

ITSP ABSTRACT SUBMISSION

Project Name: Smart Energy Monitoring System

Team name: Aaaah...

Rough Idea

Most conventional prepaid power meters currently installed in households only display the total real time usage of its power and the amount of electricity available. There is no way to see what the days, weeks or months consumption was on these meters and often these power meters are placed in an inconvenient location which makes regular viewing somewhat difficult. These power meters also lack the ability to monitor appliances individually; thus hiding vital information about individual appliances.

Project Objectives and Scope

A Smart Meter System is required which can analyze multiple appliances in a household getting readings such as voltage, current, active power, apparent power, reactive power, power factor and frequency.

With the help of a wired / wireless connection, the device can connect to a central gateway and the gathered information can be uploaded and processed by the gateway management system. The data can then be displayed on the

platform's graphical android-based user interface. The platform allows users to access the data from any android enabled device.

To reduce cost the system requires energy metering nodes that can communicate with the gateway wirelessly or in wired way in such a way that only one Wi-Fi access point is needed for a household containing many monitored appliances.

Furthermore it is required that the current information regarding the appliances can also be viewed on a local display with a menu interface. The remote energy metering node will be considered to be successful if the following criteria are met:

- Wired/wireless communication between nodes and gateway
- Correct measurements of Voltage, Current and Power
- A working user interface on the gateway with a display and menu
- Reliable wired/wireless communication between gateway and remote meter nodes.

Application of the Project

- The user can check the energy consumption of the device on which it is installed whenever he/she wants to.
- Thus we can set the limits of energy consumption for the device as desired.

- It helps to give idea about the energy consumption and thus can be used for energy saving.

Week-Wise Work

WEEK 1: Research about the project and bringing components.

WEEK 2: Getting familiar with coding and equipments involved.

WEEK 3: Analyzing the circuit and constructing it.

WEEK 4: Running tests on circuit and correcting mistakes if any.

WEEK 5: Arduino Coding Week.

WEEK 6: App making for android.

WEEK 7:Assembling all parts and improve design.

WEEK 8:Test and Debugging.

Estimated Price: Rs.5000

