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Innovating Waterborne Cleanup with Remote-Controlled Debris Collection

Ranjeet Kadu[1], Anap Shubham[2], Jadhav Komal[3], Randhav Vrushali[4]
Department of Electronics and Telecommunication Engineering[1,2,3,4]
Pravara Rural Engineering College, Loni, Maharashtra, India

Abstract: *This project is about making a boat that can be controlledfrom a distance. The boat will have different parts and tools that are controlled by a small computer called the ATmega328P microcontroller. The boat will be able to pick up garbage from the water and change its direction using the microcontroller. The microcontroller will also beable to communicate with a remote control through Bluetooth, which will help the boat navigate accurately and collect garbage effectively. This project revolves around the development of a remotely controllable boat equipped with various components managed by the ATmega328P microcontroller. The primary goal is to enable the boat to perform tasks such as debris collectionand directional adjustments, all orchestrated by the microcontroller. Bluetooth connectivity will be employed to establish seamless communication between themicrocontroller and a remote-control interface. This integration will enhance the boat's precision in navigationand its efficiency in collecting debris. Furthermore, acamera system will be incorporated for real-time monitoring and control, ensuring the effective utilization ofthis versatile waterborne device. In summary, thisabstract highlights a multifunctional boat project that leverages advanced technology for remote control, debris collection, and monitoring, promising valuable applications in environmental clean-up and water resource management.*

Keywords: Boat, Remote Control ATmega328P Microcontroller, Debris Collection Navigation, Water Clean-up Remote Control Interface, Garbage Collection

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AUTHORS

- First Author – Shubham Anap, BE Electronics & Telecommunication, Pravara Rural Engineering College, shubhamanap02@gmail.com
- Second Author – Komal Jadhav, BE Electronics & Telecommunication, Pravara Rural Engineering College, jadhavkomal9763@gmail.com
- Third Author – Vrushali Randhav, BE Electronics & Telecommunication, Pravara Rural Engineering College, vrushalirandhav@gmail.com