

ABSTRACT

The use of energy consumed by household activities is getting bigger and bigger, for example, such as lighting using lights in a room, building, house, corridor, and so on. One of the causes of increased electricity consumption in household activities is the ineffective use of electricity because many people ignore or forget to turn off the lights when they leave a place. In order to better manage the use of electrical energy, an automation sensor system technology is needed that can monitor the use of lights that are not needed automatically. The prototype system that has been designed uses several sensors such as current and voltage sensors to determine the use of electric power of the lamp. PIR (Passive Infra Red) sensor to control lights when someone is passing through public roads, and LDR (Light Dependent Resistor) sensor to control lights during the day and night. and Arduino Uno R3 as a microcontroller, NodeMCU as a Wi-Fi module that will be connected to the Antares website to display the current, voltage, and electrical power used by the lamp being used. The results of the system in the AC voltage experiment obtained an average error percentage value of 4.04%. After that, the AC current sensor test obtained an average error percentage value of 6.06%.

Keywords: Microcontroller, Monitoring, LDR, PIR