I. Abstract

We want to make an underwater robot that can filter out the microplastics from the water and recycle them into usable things. We will have a GPS tracker so we know where the robot is in the lakes, coral reefs, oceans, and rivers.

The Life Savers

II. Description

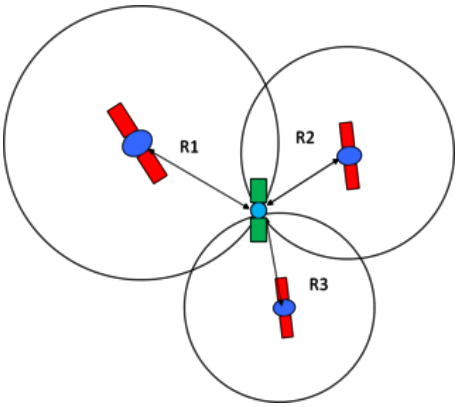
1. Present Technology

Today they have built an underwater rover, a floating device that can clean up the microplastics, that can withstand water and clean up all of the microplastics. Scientists have created tiny magnetic coins that break down plastics in the ocean.. There is a a special fabric that you go to the beach, and you pour the bucket of sand on the fabric and the sand falls through. The microplastics stay on the fabric and then they put the microplastics in a garbage can.

2. History

“GPS has its origins in the Sputnik era when scientists were able to track the satellite with shifts in its radio signal known as the "Doppler Effect." The United States Navy conducted satellite navigation experiments in the mid 1960's to track US submarines carrying nuclear missiles. In the early 1970's, the Department of Defense (DoD) wanted to ensure a robust, stable satellite navigation system would be available. DoD then followed through and launched its first Navigation System with Timing and Ranging (NAVSTAR) satellite in 1978. The 24 satellite system became fully operational in 1993.When selective availability was lifted in 2000, GPS had about a five-meter (16 ft) accuracy.”[1]

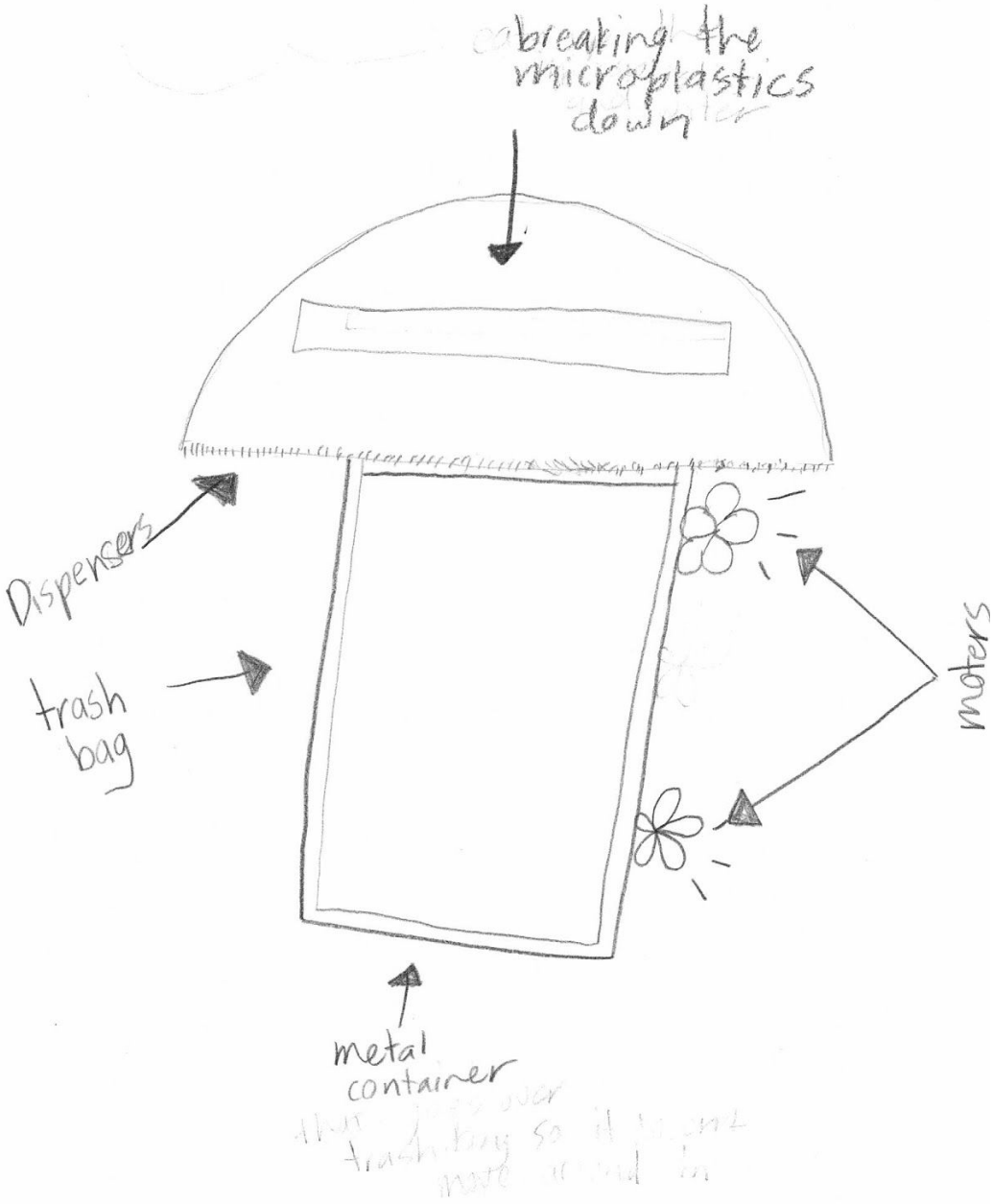
[1] https://www.nasa.gov/directorates/heo/scan/communications/policy/GPS_History.html



