ABSTRAK

Muhamad Faisal Yuwono 2024. Perancangan *Smart Lock System* Berbasis *Internet of Things*. Skripsi Program Studi Informatika, FT,Universitas PGRI Madiun, Pembimbing (I) Slamet Riyanto, ST., MM. (II) Moch Yusuf Asyhari, S.Tr.Kom., M.Kom.

Penelitian ini bertujuan untuk merancang sistem pengamanan pintu berbasis *Internet of Things* (IoT) menggunakan mikrokontroler ESP32. Sistem ini memungkinkan pemilik rumah mengontrol akses pintu secara *real-time* melalui aplikasi Blynk di smartphone. Metode *Rapid Application Development* (RAD) digunakan dalam pengembangan sistem ini, mencakup analisis kebutuhan, desain, pengembangan, dan pengujian. Hasil pengujian menunjukkan bahwa sistem *Smart Lock* dapat berfungsi dengan baik, stabil, dan responsif terhadap perintah. Sistem ini memberikan solusi keamanan yang lebih canggih dan efisien, memungkinkan pemantauan dan kontrol akses pintu dari jarak jauh, serta dilengkapi dengan fitur notifikasi real-time. Diharapkan, sistem ini dapat meningkatkan keamanan rumah dan menjadi referensi bagi pengembangan sistem keamanan berbasis *Internet of Things* di masa depan.

Kata Kunci: *Internet of Things, Smart Lock*, ESP32, Keamanan Rumah, Aplikasi Blynk.

ABSTRACT

Muhamad Faisal Yuwono 2024. *Internet of Things Based Smart Lock System Design. Informatics Study Program Thesis*, FT, PGRI Madiun University, Supervisor (I) Slamet Riyanto, ST., MM. (II) Moch Yusuf Asyhari, S.Tr.Kom., M.Kom.

This research aims to design a door security system based on the Internet of Things (IoT) using the ESP32 microcontroller. This system allows homeowners to control door access in real-time through the Blynk application on their smartphones. The Rapid Application Development (RAD) method is used in the development of this system, encompassing needs analysis, design, development, and testing. Test results show that the Smart Lock system functions well, is stable, and is responsive to commands. This system provides a more advanced and efficient security solution, allowing remote monitoring and control of door access, and is equipped with real-time notification features. It is hoped that this system can enhance home security and serve as a reference for the development of IoT-based security systems in the future.

Keywords *: Internet of Things, Smart Lock, ESP32, Home Security, Blynk Application*