ABSTRACT

Water is a chemical compound that is very important for living things on this earth. The function of mineral water for human life cannot be replaced by other compounds. One of the main benefits of water is as mineral water needed by the community for daily needs. Along with the development of the number and mobility of the population, the need for mineral water is increasing. To ensure that it can be used for needs, quality monitoring must be carried out continuously. Therefore we need a tool that can monitor the quality of mineral water in real time.

This study aims at designing mineral water quality test equipment using the fuzzy logic algorithm method that is equipped with a pH sensor, TDS sensor, temperature sensor, LDR sensor, LCD, wifi module. The results of testing the quality of mineral water can be seen on the webpage www.thingspeak.com. The water tested is 5 areas around Bandung and Telkom University Dormitories.

The test results of the tool, namely the design, implementation and analysis of the system of mineral water quality has been carried out using the fuzzy logic algorithm method to produce an average value of the sensor pH 10,2, TDS sensors 320,6 ppm, temperature sensor 24,4 ^{o}C, and resistance from the LDR sensor 130,5 Ohm for daylight while at night 940,8 Ohm and testing the quality of mineral water has used MATLAB software where this simulation produces binary value 1 for mineral water and binary 0 for non water mineral. The accuracy of the mineral water quality test equipment reaches 80% seen in the calibration results and the percent error value during testing.

Keywords: Mineral Water, pH, LDR, Conductivity, Temperature, IoT