

A Survey of Solar Powered Water Trash Collecting Boat

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Abstract—Water is the basic need for all Mankind. However, in recent years various water bodies are being polluted due various causes. Either it may be due to human waste or in some cases; it can also be due to natural waste. These water bodies are polluted and cannot be used directly. The government has also taken many efforts for cleaning these water bodies.

Keywords— solar power,garbage collector boat,trash

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I. INTRODUCTION: -

Water is the most important resource for living things. So, the cleanliness of water is a basic need. But water bodies get polluted by us. For constantly growing water pollution inside the all the water resources that which come inside human touch and beneficial to the people for many reasons. That is an important issue for our society that water needed for every motive to humans safe, clean and without pollution. But the lack of equipments and the cost of pollution controlling equipments, it becomes very difficult to make rivers garbage and pollution free for this motive the river cleaning a system is designed. Floating bottles, plastic bags and even toys have become a part of the marine environment in these recent times. Pitiful photos of such plastic debris washed ashore on the remote shorelines have frequently made headlines in news. Most of this plastic pollution is attributed to an increase in tourism, shipping, and fishing activities, etc.

II. SURVEY OF PAPERS: -

Viki Tayade, Prabhat Dodmise, Sagar gawade, Shital Gawade “Solar Powered Floating Water Trash Removal Boat”[1].The projects uses solar power, which is free of cost. The boat will get charged by absorbing the solar energy and stores it into the battery. The solar energy gathered will run the complete functions of the boat to remove the trash from the water.Design & Fabrication of Automatic Drainage Cleaning System using Solar Panel.Author Mragank Sharma, Shahbaz Siddiqui have introduced this system Automatic Drainage Water Cleaning overcomes all sorts of drainage problems and promotes blockage free drains promoting continuous flow of drain water. The proposed system is then used to clean and control the drainage level using an auto mechanism technique.

Shalini, Priyanka, Prof. Neha Rai, Prof. Jayesh Rane “Design of Solar Power Water Trash Collector”[2].In this project, the floating water waste extractor is used for removing waste debris in water bodies. System consists of mechanism for lifting waste debris from the surface of the water bodies.It consists of belt driver mechanism. This is a remotely controlled machine. The system works on solar power during daytime and during the night time it can operate on a battery.

Nurul Anis Syahira, Ili Najaa Aimi, Dalila Misman,Nurulaqilla Khamis “Development of Water Surface Mobile Garbage Collector Robot”[3]In this paper, a water garbage collector prototype was proved to be able to collect garbage on the water and partially immersed in the water’s surface. After several experimental setups, water garbage collector was successfully controlled using smartphone application MIT. The navigation of the robot is controlled using wireless Bluetooth communication from a smartphone application.

Ketan H. Pakhmode, Ronit R. Dudhe, , Gangadhar.S.Waghmare,Daniyal.A.Kamble “Solar Powered Water Surface Garbage Collecting Boat”[4].In this project,The boat totally works on solar power, which is free of cost. This boat will not require any external supply of energy so it saves the money. In day time the boat will

store the energy with the help of sunlight which falls directly on the solar panel and at night time the boat will start working and collect the waste.

S. Malavika, S. Meena, E. Indhumathi, M. Nandhini, S. Srinivasan “Solar Operated Water Trash Collector” [5] This paper presents a proposal for a Remote Controlled Solar Powered Water Trash Collector. As we probably are aware of all metropolitan water bodies being contaminated and are used for discharging untreated sewage and solid waste. The mobile application is connected to the google firebase through the IP address to communicate the signals between the microcontroller and the mobile application. When the robot moves, the waste will be trapped within the mesh type container, when the container is filled with waste and is removed from the robot and fixed after the removal of the trash.

Amruta Khot, Shreya Kamble, Sanghamitra Gaikwad, Gauri Chavan” Solar Based River Water Garbage Collector” [6] In this project the proposed concept is to reduce the human effort in debris cleaning in water bodies by an automated system. The designed project is very economical, easy to operate and helpful for water cleaning and can be modified with more cleaning capacity and efficiency. The choice of raw materials helped us in machining of the various components to very close tolerance and thereby minimizing the level of balancing problem.

Raja Lekshmi R. S., Roniya R., Albin Yesudasan, Rahul T, Vinitha B. Elza “Solar Powered Floating Trash Collector with Water Purifier” [7] This paper emphasizes on the design and fabrication details of the river waste cleaning machine. The work has done looking at the current situation of our national water bodies which are dumped with crores of litres of sewage and loaded with pollutants, toxic materials, debris etc.

Prof Ketan, Mr. Abhijeet. M. Ballade, Mr. Vishal S. Garde, Mr. Akash. S. Lahane and Mr. Pranav. Boob “Design and fabrication of the river cleaning system” [8] In his paper, it was discussed that the river clean-up machine removes the waste debris from the water surface and safely disposes it. It works on hydropower to extract wastewater debris, plastics, and garbage from the Godavari River at Nashik. The main objective of the project was to cut manpower, and time required for cleaning the stream. Energy stored within the battery is used for the assistance of a motor and conveyor arrangement.

Aishwarya N A, Arpitha M, Chaithra K, Chira Shankar, Navyashree D, ‘Detection and Removal of Floating Wastes on Water Bodies’ [9] With the increase in population, the scenario of cleanliness concerning waste management is degrading tremendously. This project aims at detecting floating wastes in water efficiently using infrared sensors and cleaning. The information of every action taken is sent to the corresponding authority through GSM. The project is implemented for flowing and stagnant water. The main advantage of the project is that the people of the control station need not have to go to every nook and corner to clean garbage, instead they can monitor it from one end easily. Finally, the water bodies will be free of all floating wastes, and the sanity of the river, and its dependent living beings will be safeguarded.

Manoj Rathod, Vasant Pund, Rahul Pungle, Jiwan Rathod “Automatic Floating Waste Collector” [10] The project consists of a machine to minimize the human effort to clean lakes and use automated system. They have merged all the systems of Mechanical, Electronic and Computer into one machine, which cleans floating wastes. This type of mechanism is simple in design and also very easy to use.

VIII. CONCLUSION

A simple and cost-effective water cleaning Mechanism and is generally intended to support water trash cleaning and eliminating water contaminations like plastics, wastes, water trash which is coasting on stream and surface of water bodies like lakes, rivers, seas, etc. It is done to keep up human wellbeing and expand the existence of sea-going living beings. Solar based trash removal systems will successfully replace manual drainage cleaning ways. So, it is economical and efficient using solar energy. This type of system is designed and fabricated successfully it works satisfactorily. The water trash Collector concept can prove to be a helping hand in controlling the increasing problem of water pollution. It will also greatly reduce the problems caused by floating waste.

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