

INTISARI

Penelitian ini bertujuan untuk mengembangkan sistem monitoring kelayakan air minum agar sesuai dengan standar baku mutu air minum menurut kementerian kesehatan. Metode prototype digunakan pada penelitian Rancang bangun prototype alat monitoring kelayakan air minum isi ulang berbasis Internet Of Thing (IoT) dengan parameter pH, TDS, dan Suhu. Penelitian ini berhasil mengembangkan alat monitoring air minum isi ulang dengan metode prototype menggunakan parameter pH, TDS, dan suhu. Alat ini dioptimalkan melalui integrasi dengan mikrokontroler WeMos D1 Mini Pro, yang memungkinkan konektivitas internet dan pengiriman data ke server ThingSpeak untuk pemantauan jarak jauh. Faktor-faktor penting seperti kalibrasi sensor, perawatan sensor, dan kondisi lingkungan diidentifikasi sebagai kunci keberhasilan pengukuran. Penelitian yang dilakukan pada studi kasus di Lembaga Pendidikan Istiqomah Sambas Purbalingga (LPIS). Hasil data yang di baca oleh sensor-sensor yang dipakai cukup baik, alat juga dapat mengirimkan data ke server ThingSpeak dan dapat di tampilkan pada Web Browser dan perangkat seluler. Hasilnya, alat ini dapat bekerja dengan baik dan menawarkan solusi praktis yang dapat diimplementasikan secara luas

Kata kunci: Alat monitoring kualitas air, Internet Of Thing(IoT), Sensor pH, Sensor TDS, Sensor Suhu, Air minum isi ulang

ABSTRACT

This research aims to develop a system for monitoring the suitability of drinking water so that it complies with drinking water quality standards according to the Ministry of Health. The prototype method was used in the research to design a prototype for monitoring the suitability of refillable drinking water based on the Internet of Things (IoT) with pH, TDS and temperature parameters. This research succeeded in developing a refill drinking water monitoring tool with a prototype method using pH, TDS and temperature parameters. The tool is optimized through integration with the WeMos D1 Mini Pro microcontroller, which enables internet connectivity and data delivery to the ThingSpeak server for remote monitoring. Important factors such as sensor calibration, sensor maintenance, and environmental conditions were identified as key to successful measurements. Research conducted on a case study at the Lembaga Pendidikan Istiqomah Sambas Purbalingga (LPIS). The results of the data read by the sensors used are quite good, the tool can also send data to the ThingSpeak server and can be displayed on WebBrowsers and mobile devices. As a result, this tool can work well and offers a practical solution that can be implemented widely.

Keywords: water quality monitoring equipment, Internet of Things (IoT), pH sensor, TDS sensor, temperature sensor, refillable drinking water.