

ABSTRACT

REALIZATION OF MOTORCYCLE SECURITY SYSTEM BASED ON GLOBAL POSITIONING SYSTEM AND BLUETOOTH CONNECTION.

By

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Burglary and hijacker case are becoming more frequent recently. Victims not only lose their wealthy, sometimes losing their lives. Therefore we need an additional security systems that are better for users and vehicles itself as well as easy to use by the owner of the vehicle. One of the devices that can be used to create the security system is a smartphone.

This research aims to create a realization of double security system design for motorcycles that utilize GPS and Bluetooth connection on android smartphone. The system is equipped with an emergency security features and the position of the vehicle can be displayed on the map. This research was conducted in two process that are designing (design of hardware and applications on smartphones) and testing (single-function components / devices / appliances and complete system testing). Bluetooth, GPS detection subsystem, GSM communication and relay actions are used as Data input for this research.

Results show that system designed is accordance with the provisions of system functions. Data transmission between Bluetooth module and Bluetooth on the smartphone can be used up to 10 meter range. The accuracy of GPS receivers used in this study is less than 7 meters. Time delay for the whole of this system can be tolerated for the effectiveness of the system operation with the time delay average value about 8 seconds preparation. There is a difference around 4 m to 18 m for the positioning of vehicles which is operated by the system and smartphones. The reason for this case caused by greatly impact from environmental conditions for GPS data obtained.

Keyword : GPS, GSM, Bluetooth, security system, Smartphone.