3. Future Technology

We want to make an underwater robot that will filter microplastics out of the water and be able to break down and make it into other useful needs. We will have a GPS tracker so we know where the robot is in the lakes, coral reefs, oceans, and rivers.

The Life Savers



4. Breakthroughs

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We need to produce a robot that can withstand salt water, lake water, filtered water, sea animals, the surface of the ocean,coral reefs. It has to be a robot that is strong enough that it does not get eaten by animals, get stuck in something, get caught in a fisher's net, get stuck in between rocks. If it dies in the middle of the ocean,river,or lakes that's bad. So we need to research a way to keep it charged so it does not die in the midle of the ocean. Because then we would not know where it is.

5. Design Process

We want to make a robot that fillters out the microplastics out of the ocean,because it is killing sealife.We figured out that there are microplastics in pretty muchevery thing like facewash, soap,water,pretty much every thing.

6. Consequences

I think people will like our project because it is going to help our environment in our oceans, lakes, coral reefs, rivers, us, but not just us people around the world it will also help because we can help things such as sea animals, birds and land animals. I also think people will like our project because we have everything we need to clean up the trash everywhere.but if we can do this we need all of this stuff on the robot but it cannot already have been an idea of someone.

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Problem- microplastics are affecting the ocean and are killing sea animals. They are also affecting us because sea animals are eating the microplastics and we are eating the sea animals so we have microplastics in our body.

Sources:They are trying to get microplastic out of: tea bags, clothes, face cream and lots more.

https://youtu.be/tG4AYagBz9Q

This is harmful because it causes animals to die and is harder for most animals to dig their food because it gets stuck in their stomach and is harder to process.

https://cs.stanford.edu/people/eroberts/courses/soco/projects/1998-99/robotics/history.html

III. Bibliography

https://www.nasa.gov/directorates/heo/scan/communications/policy/GPS_History.html

Web Image

https://news.scubatravel.co.uk/underwater-robotic-gliders-measure-ocean-sound-levels.html

http://www.divephotoguide.com/underwater-photography-special-features/article/documenting-marine-plastic-pollution-bali/

