

ABSTRACT

Smoking is very harmful to health, negatively impacting both active and passive smokers. Indonesia has implemented a smoking ban in various places, one of which is the campus environment, including in the Telkom Institute of Technology Surabaya dormitory. However, monitoring violations of the smoking ban in dormitories is a challenge in itself, given the inability of managers to continuously supervise students. This research aims to create a system to detect smoking violations in the Telkom Institute of Technology Surabaya dormitory. The system uses MQ-2 sensor to detect cigarette smoke, ESP32-CAM to take pictures of violators, and Telegram bot to deliver messages and pictures to the dormitory administrator. The results show that this smoking violation identification system is more effective in detecting cigarette smoke. In addition, this system can also obtain clear images of the violators. The purpose of this study is to facilitate smoking regulations in student dormitories by providing a more efficient monitoring system for dormitory administrators. With the proposed framework, dormitory officers can detect smoking violations in a faster and more effective way, so as to take fast and accurate enforcement actions.

Keywords: *Microcontroller, Esp32-Cam, MQ2, Cigarette Smoke, Internet of Things*