ABSTRAK

Sepeda motor merupakan kendaraan yang banyak digunakan oleh masyarakat indonesia, kebutuhan akan perawatan sepeda motor guna menjaga kondisi sepeda motor dalam keadaan baik memicu banyaknya bermunculan bengkel baik secara resmi maupun tidak, namun dalam proses service ataupun tunning kondisi sepeda motor tidak diketahui secara terukur, oleh sebab itu di buat alat akusisi data kondisi kesehatan kendaraan sepeda motor yang dapat memonitoring kondisi kendaraan sepeda motor secara terukur sehingga dapat membantu dalam melakukan analisa untuk pengembangan dan perawatan sepeda motor. Alat ini dapat mengukur suhu mesin, emisi gas buangan CO, bensin level, tegangan baterai, kecepatan, dan jarak tempuh, dengan menggunakan sensor suhu MXL90614, MQ-7, Pelampung bahan bakar, sensor tegangan DC, dan sensor FC-03. Kemudian di proses menggunakan mikrokontroler arduino UNO dengan komunikasi pengiriman data menggunakan internet GPRS modul GSM SIM 900 sihingga dapat di tampilkan pada aplikasi blynk. Dari hasil pengujian di dapatkan hasil pengukuran dengan tingkat persentase error yang cukup baik, pada pengukuran suhu mesin rata-rata persentase error 0,07%, pada pengukuran emisi gas buangan CO rata-rata persentase error 0%, pada pengukuran tegangan baterai rata-rata persentase error sebesar 0,48%, pengukuran bensin level lebih akurat karna di tampilkan dalam persentase, pada pengukuran kecepatan rata-rata persentase errornya 2,91% dan pada pengukuran jarak rata-rata persentase error 2,44% .

Kata Kunci : Akuisisi Data, Arduino Uno, Blynk, Monitoring, Sepeda Motor

Abstract

Motorcycle is a vehicle that is widely used by the people of Indonesia, the need for motorcycle maintenance in order to maintain the condition of the motorcycle in good condition triggers the number of workshops appearing both officially and not, but in the process of service or tunning the condition of the motorcycle is not known measurably, because it was made for the acquisition of motorcycle vehicle health condition data that can monitor the condition of motorcycle vehicles in a measurable manner so that it can assist in conducting analysis for the development and maintenance of motorcycles. This tool can measure engine temperature, CO exhaust emissions, gasoline level, battery voltage, speed, and mileage, using temperature sensors MXL90614, MQ-7, fuel float, DC voltage sensor, and FC-03 sensor. Then it is processed using the Arduino UNO microcontroller with data transmission communication using GPRS GPRS GSM SIM 900 internet so it can be displayed on the blynk application. From the test results obtained measurement results with a fairly good percentage error rate, measurement of the average engine temperature percentage error 0,07%, measurement of CO exhaust emissions an average percentage error 0%, measurement of the average battery voltage percentage error 0,48%, measurement of gasoline level is more accurate because it is displayed as a percentage, measurement of the average speed of error percentage is 2,91% and on the measurement of the average distance of error percentage is 2,44%.

***Keywords**: Arduino Uno, Blynk, Data Acquisition, Monitoring, Motorcycle*