https://www.bbc.com/news/science-environment-43477233

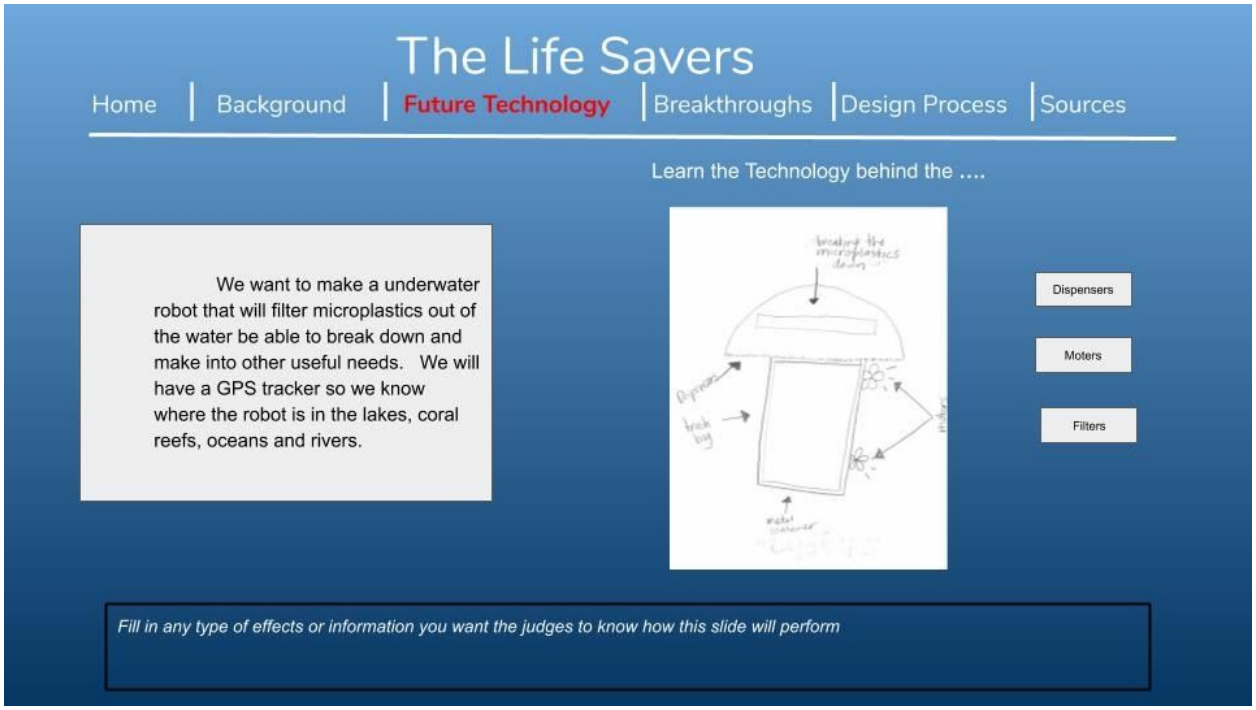
IV. Sample Web Pages

Page 1.

Page 2.


The Life Savers
Home | Background | Future Technology | Breakthroughs | Design Process | Sources
What's available today
Our Vision and limitations of today's technology
They have made a floating device that can clean up the microplastics in the ocean.
Scientists have created tiny magnetic coins that break down plastics in the ocean.
"George C. Devol in 1950 patent reprogrammable manipulator called Unimate,". Joseph Engleberger in 1960s he produced and marketed the robot.
This page features a video of our vision. If the buttons under "What's available today" is clicked, a pop up will appear and explain the topic and its limitation. The arrows will allow you to scroll to all the additional technologies that exist today.

Page 3.


