



OCTACLEANER

PROBLEM STATEMENT

Rainfall and agricultural runoff contain water along with trash such as plastic, leaves, and muck. This pollutes waterbodies causing sedimentation. Sedimentation occurs when garbage and muck is collected at the bottom, reducing the water capacity over time. As a result, floods may occur (even if there is less rain). The waste also pollutes the water supply. There are a few machines that can clear trash up to a certain depth, but they can't clean waste deep within water bodies.

OCTOCLEANER is an underwater robot that can go deep into the water and collect trash from within.





Octa CLEANER

OCTOCLEANER is a drone that runs underwater. Biomimicry in engineering has influenced us. We were inspired by aquatic animals. The bodies of aquatic animals are streamlined. It lessens the friction caused by water. Octopuses are recognised for their gripping, while fish are known for their flexibility. OCTOCLEANER has fish-like movements and octopus-like trash-collecting systems.



Importance

There are products on the market that remove underwater muck and plastics, but they require a diver to go underwater for its operation, but our solution does not require a human to go underwater and is fully automated. Additionally, the robot is shaped to look like it belongs in the aquatic realm. Aside from that, we intend to make it as cost-effective as feasible

Features

- Long battery life
- Long tether range
- powerful LED lights next to the camera
- Very affordable
- Easy to use with just a smartphone
- Great at high pressures underwater
- very powerful headlamps
- Range of accessories available (robotic arm, sonar system, waterproof microphone)

Scalability

Our product is accomplished with the idea and design stage; however, we need to test it underwater. Apart from that, we aim to release an MVP to evaluate customer reaction and determine their needs and objections, and then we will completely release and promote our product.

Sustainability

Economic sustainability

This product is a one-time investment and has low maintenance cost when compared to other robots.

The robot will also be updated with the most recent technology in M.L and other areas required. The most components are repaired and reused. This can reduce the e-waste hence making it environment friendly.

Environmental sustainability

As we all know, marine life is vulnerable, and waste found at the bottom of rivers, lakes, ponds, and other water bodies contaminate the water, putting aquatic species' lives at risk. This applies to the “Life below water” sustainable development goal.

Most people, especially in developing nations, rely on rivers and lakes for drinking water. However, the water is not sanitary, putting people at risk of sickness. This corresponds to the “Clean Water Sanitation” sustainable development goal.

Natural disasters are becoming more common as a result of climate change. One of them is flooding; as previously said, trash accumulated at the bottom contributes to flooding. Our solution would ensure that this type of flooding (flooding caused by garbage) is minimised. This addresses the “Climate Action” goal.

Various parts of the product can be utilised even after it has reached its end. The majority of the components, such as motors, can be repaired and reused, while the rest can be recycled or repurposed... Some components can be used in the construction of recycled robots. This can reduce electrical waste

Target customers

It is targeted at non-profit organisations, governments, and individuals that want to improve the environment.

Applications

Our solution is applicable to rivers, lakes, and ponds. It can be used in both rural and urban regions. It is targeted at non-profit organizations, governments, and individuals that want to improve the environment.

cost

Potential cost is 65,000 Indian rupees and Maintenance cost is 5,000 Indian rupees

An underwater photograph of a coral reef. The left side of the image is dominated by a large, dense colony of brown, rounded coral polyps. Several small, silver fish with dark stripes are swimming around the coral. The right side of the image shows a more distant, darker blue area of the reef. The text "Thank you" is overlaid in the center in a large, white, sans-serif font.

Thank you