ABSTRACT

In Indonesia, the most common means of transportation on the roads today is the motorcycle. Motorcycles in this era are already equipped with engines that use injection technology and therefore are equipped with an Engine Control Unit (ECU). Each component in the injection engine has its own sensor, and the data from these sensors are then sent to the ECU.

In this final project, a monitoring system was designed to collect data from the motorcycle, including speed, coolant temperature, and throttle position. The system is connected to the Internet of Things (IoT) through the Blynk platform. The data obtained from reading the sensors is read by the ECU and then sent to a microcontroller via the On Board Diagnostic-II (OBD-II) socket. The data can then be displayed on a smartphone using the Blynk Apps.

The system was tested to evaluate the quality of the data received. The testing results showed that the accuracy of speed readings by the system compared to the motorcycle's speedometer was 86.4%. Network traffic testing was also conducted, and the error rates found were 10% in the morning, 13.3% in the afternoon, and 23.3% at night. Furthermore, testing the distance in relation to network quality resulted in error rates of 5% at 5 meters, 35% at 10 meters, and 87.5% at 15 meters.

***Keywords**: ECU, OBD-II, IoT, Smartphone.*