

ABSTRACT

Library is a vital asset which must be kept safety, because there are many important books for Telkom University students to improve their academic ability. Therefore, security system is needed to keep everything is going to be fine. Security system is needed to protect from unanticipated anonymous. That security system can be implemented with the entrance gate which is integrated with RFID and connected with KTM. Nowadays, the enter gate of Telkom University Librart is already used RFID. But it isnt efficient because RFID only dectects KTM which is parallel with the reader. Therefore, in this under graduated thesis the author modifies RFID Readers so it can be read from many sides.

In this under graduated thesis, RFID is designed and implemented with access control system which is used Reader High Frequency and connected with Aurdino UNO. This RFID uses 13,56 Mhz which is similar with the frequency of KTM. These two RFID Readers is installed with different sides and make 90° which is integrated with local database, so another strange Tag can't to open the door.

The test result of this RFID system is excelent to the all requirements. Average distance without any barriers is up to 4 cm, and 2,5 cm with a barrier. The Reader needs <1s to detect. And it can detect up to 150°. In brief, this RFID sytem can be said as a problem solver.

Keywords : Radio Frequency Identification, Arduino UNO