ABSTRACT

Security has always been something that is a concern for everyone. One of the concern is the security of the home. Rapid technological development offers convenience in dealing with the problem. To facilitate the user in the home or building safety is to secure it with surveillance and remote control that can be done from the Android smartphone. The system used is also using surveillance cameras and motion detection sensors.

Microcontroller is a technology that has long been developing which could be one solution for securing your home or building. With its development, the microcontroller can communicate with the computer network. The microcontroller will keep instructions for controlling a variety of devices including driver door, lock, drive camera, and alarms. All devices can be controlled remotely via a local network or the Internet.

The results of tests performed on hardware, Arduino Uno with Ethernet Shield as the control center can receive instruction from a local server via TCP / IP and Censor Passive Infra-Red (PIR). Arduino Uno can process one instruction at a time with the eligibility rate reached 88.89% and the success rates of the PIR sensor to detect objects up to 84.45%. This indicates that the system was feasible to optimize security.

Keywords : Embedded System, Microcontroller, Passive Infra-red