Scene 1: Intro
Zack (voiceover): Hello I am Zack Yang of team 4 seeds **[on screen show team member list]**

Scene 2: Challenge
Zack: We chose the challenge “have seeds will travel”. NASA is trying to reach Mars by rocket. This is a long journey and the trip there alone can take up to 4 years. **[showing various scenes of space travel and mars]** This means that astronauts need a sustainable and nutritious food source.

Sections

1. (2) Introduce Yourself
2. (3) Lead Us In: What inspired your team to choose this topic and what is the topic?
3. (5) Name Your Solution: Name the title and tagline of the project. What problem does it solve? What do people gain? Where is the opportunity?
4. (10) Describe Your Idea: How does it work? Display image/prototype. Describe a user's experience. How did using data from one or more of the 10 space partner agencies make your solution possible?
5. (10) Look Into The Future: Paint a picture. What will your ideas change? Captivate your audience with what it could be. What can your solution do for people, the world, and beyond.

1. **[on screen show team member list]**
2. Our team chose the topic “have seeds will travel” to help scientists find innovative ways to solve food shortages on space missions.
3. We named our model InfiniPod. It creates opportunities for space travel with continuously regrowable crop capsules.
4. We utilized aeroponics with a compact spray nozzle including liquid nutrients to nurture our plant of choice, butterhead lettuce. The user may utilize the special folding shelf and ui for easy access to observe or collect the crops.
5. This solution is the future of crop cultivation and compact farming.
6. All the lettuces of tomorrow are in the seeds of today, 4 seeds, the future of cultivation

-shelf
-app

Hello! I am Helen from 4 Seeds. We chose the challenge have seeds will travel. We like food and wanted to help scientists grow crops while also utilizing our interest in engineering.

Our model is called InfiniPod. It is an aeroponics system that uses a closed water loop, which also reduces water usage by 98 percent, fertilizer usage by 60 percent, all while maximizing crop yields. Aeroponics is soil-free, which minimizes the resources and mass of this operation. Nutrient enriched water is misted onto the plant roots. Each aeroponic pod has water misters, plant holders, a drainage system, LEDs for light and heat, and multiple sensors to monitor activity.

Each pod will be mounted on a folding shelf. To make the best use of space, we made our design compact and space efficient, but we also provided the Option for the growth area to be visible for the crew, when desired. The shelves can expand by being pulled down, which provides easy access to the plants for harvesting, observation, and data collection.

In the back of the shelf, The main pump runs out from the water tank and into the individual shelves. Due to the absence of strong gravity, a drainage pump is present, it sucks the excess mist out of the shelves and back into the water tank to reprocess nutrients from the waste streams. Please note that There will be a pressure relief valve in the tank so that air sucked in by the pump will not cause the tank to explode. Any debris or pollution in the Water from the Drainage pump is filtered off through the reverse osmosis filter. Within the water tank, sensors collect data and notify users through our app for maintenance, inspection, or occasional refilling of nutrients and water.

Although our system is fully autonomous and self-sufficient requiring minimal care or interactions, our app lets you have maximum control of the environment in which the plants grow. There are temperature controls that can be used to change the temperature via LEDs. The sensors collect data on air pressure, water level, nutrient usage, and efficiency. There’s a social media platform in the app where you can ask questions or reply. It would be an open forum where Users around the world can grow food with our pods, share their experience, and better growth methods in community posts. We collect the data and analyze it to find better, faster ways to create healthier, more nutritious plants for our astronauts in space.

All the lettuces of tomorrow are in the seeds of today. Iinfinipod, the future of cultivation.

Note: Talk more about how we used data and resources (3d, nasa) to make our products instead.

Sumbimmion page include:

-50 micro spray nozzles
-High pressure relief valve
-sensor
-ui
diet
-reverse osmosis

-Fancy: automated touchscreen control interface.

-It is an aeroponics system that uses a closed water loop, which also reduces water usage by 98 percent, fertilizer usage by 60 percent, and pesticide usage by 100 percent, all while maximizing crop yields.
-We used many resources to design our model. Our research included radiation, GMOs, previous growers like Veggie or APH, gravity, and most importantly, aeroponics. Several softwares were used to create our product. Such tools includes Blender for detailed 3D modeling, VEX IQ for physical prototypes, Sketchbook for blueprints, and UXPin for making our UI.

[Reference for "**showing various scenes of space travel and mars**"]