**SMART ENERGY MONITORING AND CONTROL SYSTEM FOR RESIDENTIAL APPLICATION**

A SPECIAL PROJECT

Presented to

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BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

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**CHAPTER I**

**INTRODUCTION**

* 1. **Background of the Study**

Electricity meter reading is a common task that must be accomplished by electric company to measure the effective amount of energy a certain user consumes over a period of time. Up until now, many of the electric company still use the old-fashioned methods of reading the energy consumption of every residential house. These include the traditional energy meter and the physical presence of electric personnel at every residential house to visually read the consumption for every user which takes time since there are hundreds and thousands of energy meters to read. Manual reading of energy meter is prone to error - may it either be by the device or by the personnel who reads. Although many solutions have been developed to improve the time required to get manual readings from the meters through the use of wireless equipment, few of these solutions introduces the possibility to do it remotely and automatically.

In dealing with these circumstances, the researchers present a database to monitor and display a remote energy meter readings, which will enable the electric company to automate the process without the need of electric personnel to manually read the meter of every residential premises thus reducing operational expenditures and opening a real time energy metering. This database can be