Abstract

Title: Portable River Cleaning Robot

Introduction: Water pollution is a significant environmental issue affecting rivers worldwide. To address this problem, we have developed a Portable River Cleaning Robot designed to efficiently collect and remove waste from river surfaces. This innovative device, built using recycled materials, offers an eco-friendly solution to maintaining cleaner waterways.

Objective: The primary objective of our project is to create a remote-controlled river cleaning robot that can navigate through water, collect floating rubbish, and transport it to an onboard bin. The robot aims to reduce water pollution, conserve aquatic ecosystems, and provide an alternative to conventional, energy-intensive cleaning methods.

Design and Functionality: The robot features four motors acting as propellers, enabling smooth and balanced movement through the water. A remote control system allows for precise navigation, with a driver mechanism at the back directing the robot left and right. At the front, a net gathers floating rubbish, which is then moved to a bin by a caterpillar wheel system. This continuous collection process ensures efficient waste management.

Materials: Our robot is constructed from recycled materials, emphasizing sustainability and environmental responsibility. The use of such materials not only reduces waste but also demonstrates the potential for repurposing discarded items into functional and beneficial technologies.

Future Enhancements: To further improve the functionality of our river cleaning robot, we plan to integrate a camera system for remote monitoring. This enhancement will allow operators to control the robot more effectively from a distance, especially in hard-to-reach areas or during adverse weather conditions.

Conclusion: The Portable River Cleaning Robot represents a significant step towards addressing water pollution in rivers. By utilizing recycled materials and incorporating innovative design features, we have developed a device that is both environmentally friendly and highly effective in cleaning river surfaces. Our project showcases the potential of sustainable technology in environmental conservation efforts, aiming to create a cleaner and healthier future for our waterways.