ABSTRACT

Electricity is a very important requirement for every human being to carry out daily activities. Electricity consumption in Indonesia increases every year in line with the country's economic growth. One of the biggest electricity needs is in the household sector. In the household sector, there are many electronic devices that consume electricity when used. However, electricity consumption in the household sector is classified as wasteful. An example of wasteful use of electrical energy in a household is leaving an electronic device cable to stay in the socket when it is finished.

This final project focuses on reducing excessive use of electrical energy by making a product, namely S-LUCY. S-LUCY stands for *Smart Light Ultimate Control by a website*. This product is made by utilizing the technology *Internet of Things* to be able to control and access electrical outlets from anywhere. *The smart plug* S-LUCY has several features, namely controlling the on and off, *setting the timer,* and repeating the *timer* based on the day according to what the user wants automatically through a *website* that can be accessed via a *smartphone*, computer, or another device with internet access. The manufacture of this product relies on NodeMCU as a place for programming to be installed.

Based on the results of the tests that have been done, the results show that the *smart plug* can work properly. Testing on *Quality of Service* (QoS) for the *end-to-end delay* on sending orders from the *website* to NodeMCU obtained an average result of 3.86 s, the *delay* systemin sending data from NodeMCU to the *web service* obtained an average result of 3,963048 s and *end-to-end throughput* with an average value of 361.9 bps. S-LUCY is expected to facilitate and assist community activities in saving electricity consumption and the cost of electricity bills.

Keywords: *S-LUCY, Internet of Things, Smart Plug*