

## **ABSTRACT**

*The household electrical system is using various of inductive furnishing and electronic tools. The inductivity of this electronic furnishing that makes the lack of electric power efficiency. This factor can cause the power difference between the electric power source provider and the electric user in general.*

*In this final assignment is designed a tool which consist of voltage sensor and current sensor. The result of the sensor measuring which is engineered to determine the power value and the difference in degrees from the voltage and current then it is detected by the microcontroller. The determining of the difference in degrees which has been detected will activate the capacitor which has been installed.*

*The result of the observation shows that the given power by the source and the used power by the user is not efficient enough. Therefore, the capacitor installation is able to help the repairment of power factor in the inductive load.*

**Keywords: voltage, current, microcontroller, ARDUINO.**