**Proposal Document**

**Thesis Tittle**: Electricity Theft

**Thesis Aim:** to determine the theft of electricity by customers

**Thesis Objectives:**

The following research objectives are to be achieved with the design of a smart home automation system;

1. To use Kirchhoff’s current law to predict and analyze and determine the theft of electricity
2. To monitor two houses connected to a pole
3. …………
4. ……….

**Thesis Description**:

People, electricity customers has been stealing electricity when the electricity officials come to cut their light at those times when they refuse to pay. Some don’t even want to pay for the use of electricity and yet wants to have energy available.

This thesis desires to find solution to such problems as the theft of electricity, increase in customer load without proper notice to distribution companies, etc.

To realize this, Kirchhoff’s current law shall be used to detect the theft.

The block diagram is presented below



Figure 1: System use case diagram



Figure 2: Block Diagram of A Typical Sensor Node

**Bill of Components:**

The major components that shall be used is listed below;

1. i-Snail-VC-100 Phidgets 100Amp AC Current Sensor
2. ESP8266 Nodemcu v3 Wi-Fi Microcontroller
3. 3.3VDC 2A power supply
4. Others are discrete components like capacitors, diodes, resistors, transistors, etc.

**Development Tools and Programming Languages:**

1. Protues ISIS and ARES
2. Sublime Text 3
3. Languages include:
   1. JavaScript
   2. Html5
   3. CSS3
   4. Python

**Features:**

1. Measure current in the range of 100A AC
2. Send data to server over Wi-Fi through a web API
3. Logged Data is used to display table and graphs on the website

**Duration**: two months

**Deliverables**:

1. A hardware device that shall measure AC load current in the range of 100A
2. A web app that shall be accessible on any browser.