ABSTRACT

The development of motorcycle security system technology that is currently available is not enough to reduce motorcycle theft rates, because the security system is not equipped with GPS, so if the vehicle is lost it cannot be tracked. In order for the community to be easier in maintaining the security of motorcycles, it is necessary to create a security system that has GPS technology in it. The research objective to be achieved in this study is to design a motorcycle security system using GPS technology and analyze GPS performance by testing the accuracy of its coordinates. In this experiment, the delay time is used to set the delay time that is most appropriate for Arduino Uno to retrieve data on the server. Then also performed accuracy testing by comparing it with GARMIN 64s. Subsequent testing is carried out by measuring the difference in distance between the previous coordinate points and the coordinates thereafter when walking at a speed of 10 km / hr, 20 km / hr, 30 km / hr, 40 km / hr 50km / hr. the results of this study indicate that the most appropriate delay time is 900 milliseconds, then the distance comparison between SIM808 and Garmin 64s is 3,414 meters with Garmin accuracy of 75% while SIM808 accuracy is 25%. In testing when walking, the difference between coordinates at a speed of 10 km / h as far as 8,988 meters and the difference in distance between speeds as far as 8,2985 meters. The distance from the place the motorcycle is parked until the entry of the motorcycle warning is stolen as far as 313 meters.

Keywords: GPS, SIM808, motorcycle tracking system, coordinates, maps, applications.