

## **ABSTRACT**

*Electricity consumption in the community continues to grow, both in the household sector, industry, etc. One of the causes of the increase in electricity consumption in the community is the use of electricity that is wasteful or ineffective such as leaving the lights on when they are not needed. Therefore, we need a system that can overcome these problems. In this final project research aims to make a tool that can monitor and control the house lights remotely.*

*The tool to be proposed is in the form of a prototype which consists of two main parts namely hardware and software. In the hardware part, two components such as NodeMCU and Arduino will be used as a wifi module and a microcontroller. Whereas the software will use Telegram and Thingspeak as tools to create IoT applications. The application will display the use of current, voltage, power and electrical energy used by the device being used.*

*The results achieved in this thesis research are the reading of the current sensor error rate of 6.19% with the command delay of the Telegram application for 25.33 seconds and 24.46 seconds to turn on and turn off the lights. And the success rate of light control via Telegram is 100%.*

**Keywords :** *IoT, NodeMCU, Telegram, monitoring.*