

# ***DESIGN AND CONSTRUCTION OF VISITORS COUNTING AND MONITORING SYSTEM USING ULTRASONIC SENSORS***

**Muhammad Nizal Awaludin R**

*Computer Engineering Study Program, Faculty of Science & Technology  
University of Technology Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [nizalrizqi69@gmail.com](mailto:nizalrizqi69@gmail.com)*

## ***ABSTRACT***

*Considering that during the pandemic, we must continue to carry out daily activities by complying with the health protocols recommended by the government. Especially in terms of keeping a distance in a place, the increasing number of visitors in a place at a time like this can cause serious problems such as increased transmission of Covid-19, full rooms and close proximity when the number of visitors entering and leaving is not proportional to the available room capacity. So to overcome this problem, it is necessary to have a system that can count and monitor visitors in a place that can make it easier for officers or owners to manage the place.*

*In this study, the parameter used is the detection of passing objects. This tool uses an ultrasonic sensor HC-SR04 which functions to detect and count visitors. The maximum limit of visitors allowed in the room is 15 people, this system uses one door that functions for entry and exit, accompanied by ultrasonic sensors above the entrance and exit. This system utilizes Arduino UNO as a microcontroller which will output visitor data to be displayed on an I2C LCD and can be monitored in a data acquisition application.*

***Keywords:*** Counter and visitor monitoring, ultrasonic sensor, Arduino UNO.