ABSTRACT

Frequent theft incidents in the Mekarsari Endah residential area indicate that the existing security system is still suboptimal. Therefore, this final project develops an automatic surveillance system based on the Internet of Things (IoT) using ESP32-CAM and PIR sensors. The system can detect motion in real-time, capture images, and send notifications via the Telegram application. It is designed to be active at night, when the risk of burglary is higher, and is equipped with additional features such as automated scheduling and manual control via Telegram commands. Test results show that the system operates with an average response time of 2.2 seconds and delivers fast and accurate notifications, thereby enhancing the residential security environment.

Keyword: ESP32-CAM, Home Security, Internet of Things, PIR Sensor, Telegram Bot