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PROTOTHON

Exhibit your Prototype

Title:

Removal of plastics in ocean using shark technology

Motivation:

In our day to day life we face many pollution problems that spread many diseases to the living organisms and aquatic organisms in the ocean also getting affected. The more plastics settled in the ocean will remain for decades. More than 800 crore kg of plastics per year are identified in the world record, in which India also has a vital part in pollution of ocean water. Around 34 lakh tones of plastics are collected in oceans surrounding our country. Due to this issue, around 10 crore aquatic organisms are died per year. Our main objective is to reduce the plastic wastages blending over the ocean water that cause more harm to the aquatic animals.

Problem Statement:

Discarding of the plastic waste must be tackled for the sake of all life in the ocean.

Societal Outreach:

It is the technology in India which we are going to implement and it is one of the positive start up idea for the environment and aquatic organisms. It will be definitely

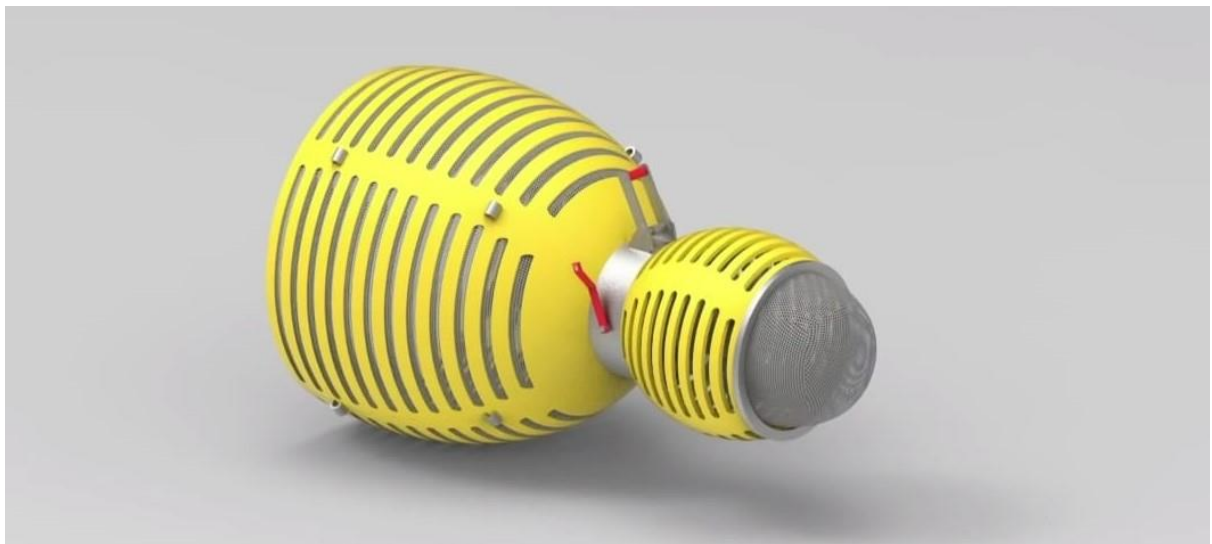
chosen by the government and municipalities for their betterment of their country. So it has an impact on the environment.

Innovative Solutions for the problem statement:

To overcome the problem, we propose a solution based on shark technology. The shark is the hero of our problem called as the Basking shark which is second largest shark in the world. Here the eating process of the basking shark has been taken as a base idea to overcome this issue.

Can you develop and demonstrate a Prototype/Simulation for your Innovative Solution?

Yes



3D blueprint model of our idea

Methodology:

This shark grows approximately 12 feet and the average size of this shark's mouth is 3 feet. Even though this shark size is this too big, it eats eggs and planktons only. Here the shark opens its mouth continuously under the water. The mouth of the shark acts as a filter, inside its mouth gill racers are present which looks like a slice. This slice

creates a spiral wave which creates a low pressure between water and gills in which the water gets filtered by gills and goes outside the shark through the slice and eggs and planktons directly go to the mouth of the shark.



Low pressure is created between the water and gills.

Technologies Used:

By using this same process, we are going to filter the water and store the plastics. Here the plastics represent the food in the above explanation. Here the large size of plastics is easily stored in the net bag and the small size of plastics which are getting stored in the small gap of slice are removed by opening a lever and these small size of plastics are also getting stored in the net. A weight sensor is placed bottom of the net bag and it detects the weight of the plastic and sends a warning message to the respective municipality corporation. The day by day plastics waste details are stored on the cloud database such that it helps to analyses the prominent area and take necessary precautions.

Challenges Encountered:

There are no municipalities particularly for oceans to maintain the quality of the water, thereby using this shark technology we can collect the plastics in the

ocean and it helps to maintain the quality of water. We are placing this technology in the estuaries and dams, in which it controls the speed of the water flow and collects the plastics. Most of the technologies may face the problem of collecting the small size of plastics, but here we have solved that challenge by using a mechanism called lever.

Expected Results/Outcome:

It will surely create a great impact on markets. Because using this idea, we can able to control the plastics which are stored in ocean. By using the weight sensor, it is easy to know how much amount of plastics are collected and By using GPS tracker, it is easy to navigate the product. Hence this can reduce the amount plastics in the ocean.

References:

[1]. THE HAGUE UNIVERSITY OF APPLIED SCIENCES NETHERLANDS, LONDON.