

ABSTRACT

This final project focuses on the development of a prototype tool for the Internet of Things-based Safety Driving Intelligent Alarm System using Nodemcu Esp8266 based on the author's research on the level of motorcycle driving accidents. The purpose of this research is as a simulation material as well as a system that is beneficial for the integrity when driving motorcycles in order to prevent the occurrence of traffic accidents and reduce the number of accidents, Understanding how ultrasonic sensors and nodemcu esp8266, as a device to give warning about the safe driving distance, understand connecting the spemcu spem266 with an application connected to the driver as a means of information by implementing the concept of IOT. The method used in this study is a direct research method or field survey with observation. In the discussion is done in a descriptive way, that is, by method of describing the situation that happens in the field. After conducting research and through the phase of planning, prototyping, and testing of the device, the conclusion was reached that the Internet of Things-based Driving Safety Intelligent Alarm System using the Esp8266 can detect the vehicle behind or in front of the alarm via the ultrasonic sensor and can know how the sensor works. The sensor uses ultrasonic waves (ultrasound) to detect the distance of an object, then the Esp8666 receives and processes the data sent by the ultrasound sensor which will be used as a command to activate the buzzer as the output. When a trig pin is in a high state, the trig pin will send eight sound waves where the sound wave is worth 40 KHz. Then the voice wave will be received by the echo pin as a receiver and will be calculated using the distance equation.

Keywords: prototype, nodemcu esp8266, motor, ultrasonic sensor, alarm, accident, safety, laptop.