ABSTRACT

The crime rate or fraud at Public Refueling Stations (SPBU) continues to increase due to three factors that affect the occurrence of fraud at gas stations, first there is pressure. It generally occurs due to the individual behavior of gas station operators who commit fraudulent acts, which is caused by the pressure of financial problems (economic needs). Secondly, there is an opportunity or opportunity, a person commits a fraudulent act, due to the lack of effective supervision of the gas station apparatus. Third, Rationalization occurs because a person seeks justification for his activities that contain fraud So that a tool is needed to monitor the amount of fuel oil volume that enters the vehicle tank.

In this final project, researchers created a method to monitor the amount of fuel oil volume and location tracking using Water flow sensors and a Neo-6M GPS module integrated with smartphones and the Web. Then the community or the government can monitor.

This study succeeded in designing an internet of things (IoT) based fuel filling monitoring system to overcome fraud when filling fuel by testing if the valve/nozzle angle is changed (10°, 20°, 30°, 40°, 50°) with the same charging travel time. From the results of this test, it shows that there is a difference in water discharge from each valve / nozzle angle that is changed, thus affecting the final volume result. Based on the results of the calibration results of the Water flow sensor with the first type of fuelx shows an average value with an accuracy of 99.995% when compared to the standard Fuel Measuring Pump at gas stations with the tatsuno type which has an accuracy level of up to 99.998% , while the calibration of the GPS module, the difference in the shift in the distance of the coordinate points of the GPS module compared to the difference in the shift in the distance of the coordinate points on google maps which shows the average shift in the NEO-6M Module GPS is 10.47 meters while on google maps it is 21.39 meters. Meanwhile, the tester sent data and the delay at the time of the test showed a constant value of 1.09 seconds.

Keywords: , fuel oil, Neo-6M GPS module, Water flow sensor