

Abstract

Many behaviors that cause wasteful electricity consumption such as turning on the lights at the wrong time, turn on unneeded electrical equipment, neglect to turn off the AC when going out of the house and much more. Therefore, a system that can automatically turn on and turn off the lights and AC. The way this system works is when there are people who enter the room then this system will turn on the AC and lights as needed and vice versa. This system uses ATmega 2560 microcontroller as its data processing center, PIR sensor as human movement detector, temperature sensor as determinant of live or not AC, and LDR sensor as determinant of life or not of light and also as determinant of Bright and Dark Mode. With the use of this system can reduce the electrical energy used so as to reduce the cost of electricity to be paid. Estimated power consumption of this system is 7% or 203,688 kWh and the estimated cost of electricity payment for 23 days is Rp 283,533.

Keywords : *ATmega 2560, electricity savings, microcontroller, air conditioner, lamp.*