Project Title

SMART WATER TANK CLEANING MACHINE

Problem Statement

Clean drinking water is essential in schools, yet many store water in tanks that are rarely cleaned. Over time, dirt, algae, and germs build up inside and make the water unsafe for students and teachers. Manual cleaning is hard, risky, and time consuming, so tanks are often neglected and contaminated water is used daily. Schools need a simple, low cost, automatic tank cleaning method that works without sending people inside. Regular machine cleaning can save time, lower health risks, and ensure safe water for everyone each day. This protects students and supports healthy learning at school.

Team Members

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Project Team - Civil



TEAM 3- APJ ABDUL KALAM

SDG 4 – Quality Education

SDG Goals

SDG 9 – Industry, Innovation and Infrastructure

Solution

The solution is to develop a simple automatic water tank cleaning machine using an Arduino Uno to keep school water storage safe and hygienic. The machine is designed to clean the inside of a tank without any person entering it, reducing risk and effort. It uses a small motor connected to a rotating brush that scrubs the tank walls and bottom surfaces to remove dirt and biofilm. A water pump sprays clean water to flush out loosened dirt, algae, and germs. The Arduino controls the operation, deciding when the motor and pump switch on and off in a proper sequence. Water level sensors ensure the system runs only when conditions are safe and suitable. Cleaning can be started by pressing a button or scheduled to run automatically at fixed intervals. This approach saves time, reduces manual labor, and avoids dangerous cleaning practices.



