

## ABSTRACT

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### DESIGN OF AUTOMATIC GARAGE DOOR OPENER AND DISTANCE REMINDER BETWEEN CAR AND WALL USING ARDUINO NANO

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Keywords: Arduino Nano, Buzzer, Garage, Servo Motor, NRF, Ultrasonic Sensor, Infrared Sensor

(xii+43+Attachment)

The use of automation technology in everyday life continues to grow, one of which is an automatic garage door opener system and a distance measurer between a car and a wall. This thesis proposes the design and implementation of an automatic garage door opener system based on *Infrared* sensors and a distance measurer system based on ultrasonic sensors. This system consists of two main parts: first, an automatic garage door opener system that is activated by an *Infrared* sensor installed in the garage door. second, the distance measuring system between the car and the garage wall uses an ultrasonic sensor installed on the garage wall, this system is equipped with a *Buzzer* as a reminder if the distance between the car and the wall is too close. Arduino Nano is used as a microcontroller to manage all these functions. The test results show that the proposed system can work well, increasing comfort and safety in using the garage automatically. The implementation of this system is expected to provide a practical solution for garage users in maintaining a safe distance between the car and the wall and opening the garage door efficiently.

Bibliography (2012-2022)