SpaceApps hashtag from their local events. Through all of this activity, Space Apps reached more than 40 million people on social media in the month of April alone, using videos and blogposts to put the microscope on the Mainstages and global celebrations in Australia, Brazil, Italy, Nepal, Senegal, and Taiwan.



The team continued to tell the story of Space Apps with social media and Storytelling Booths at each of the global Mainstages.



Throughout the weekend, the team turned to the community to tell the Space Apps story. This meant sorting through many of the 12,000+ social media posts and resharing posts from many of the 3,500+ people who used the hashtag, putting up reflections, pictures, and videos from their local events. Through all of this activity, Space Apps reached more than 40 million people on social media with the hashtag #SpaceApps in the month of April alone. This also meant using the blog platform to put the microscope on the Mainstages as well as on global celebrations across the world in Australia, Brazil, Italy, Nepal, Senegal, and Taiwan, providing a global lens to our digital audience.



SPACE APPS WEEKEND

PROJECTS SHOW CONCERN ABOUT OUR PLANET

A trend emerging from Space Apps 2017 is the high number of ideas developed that can have a positive impact on our environment. The majority of winning ideas addressed ways of applying NASA data to help the Earth and its inhabitants. Increasing global awareness about our planet was also a common theme.

In Saudi Arabia, a top prize went to the Riyadh “Green Zone” team, made up of female university students who devised an app that raises awareness about recycling.

Space Apps Sydney had nearly 300 registrants and at least 160 daily attendants.



This was Venus Izadi’s second time as Lead and third year participating in Space Apps, and she reported being strongly impressed with how many projects focused on our planet and the environment.

IMPACTFUL IDEAS FROM SPACE APPS SYDNEY:

- **44Move:** an educational AI tool for locating datasets and resources for Earth science data users.
- **PERSUNL:** a weather app that predicts UV exposure and other health-related factors.
- **Ken-Data You Can Touch:** an Earth science VR tool..
- **Eat Smart:** an app for solving food waste problems.

Inspired by her own passion for education, Venus thrives on seeing ideas transformed into applications that benefit our planet. For her, watching participants realize their potential to have a positive impact on the world made the event the most worthwhile experience she’s ever had. “The best part is when they actually take those steps, and I can see that it’s changed their life.”



This was the fifth year of Space Apps Dakar and the fourth year for Senegal Lead Kofi Sika Latzoo, a creative director and gaming evangelist. Kofi first learned about Space Apps on Twitter and attended his first event in north Senegal, later helping the hackathon move to the capital city of Dakar — and learning how to work around closed networks. But such challenges were overcome; Dakar produced three winning projects with incubation value and start-up potential among its nearly 50 registrants.



SEVERAL PROJECTS WITH POTENTIAL ENVIRONMENTAL IMPACT GREW OUT OF SPACE APPS DAKAR:

• **FFT Shoes:** prototype footwear composed of temperature and humidity sensors in addition to a PH meter, all connected with an Arduino board placed in the heel that will save sensor data and send to a related Bluetooth application. This was the number one team nominated by the local jury.

• **AfricApps:** The jury's second choice is a downloadable web and mobile platform that allows African developers to sell their apps; it would be the first African store to be integrated into mobile phones.

• **Mbat-IT:** An intelligent, gamified data-gathering waste bin designed to help teach people how to sort trash and reduce its many environmental threats, especially in Africa. **The People's Choice winner**, Mbat-IT will also have a selective sorting capability to facilitate recycling.



Concern about the environment is clearly on the minds of the tech-savvy innovators who used NASA Earth Science data to study ecological systems and generate solutions to better understand life here on Earth.



WOMEN'S GLOBAL PARTICIPATION ON THE RISE

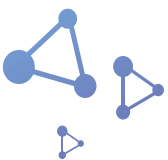
At Space Apps 2017, common experiences and common themes emerged, and one in particular was the high number of *women all over the world* who participated both in person and online in what is usually a male-dominated, male-run tech space.





On the opening day of Space Apps Lusaka, Lead Wilfred Mulenga was surprised that the first five attendees were women, most of whom he'd never met.

Half of the attendees on day one were women; by the next day, women outnumbered men — a highlight for Wilfred. UV_Techroids, the People's Choice Award-winning team, started with two women with an idea to use NASA data to analyze the efficiency of a given solar panel based on its geographic location and the solar energy that location receives. Though the group experienced poor internet service on the final day, no momentum was lost thanks to the personal relationships already established. Their ideas continue to inspire group collaboration.





