

ABSTRACT

Radio Frequency Identification (RFID) is a marking system that uses radio waves. One of the uses of RFID is the security system at the parking gate. The use of RFID at parking gates provides benefits to increase the efficiency and safety of motorized drivers. Currently parking at Telkom University implements a parking system that uses RFID where drivers who have a Student Identification Card can enter and exit using Student Identification Card. This system has a weakness, namely someone who has a Student Identification Card can open the exit gate by carrying a different vehicle. It will be dangerous if someone can bring a motorbike that should not belong to them by using other Student Identification Card. and the second weakness takes longer to issue the Student Identification Card.

This final assignment proposes the implementation of a parking gate security system using Finger Print. The implementation of this system is done by using hardware and software, and using electronic components. This system works with a fingerprint scanner that will scan the fingerprint of the driver which will be stored in the Arduino Uno microcontroller. Then the stored information will be sent to the database. Later the fingerprint data will be matched again when the driver will exit the parking area. If it does not match, the system will give a warning message.

In this final assignment, the author will build a fingerprint parking system to centralize data processing so that it can identify each fingerprint device. The test results of this final project show that using FPM10A speeds to identify the user is 0.98-2.09 seconds and the accuracy of each fingerprint sensor is equal to 96 %.

keywords: Fingerprint, Arduino, database