

ANALYSING NET METER VALUES

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ABSTRACT

When we consider the industry, today solar power have become a necessity in human life. Therefore a high competition exists among solar power providers. Therefore they always try to introduce new additions for customers and to increase the usage of their products. Therefore in this paper a new service was introduced to the solar power providers, which is an analyzing net meter value system through the solar power. This analyzing net meter values system provides a useful tool to assess their own monthly electricity bill information anytime and from anywhere. This design is focused on the peoples who using solar power and who don't know calculate monthly electricity bill. Hardware of the proposed system are cubieboard as the minicomputer and small web cam to detect the import-export values of net meter. As further development company calculate monthly bill through the network system by using the import export values which are detected by web cam. After that company send monthly electricity bill to the customers through the network system. ¹

Keywords: Cubieboard 2, Image Processing, Monthly Electricity Bill, Net Meter Values

1. INTRODUCTION

Misreading of the measurements cause all other calculations to be wrong and it affect to future decisions. Also, if the company can get the import and export values of the readings then, they can do the necessary calculations after that the company can send the modified values to their customers through message or anyway to the mobile phones or any material. ²

2. EXPERIMENTAL

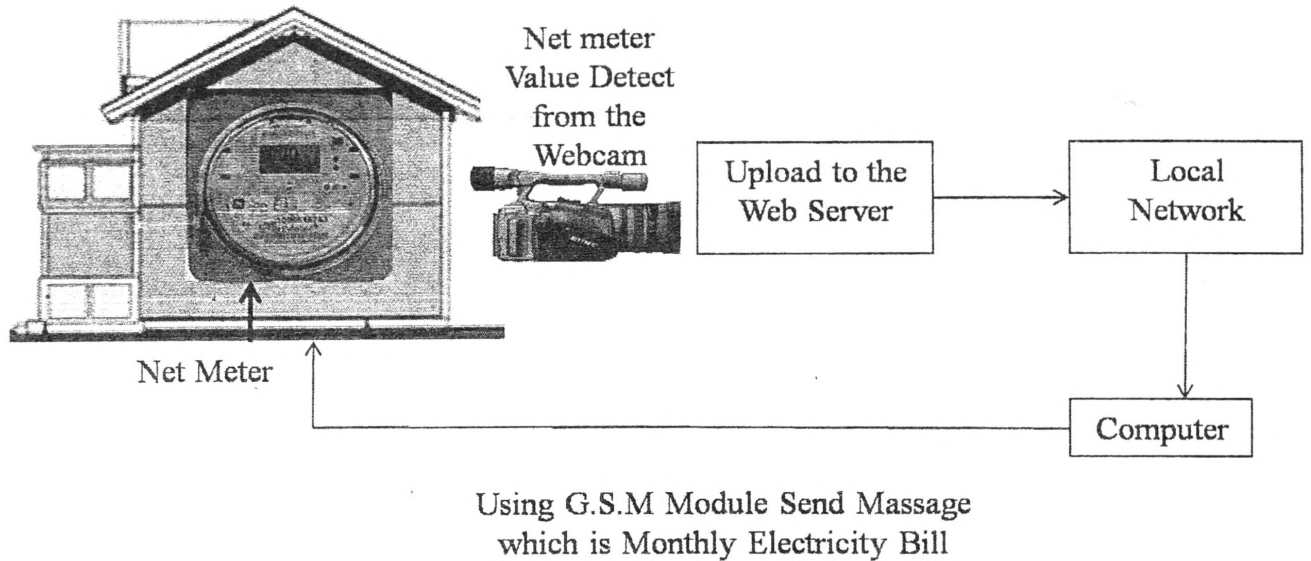


Figure 1: Block Diagram of Analyzing Net Meter Values

The main task of study was to build a device to analyzing net meter values. This device was created using an image processing method.

The magnitude of which is both values to be detected directly by that web cam. After analyzing the values, the circuit was designed by using a cubieboard2 for analyzing the values which have been obtained from the web cam and the outputs were uploaded to local network.³

The values were displayed on the computer screen through local Network. After analyzing values the monthly electricity bill can be created. The relevant bill can send to the customer home by using the computer.⁴

Where cubieboard2 represented as a minicomputer to indicate import and export values which is detected by image processing method.⁵

3. RESULTS AND DISCUSSION

For this project, it is difficult to find a best solution for the object of the project using image processing system at night time. But it can be solved by using light. There exists a limitation

of this system. Net meter authorize to the C.E.B. this limitation cannot be exceeding if it is not so, can be used serial port method to get the data.

Cubieboard2 was used for this experimental but relevant values can't be displayed, after that crasberyfy was used then the particular values can be displayed from that display.

3.1 How to Decide Monthly Electricity Bill

	Import	Export	Billing
7 th October	245	61	184
21 st October	463	251	212

3.1.1 Electricity Bill for 14 Days

Average	Import	Export
14 Days	218 KWh	190KWh
Per Day	218/14 KWh	190/4 KWh
Per Day Generate Power	15.57/120 KWh	13.57/120 KWh
	0.129KW	0.113 KW
	129 W	113W

$$\text{Calculation of Units} = \left[\frac{129 - 113}{1000} \right] \times 30 \times 120 = 57.6 \quad (1)$$

4. CONCLUSION

The industrial training period is a very useful for the under diplomats because that is the first chance that we get to have an idea about how those theories we learned applied in the real world. Also it provides us a better idea to select our future carrier path and to identify our plus and weak points. Also we can identify to succeed in the industry what are the areas we have to improve.

During the training period I enhanced my ability to communicate with fellow workers and supervisors, enhanced the leadership skills, improved self-confidence and developed my planning and management skills. Also I got the working experience in Solar power installation and Solar panels installation, Net meter installation, How to connect wires.

At that training period I noticed that the company has to go customer's place to read net meter values, it will be very costly process to implement. So I selected that problem as my research topic and implemented an instrument of measuring Net meter import and export values without going customer's place and solve that problem.

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