In Samsun, Turkey, the “Space4women” team — four female students from Ondokuz Mayıs University’s Department of Aerospace Engineering — were among more than 100 participants. Team members had a wonderful experience working on their Small Space Big Ideas project and were excited to come in second, especially since this was their first Space Apps competition. The team plans to continue working on their hacking and development skills, research more intensely, and take their ideas to the top in upcoming years.





SAUDI ARABIA

Saudi Arabia saw more than 450 people of different talents and backgrounds participating from five different cities (Jeddah, Riyadh, Dammam, Jubail, Medina) — and nearly two-thirds were women. The female team from Medina was nominated for a top prize. Their project is called Save Solar System Smartly: they built a prototype of a smart house that uses solar panels to produce and store energy, and deploys the Internet of Things concept to manage everything in the house.

The Space Apps team was thrilled at the increased presence of women as participants and guest experts at Space Apps 2017, and look forward to continuing this trend of *more women* using *new technologies* to solve problems collaboratively.



GROWING SPACE APPS MOMENTUM

An encouraging sign, one that should greatly comfort the NASA Space Apps Challenge hosts, was the enormous number of first-time participants and first-time organizers this year. Of the six teams chosen as finalists, five were rookies!

In Gurjranwala, Pakistan, more than 200 km from the capital Islamabad, Saqib Muhammad Ashfaq was well-prepared for his first stint as Location Lead. He had been an enthusiastic participant in Space Apps the past three years,

The distance Saqib normally feels from the capital disappeared when he was able to engage with like-minded technological enthusiasts and social activists. Participating in his own city for his first Lead experience was, in his words, “one of the best times of my life.” He is planning meet-ups for everyone involved throughout the year.

In Australia, a country that would love to have its own space agency, the Melbourne Space Apps Challenge was the first time for an event in that city, but several other Australian cities also competed. Speakers included Andrew Aldrin, son of American astronaut Buzz Aldrin, who works in the launch and education areas of the space industry. Aldrin fascinated the

audience discussing the ‘new’ space industry that seeks more entrepreneurial (vs corporate) approaches to innovation. He wants to see more investment in propulsion from the moon and in space manufacturing, both of which could address the ongoing problem of orbiting space junk.

Organizer Troy McCann sensed a great regional momentum from this year’s event that bodes well for next year. Inspired by the response, Troy has been running a prototype business-accelerator program since the latest Space Apps to help turn NASA-inspired ideas into “space business” applications and actual start-ups. Troy runs the program through his company, MoonshotX, for seven Australian teams around the country, including six challenge participants.

Growing Space Apps Momentum

Team members who'd been too immersed in data to notice much else said they were "blown away" to eventually learn how many countries were working with them, especially the non-Western ones. In an experience involving thousands of participants simultaneously over the course of the two-day event, each new country that added to their Twitter feed increased that excitement. Space Apps connections are empowering.



The annual Space Apps Challenge is clearly growing in scope, exciting more hackers from more countries, and producing more ideas every year.



JUDGING & WINNERS



BLAST OFF!

Most Inspirational

Best Mission Concept

Galactic Impact

Best Use of Data

People's Choice

Best Use of Hardware

Judging & Winners

Space Apps projects take shape in the form of apps, data visualizations, videos, hardware solutions, and more. This year six global winners were selected in the categories of *Best Mission Concept*, *Galactic Impact*, *Most Inspirational*, *Best Use of Hardware*, *Best Use of Data*, and *People's Choice* from over 2,017 projects submitted.

Six winning Space Apps 2017 teams — from *Malaysia, Singapore, Taiwan, Russia, Cyprus*, and *Argentina* — were selected from the thousands of hackers who competed in the worldwide, 2-day competition. Ideas addressed a variety of life-on-earth challenges that include solar radiation risks, indoor pollution, tree sustainability, landslide detection, and mapping topography.

GALACTIC IMPACT: SINGAPORE'S RADAWAY!



2017 was the first year of participation for the winning team from Singapore, where there's a vibrant hackathon scene. Their team was not entirely formed until day one of the competition! Inspired by the public's lack of understanding about radiation sources and risks, they instinctively settled on creating a useful product for the Mayday challenge that would help them track radiation exposure. They were confident that their target group -- pilots, aircrew, and frequent flyers -- would have a strong interest in the product, which they named [RADAWAY](#).

