

ELECTRIC SMART SCOOTER PARAMETERS MONITORING SYSTEM USING THE INTERNET OF THINGS BASED DATA PARSING METHOD

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ABSTRACT

Electric scooters have now been circulating quite a lot in Indonesia. However, the average electric scooter currently available is not yet integrated with a smartphone, so it cannot be monitored remotely in real time to make it easier for owners to find out the condition of their scooter. So in this study the authors developed a parameter monitoring system for electric smart scooters using the Internet of Things (IoT)-based data parsing method. The system to be created aims to provide information on the condition of scooters to owners based on an Android application in real time. The ATmega2560 microcontroller is used as an input and output data processor and the NodeMCU ESP8266 is used as an IoT device that sends parsed data to firebase. Electric bicycle propulsion uses a 500 Watt MY1016 DC motor with a 24 Volt voltage. The process of monitoring electric smart scooters is carried out by building an Android smartphone-based application using the codular web. This application is able to turn on and turn off the electric scooter remotely, monitoring the speed of the scooter, estimated distance traveled, battery temperature, load current, battery percentage and battery voltage. The system has the ability to read conditions and data with a fairly good average error rate, including current sensor 0.97%, voltage sensor 0.04%, speed sensor 7.7%, battery percentage data 0.51%, temperature sensor 0.80%, and data on the distance traveled is 0%.

Keywords: *Smart Electric Scooter, Internet of Things, Kodular, ATmega2560, Data Parsing, NodeMCU ESP8266*