ABSTRACT

In general, motorcycles are owned by all people in Indonesia. Therefore, it is important to keep the vehicle safe because basically it has a relatively high economic value. While there are many security devices at present in the form of a remote that only serves as a lock and there are still many gaps in insecurity, so the more widespread cases of motorcycle theft at this time. To reduce the crime rate needed a technological innovation which has a better security function than before and can also be controlled remotely so that security is more controlled.

In this final project a system that is integrated directly into the vehicle is designed. This system has two main functions, namely the tracking system and the funding system. On the funding side, two layered systems, a fingerprint system and an electrical control system are made. This research is a development from previous studies, the changes made are by replacing hardware, network technology, and adding security systems.

In general, the components used are the Global Positioning System (GPS) receiver, the Arduino Microcontroller, the Global System for Mobile Communications (GSM) Shield, and Android as the control unit. This system is then applied to the motor to provide security functions and also provide tracking functions. By using the Global System for Mobile Communications (GSM) Shield, the tool can function with a relatively long range. As for the tracking function, there is Geolocation embedded in the Global System for Mobile Communications (GSM) Shield kit to find out the coordinates of the vehicle, and can be tracked in real time.

Keywords : *GPS, GSM Shield, Relay, Tracking, Arduino Microcontroller.*