Their approach was, according to project lead Martin Sawtell, “driven by design thinking and a user-centric methodology.” But the time crunch left barely any room for target group interviews or for validating their data and basic assumptions, such as those regarding flight radiation exposure, mortality risks, and solar event impact. A team member who had worked for the airline industry provided valuable domain experience. The team foresees creating an app as a minimum viable prototype to identify demand while also identifying possible development partners, preparing a business plan, and finding contacts among airline unions and health and regulatory groups. Always open to new sources and perspectives, the Singapore team greatly welcomes connections to other hackathon participants interested in solving problems related to radiation exposure.

BEST MISSION CONCEPT: TAIWAN'S SPACE BAR!

Another winning team of first-time participants, Space Bar, all former high school and college classmates in Taiwan, was also competing in the first regional round ever held there.

Because landslides are a common occurrence in Taiwan, the the When

Landslides Strike challenge had the greatest resonance for this group of friends. The foundation of their approach was empathy: they imagined themselves in the shoes of rescue teams, landslide researchers, and civilian experts, in addition to imagining the plight of landslide victims.

Their goal was to build a website that visualizes data from various sources, such as alerts issued, precipitation, and actual landslide measurements. By providing the public with an intuitive report system, rescue teams can obtain crucial updates about the disaster area.

Although challenged by difficulties with integrating different codes, their ability to share crucial knowledge helped them develop an idea that rose to the top of global judging-- an accomplishment that has fueled their interest and participation even more. The team hopes that their ideas and design may seed future projects and they are, to quote lead Thomas Mao, ***“always interested in collaborative opportunities with people concerned about landslides!”***



BEST USE OF HARDWARE: IVANOV, RUSSIA'S HALA!



The Hala team was in their third year participating in Space Apps. The team originally gathered in 2013 to work together in SocialQuantum and their hackathon friendship has remained strong over the years. The winning idea was inspired by their desire to create 3D with JavaScript and the 1D, 2D, 3D, Go! challenge.. They challenged themselves to “learn something new” as well as share their excitement about using NASA data to benefit our planet. The result is a holographic display for NASA Earth data.

A stumbling block was their inability to find the finished data with coordinates, but that didn’t stop them from winning. They are hoping to develop a prototype in a large, monolithic installation and want to add an API to display data and make the mapping dynamic. To move their idea along further, they are showing it to children in scientific circles as well as exhibiting at the Institute of Computer Science.

MOST INSPIRATIONAL: KUALA LUMPUR, MALAYSIA'S GROVR!



Participating in their first Space Apps, the winning four-person Maldivian team (which actually competed in Malaysia, where they attend university) were inspired to choose the LiveSmart challenge for improving sustainability because of personal experiences in Malé, their home country's capital. Centering their approach on Occam's razor concept that the best explanation is the simplest, they brainstormed to reach an "umbrella" problem of urban life that connected to other urban ills.

They arrived at indoor pollution as a root cause, one that remains largely unaddressed despite being linked to every known chronic disease. Leveraging NASA resources, they found a key study about the impact of indoor plants on air purification. This led to their winning idea: GROVR, a social game that guides and rewards decentralized vertical farming for a sustainable community.

They were surprised to be named a local winner despite losing a key team member the first night, almost missing the second trial, losing access to email, and creating their "beautiful video" amidst the panic! The team would love to see their work result in a widespread and popular app that positively impacts urban areas.

BEST USE OF DATA: BUENOS AIRES, ARGENTINA'S LEMON PY!

This was the first Space Apps for almost every member of the Buenos Aires team, SATrek, which was basically formed at the event. Once complete, they began pursuing many interesting ideas, all inspired by the untapped potential they felt would result by combining a Buenos Aires tree dataset with NASA open data. Their project, EarthTrek, is an interactive 3D web application that uses satellite imagery to better understand tree life cycles in the face of deforestation.



Their most difficult challenge was realizing the overwhelming complexity of the problems and possible solutions. They had much to learn not only about the trees, but also about satellite imagery acquisition, image formats, and metadata; then all needed to be condensed into a 30-second video. Their goal is to have a strong community of users mapping new trees and helping one another; next steps involve more research, learning new statistical and dispersion models, and pursuing funding

strategies.



GLOBAL PEOPLE’S CHOICE: LIMASSOL, CYPRUS’ NESTFOLD!

This was also the first Space Apps for the People’s Choice winners from Cyprus — all SEVENTEEN of them! Nestfold, the group of more than a people from various science backgrounds, formed a few days before the event then added another five members the first day. Their combined forces focused on natural disaster statistics, particularly

regarding impact on human life, and felt “it was our duty” to help in natural disaster protection and management — a sense of conviction inspired by a series of forest fires in Cyprus last year.

