Water Pump Wireless Monitoring and Control System

Asif Ansari[1], Girish Rane[2], Pushkar Shinalkar[3], Dr. Bhausaheb Shinde[4,5]
Students, Department of Electronics & Telecommunication Engineering[123]
Project Guide, Department of Electronics & Telecommunication Engineering[4]
Project Coordinator, Department of Electronics & Telecommunication Engineering[5]
Dhole Patil College of Engineering, Pune, India

Abstract*: This project presents the development of a wireless monitoring and control system for a water pump, utilizing the Raspberry Pi PicoW microcontroller along with various sensors and a relay module. The system incorporates an Ultrasonic Sensor for water level detection, a DHT11 sensor for monitoring temperature and humidity, 5V Submersible Water Pump, and a Soil Moisture Sensor for assessing soil moisture levels. The primary objective is to achieve full automation of the water pump system, enabling users to remotely monitor and control it from any location. Through the integration of these components and wireless connectivity, users can effectively manage water resources, optimize irrigation processes, and respond promptly to changing environmental conditions. This project not only enhances convenience for users but also contributes to efficient water usage and conservation efforts.*

Keywords: Wireless Monitoring, DHT11, Relay, Wireless Remote Control, Water Pump Control System, Ultrasonic water level indicator.