

ABSTRACT

DESIGN AND IMPLEMENTATION OF VEHICLE ACCIDENT DETECTOR AND LOCATION REPORT SYSTEM USING MICROCONTROLLER

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The increasing number of motorized vehicle users has its own consequences, namely the increasing number of road accidents. In some cases, accidents occur without no one nearby to notice the accidents, so it is too late for the victim to get help. Based on these problems, this study aims to build a tool that can detect accidents using accelerometer sensors and gyroscope sensors. The built tool is also capable of sending accident notifications containing the location of the accident when an accident occurs via the Signal messaging service, so that it can speed up the stimulation of accident information to the victim's family, so that the victim's family can take further action. In this research, an accident simulation test is carried out using a remote car to get the minimum g-force value when an accident occurs and the transport slope to get the angle of inclination when an accident occurs on a two-wheeled vehicle. It was found that an accident was detected by the occurrence of a collision which resulted in a g-force of 7.22g on four-wheeled vehicles, and a slope of less than 32 degrees on two-wheeled vehicles. Crash notifications containing Google Maps links were also sent successfully.

Keywords : Accelerometer, Accidents, Gyroscope, Detector, NodeMCU