ABSTRACT

This project aims to design a Smart Lock Door system based on RFID technology to provide exclusive access to international class students at Universitas Telkom. The system is designed to enhance security and convenience in accessing the student lounge. The project was carried out in several stages, starting from understanding the basic concepts of RFID, analyzing system requirements, designing components, and testing and implementation. The RFID reader is capable of accurately reading and verifying the student's ID card, ensuring that only registered and active students can access the room. The web-based management dashboard allows for real-time updates to student data, ensuring that the information stored is always up-to-date.

The project began with a thorough analysis of the system requirements and the design of the components. The RFID reader was chosen based on its compatibility with the student ID cards and its ability to accurately read and verify the cards. The microcontroller was selected based on its processing power and memory capacity. The web-based management dashboard was designed to allow for real-time updates to student data and to provide an easy-to-use interface for administrators. The system was then implemented and tested to ensure that it met all of the project requirements.

The Smart Lock Door system based on RFID technology was successfully designed and implemented. The system is capable of accurately reading and verifying student ID cards, ensuring that only registered and active students can access the student lounge. The web-based management dashboard allows for real-time updates to student data, ensuring that the information stored is always up-to-date. The system also includes a fail-safe feature that allows for manual override in case of power failure or emergency. Overall, the system provides a secure and convenient solution for managing access to the student lounge.

Keywords: *Smart Lock Door, RFID (Radio-Frequency Identification), Convenienve, Efficiency.*