

## **ABSTRACT**

### ***SIMULATION OF DOOR SAFETY SYSTEM WITH ALARM USING MICROCONTROLLER BASED VIBRATION SENSOR AND LDR WITH ANDROID***

*The crime rate in Indonesia every year is still relatively large. Some of them are house burglary. One of the factors that caused easy access to burglary was the door security which was still minimal, usually using a manual key. Manual door locking by using a conventional door lock is felt to be less practical today. Microcontroller and smartphone technology can be used to create an automatic door locking system by connecting both via a wifi network. This system can later be equipped with a security system which can detect the state of a door that is allegedly forcibly opened. The making of this system uses a smartphone that runs using the Android and ATmega328p operating systems that are programmed using IDE Arduino to use the WiFi network as an intermediary. Based on the results of testing the door safety system using vibrating sensors and LDR sensors utilizing a simulated wifi network on the house model, the homeowner can check the security of the door by getting a notification if the door experiences vibration or something passes through the door.*

*Keywords: Security, Microcontroller, Vibration, Sensor, LDR*