

**ROOM SAFETY SYSTEM USING A MICROCONTROLLER
BASED WEBCAM**

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ABSTRACT

Along with the times and the rapid development of technology in the era of globalization, crime rates are also increasing in the community. At this time, humans are required to create security tools that can help to secure from the action of crime / criminalization. Likewise, the case with building security and room security is also developing. Building security systems and room security that are often used today use CCTV that records 24 hours a day without stopping, which aims to monitor the condition of a place and prevent criminal acts as well as evidence of criminal acts that have occurred. The way this CCTV works makes the results of the storage of video recordings quickly full and if criminalization does not occur then it is necessary to search so long on the storage media because there are too many video recordings. From the description above, the writer wants to design a "Room Safety System using a Microcontroller-based Webcam". Webcams on this system will only be active automatically and capture video when an activity is detected and will be deactivated again if there is no activity detected indoors using the PIR Sensor and the results will be saved to the PC according to serial communication between the hardware and software that has been detected. This can save storage and make it easier to find video capture results. The PIR sensor detects at a distance of 4 meters and activates an alarm using a relay whose input comes from the Arduino Uno microcontroller.

Keywords: Webcam, Sensor, Microcontroller.