The Life Savers
Home
Background
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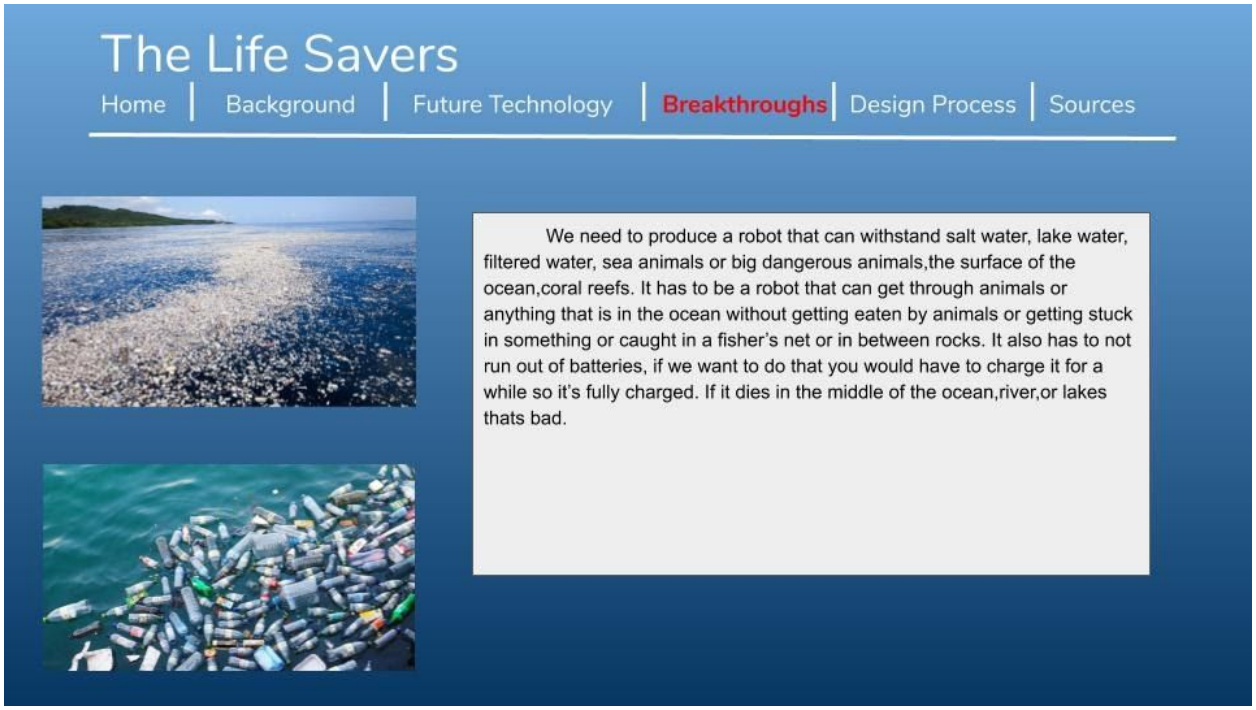
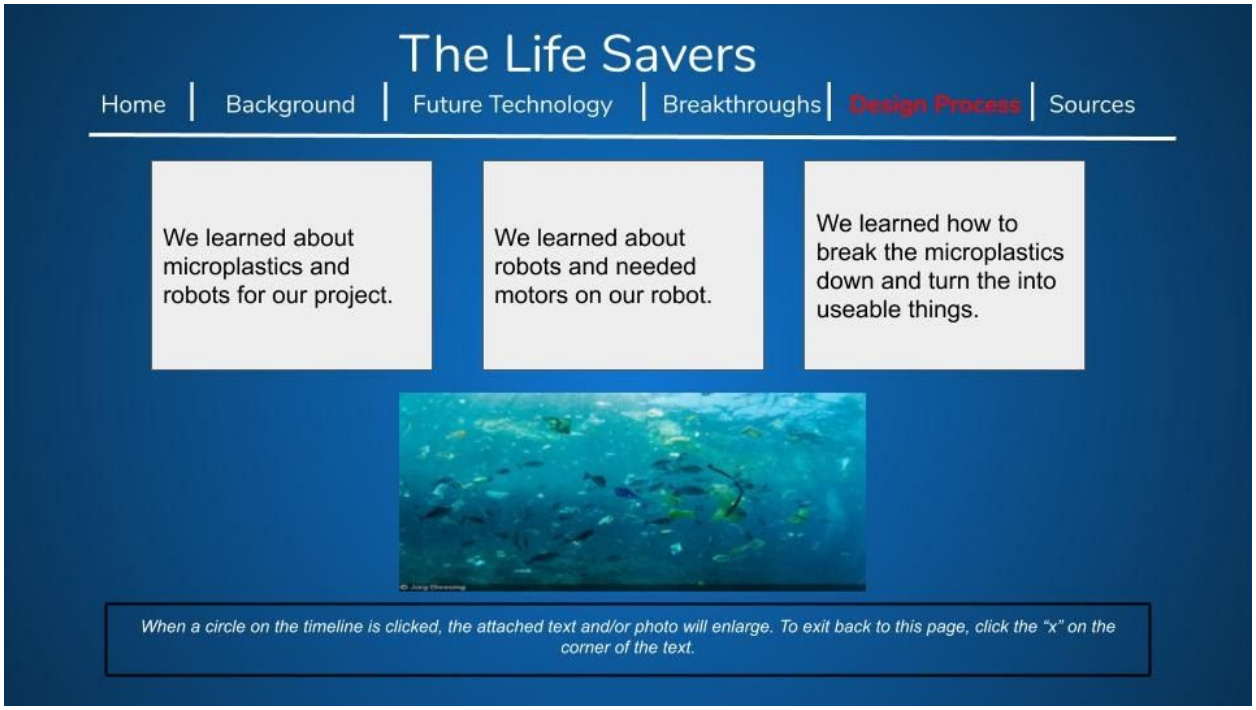
Learn the Technology behind the ....
We want to make a underwater robot that will filter microplastics out of the water be able to break down and make into other useful needs. We will have a GPS tracker so we know where the robot is in the lakes, coral reefs, oceans and rivers.
Dispensers
Moters
Filters
Fill in any type of effects or information you want the judges to know how this slide will perform

Page 4.


The Life Savers
Home | Background | Future Technology | Breakthroughs | Design Process | Sources
We need to produce a robot that can withstand salt water, lake water, filtered water, sea animals or big dangerous animals,the surface of the ocean,coral reefs. It has to be a robot that can get through animals or anything that is in the ocean without getting eaten by animals or getting stuck in something or caught in a fisher's net or in between rocks. It also has to not run out of batteries, if we want to do that you would have to charge it for a while so it's fully charged. If it dies in the middle of the ocean,river,or lakes thats bad.

Page 5.


The Life Savers
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We learned about microplastics and robots for our project.
We learned about robots and needed motors on our robot.
We learned how to break the microplastics down and turn the into useable things.
When a circle on the timeline is clicked, the attached text and/or photo will enlarge. To exit back to this page, click the "x" on the corner of the text.