DESIGN AND CONSTRUCTION OF STREET LIGHT MONITORING WITH ESP8266 BASED SOLAR PANEL

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ABSTRACT

Internet of Things (IoT) is a global network infrastructure that collects data to connect physical and virtual objects, and enables communities to connect through sensors as a service development. Internet of Things technology has changed the street lighting system. Street lighting is usually only controlled manually in the panel, and lights that experience problems or are dead are sometimes not immediately replaced because they are not known. To find out the condition of the lights from the street lighting (PJU) are working properly or not, there is electricity theft or not around the PJU, and to find out whether the lights are on or off and to reduce the waste of electricity at night on street lighting (PJU), we can use a monitoring application from our smartphone, namely Blynk using the ESP8266 microcontroller. Abnormal PJU conditions will appear in the WhatsApp notification of the land owner or officer. Based on the results of the research that has been carried out, the system works as expected with an error percentage when the condition is "Safe" of 1.5% and when "Overload" of 0.65%. With this monitoring system concept, the load monitoring on the lights (PJU) can be monitored remotely in real-time.

***Keywords**: Arduino, PZEM-004T, IoT, ESP8266, PJU*