Their project, deployable Nestfold Capsules, can be air-dropped into areas suffering from natural disasters. To create the capsules, they needed to visualize and display the desired shape of an all-disaster shelter prototype that can withstand fire, flood, landslides, and quakes. In addition, they needed to find appropriate materials, identify optimal communications, and prepare a short video to explain their concept. As was the case for most Space Apps participants, they persevered despite time management difficulties over the course of two days.

Post-Space Apps, the Cyprus team is continuing extensive project research, and striving for individual self-improvement so they can all take their ideas to the next level.

Post-Space Apps, the Cyprus team is maintaining their award winning team spirit, continuing extensive project research, and striving for individual self-improvement so they can all take their ideas to the next level.

WHERE ARE THEY NOW?



L.I.V.E GLACIER



Unveiling their project at Space Apps Rome in 2016, L.I.V.E. Glacier provides near real-time information on glacier surface velocities and footprints, obtained by processing data from the Copernicus satellites, enriched with on-site photographs crowd-sourced through the tourist community. Now, the team has developed a new “IceKing” app, which applies these crowd-sourced photos to promote sustainable tourism on glaciers.

Following their success at Space Apps, the team won “Best Idea” (and €2,000) at Workshop Impresa Ricerca Economia, a pitch competition, as well as the European Space Agency’s (ESA) “Earth Observation Entrepreneurship Initiative” scholarship— funding of up to €15,000 towards the completion of a business plan and mock-ups. In 2017, they competed in the Global Social Venture Competition - Italian Round Romano Rancilio Award, where they qualified for the final round of the top 6 companies out of 122 contestants. In addition, they won the She 4 Imp(act) Award for the best team with a majority of female founders, an award consisting of a three-month incubation period at the ImpactHub Milan accelerator. Additionally, the team pitched their idea at a gathering of impact investors, and are working hard on securing funding for the next stages of development.

SCINTILLA

At the Space Apps Pasadena hackathon in 2016, the Scintilla team focused on developing the Scintilla system, an app which collects and relays real-time, local information about air pollution to users. The project won the global award for Best Use of Data, but the team's story didn't end at Space Apps weekend. After the hackathon, the group became affiliated with one of the Pasadena Space Apps sponsors, Supplyframe, who gave them a stipend to fully develop a working prototype. The team worked for four months to turn the Scintilla prototype into something real— an internet of things air quality sensor.



CANARIA

At Space Apps London 2016, the Canaria team built a wearable for astronauts to monitor carbon dioxide levels.

The prototype has since evolved into a biometrics measuring tool as well.

After Space Apps, the team

incorporated their company, worked on developing a working prototype and researched the space, medical and mining industry markets.

After much research the team decided to begin with advancing Canaria's development for the mining industry. Additionally, the Canaria team encountered a lot of enthusiasm for their device from the healthcare sector, where there's a lot of interest in recording patient vital signs efficiently. In addition, Canaria was voted one of the Top Ten Startups in Richard Branson's Extreme Tech Challenge in 2017.

KID ON THE MOON



Team Kid On The Moon is a diverse group of curious and creative minds who collaborated at the 2016 Space Apps Challenge in Toronto and were the global winners for Most Inspirational project. They developed an app to take kids on an interactive moon mission to inspire and engage the next generation of space explorers. The team members have individually gone on to develop their own creative projects, participate in other hackathons and maker events and continue to challenge themselves. Kid On The Moon's advice for Space Apps teams is to create with passion and vision, embrace working collaboratively and encourage and support each other

so that each teammate's unique skillset can enhance and contribute to the project — and have fun!

FRACTALNET

Fractalnet was named Best Mission Concept at Space Apps 2017. The idea now exists as a family of devices that use the protocols and services to link applications running on laptops, tablets, raspberry pi and other computer platforms and custom hardware into a dynamically deployable network of sharable data and devices. These devices and related software will soon be available to the public to use in both serious and fun scenarios. One of the next steps for Fractalnet is a field test in a real cave system! Stay tuned!



MARS HOPPER

Since Space Apps Challenge 2016, Mars Hopper has received a lot of attention and support from Ukrainian media including television, radio, and web. The team has visited a few large events, including Ukrainian IT Weekend and other small events, as speakers. The team is working to popularize space exploration in Ukraine and took a big part in organizing Space Apps 2017 in Ukraine. They believe that the success of Space Apps 2016 in Ukraine made a big impact on 2017's number of Ukrainian participants. Mars Hopper is optimistic about their prospects to continue to develop their ambitious project further, but is currently in search of more simple alternative projects to realize their potential.



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