

ABSTRACT

The use of fuel oil (BBM) at gas stations has certainly become a necessity for many people. This is a problem that occurs in the gas station monitoring system. The process of monitoring the discharge and volume of oil in the SPBU underground tank is inefficient and ineffective. So that a monitoring system is needed that can facilitate the provision of information in the gas station's underground tank. Monitoring that is done is for the use of the fuel and the temperature in the underground tank. Temperature monitoring is necessary because if the temperature is too high, the fuel in the tank can expand which causes the fuel in the underground tank to decrease.. By using the concept of the Internet of Things (IoT), a device will be able to send and receive data via the internet network. This monitoring system is built using the ESP8266, ultrasonic sensor, and Dallas sensor. Data communication that will be used as data exchange uses Wi-Fi, while the monitoring process used is using the platform from the App Inventor. With this system, it is hoped that the fuel monitoring process in the gas station storage tank will be more efficient and effective. With this system, it is expected that the process of monitoring the fuel in the gas station reservoir will be more efficient and effective. The results of system testing are that both sensors are able to read well. The average accuracy of the ultrasonic sensor is 0.3%, while the Dallas sensor is 0.16%. For QoS results, each parameter has an average measurement result. At throughput of 11743.07 bit/s, the delay for each packet is 0.16 s. Meanwhile, packet loss has a preset of 0%.

Keywords : BBM, SPBU, Monitoring, Internet of Things