IoT-based water level indicator and controller

Abstract:

This p This paper presents the design and implementation of an IoT-based water level indicator and controller utilizing NodeMCU ESP8266 and ultrasonic sensor technology. The system aims to provide efficient monitoring and management of water levels in tanks or reservoirs. The NodeMCU ESP8266 serves as the microcontroller, facilitating data processing and IoT connectivity. An ultrasonic sensor is employed for accurate and non-contact measurement of water levels. The architecture enables real-time monitoring of water levels through a user-friendly interface accessible remotely. Users can leverage this interface to control water flow, ensuring optimal usage and conservation. The proposed system offers significant benefits in terms of water resource management and environmental sustainability. Potential applications include agriculture, residential water management, and industrial processes. This study underscores the potential of IoT-based solutions in addressing critical challenges in water management. Keywords: IoT, water level indicator, water level controller, NodeMCU ESP8266, ultrasonic sensor, remote monitoring, water management, sustainability.aper presents the design and implementation of an IoT-based water level indicator and controller utilizing NodeMCU ESP8266 and ultrasonic sensor technology. The system aims to provide efficient monitoring and management of water levels in tanks or reservoirs. The NodeMCU ESP8266 serves as the microcontroller, facilitating data processing and IoT connectivity. An ultrasonic sensor is employed for accurate and non-contact measurement of water levels. The architecture enables real-time monitoring of water levels through a user-friendly interface accessible remotely. Users can leverage this interface to control water flow, ensuring optimal usage and conservation. The proposed system offers significant benefits in terms of water resource management and environmental sustainability. Potential applications include agriculture, residential water management, and industrial processes. This study underscores the potential of IoT-based solutions in addressing critical challenges in water management. Keywords: IoT, water level indicator, water level controller, NodeMCU ESP8266, ultrasonic sensor, remote monitoring, water management, sustainability.

Components:

Ultra sonic sensor

Node mcu esp8266