

ABSTRACT

The era of globalization became the main reason in the development of Smart Home. Demand for comfortable homes is a top priority, besides being convenient, home is also an efficient use of energy. Sometimes we forget to turn off the light this is one cause of energy consumption is wasted. Smart Home therefore emerged as a solution to the efficiency problem. In the design of Smart Home, the measurement of two data parameters is the reading of the light level using Light Dependent Resistor (LDR) and also the wattmeter which in turn the room lighting level will be controlled using the fuzzy control at 120 lux and watt meter set points as supporting tools in reading energy efficiency and the level of illumination produced. In this design the light sensor is placed in the work plane or 0.75 meters from the floor at the four-point room. The wattmeter is placed near a voltage source as a lamp power meter. And actuation control and data processing is done by coordinator or brain of this system. To facilitate data communication mobility is used wireless zigbee as an intermediary. In the experiments conducted characterization of each light sensor, the measurement of data transfer delay using a wireless zigbee which shows that the system does not process data in real-time but has a delay of 868 ms. Performed power measurements every time from the system when not using fuzzy controls and while using fuzzy controls. From the experiments performed while using the fuzzy control it generated an efficiency of 7.75% compared to when not using the fuzzy control and generated an efficiency of 15.56% compared to when room at full lights.

Keywords : Smart Home, fuzzy control, illumination, efficiency.