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Smart Electric Meter Using IOT

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ABSTRACT: The current system of taking the reading of meter is manual where employees have to go physically and should take the image of meter reading then he has to add the reading according to that bill is generated. Due to this the time required to this is more. The main objective of project is develop Smart electric meter using IOT. An alert message will be send to the customer and vigilance squad when the consumption unit reading reaches beyond the specific threshold. This paper contains energy consumption details in terms of power units and power units will be displayed on the real time on mobile application of user MSBET Web portal. This paper describes the digitization of energy meter readings over the internet. The proposed system design eliminates the human involvement in electricity maintenance. The buyer will be able to pay for the usage of electricity on schedule. The user can monitor energy consumption in watts from a application by providing a channel id for the meter. The program developed in C language with the Arduino syntax in the Arduino IDE. The proposed system will work for checking the current usage (bill), notify when reaching the limit, reset the usage (bill) successfully, only using IOT.

KEYWORDS: GSM, IOT, LAN

I. INTRODUCTION

Now days in each and every sector there are many people consuming electricity. The people are not satisfied with the services provided by power distribution companies, also electricity authority. The government also realizes the problem occurring in the existing system. Today employee of the company visits each and every house take the photo of the meter or note down the readings of the meter due to which time required to take snapshot increases.

The process of board should be time efficient and straightforward to take actions. However the billing process of electricity board is time consuming, costly and error-prone .By wasting time and money current system makes board inefficient and slow. In general, networks are form by connecting multiple computers through the LAN. To control and monitor the activities of network form the admin office is very easy job but what? If the admin is not in the admin o ce. In that case how do you going to control and monitor the network? Instead of depend on any third person for the information about the network we developing the new android application through which we can easily monitor the network. The communication between particular client and the admin is achieved through a central monitoring server, our goal is to develop an integrated software application that will help network admin to remotely monitor network through android phone. The communication between the client and the android phones is done through the server.

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II. LITERATURE REVIEW

Embedded Laboratory Environment Monitor System This framework exhibits a presentation of an installed processor-based lab environment screen framework and its outline for equipment and programming. This framework goes for finishing checking an assortment of constant information. This framework accomplishes the keen administration of research facility. By wired or remote means, the lab checking framework can speak with PC.[1]

Design and Implementation of Open Computer Lab Monitoring and Management system. This depends on sensor in which checking is done through implanted sensor in framework. Yet, we are actualizing the framework on LAN without utilizing sensor. We are including the idea of message sending, summon giving, and so forth.[2]

The issues confronted in PC research facilities is inadequate with regards to cognizance for administration and institutionalized administration, lacking means for executing and keeping up, no institutionalized procedure, no record for programming and equipment design and change too, furthermore changing setup arbitrarily. Our undertaking will help in lessening these issues.[3]

A. PROPOSED SYSTEM

The Electricity Board has got used to the manual process and they go along with it even though there are many concerns associated with it. Because of the human errors after getting faulty bill, it is problem of user to get it corrected from the electricity board.

B. Proposed Architecture

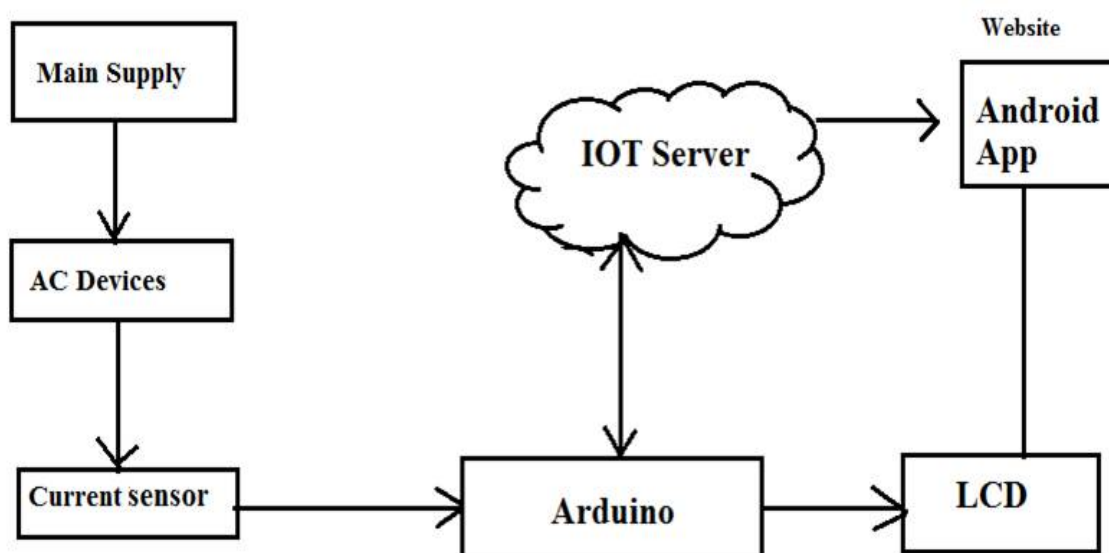


Figure 1: Architecture diagram

C. Objectives of the proposed work are

- To learn about different electric meter reading systems.
- To study and understand the various methods and models used by various researchers for energy meter reading systems.

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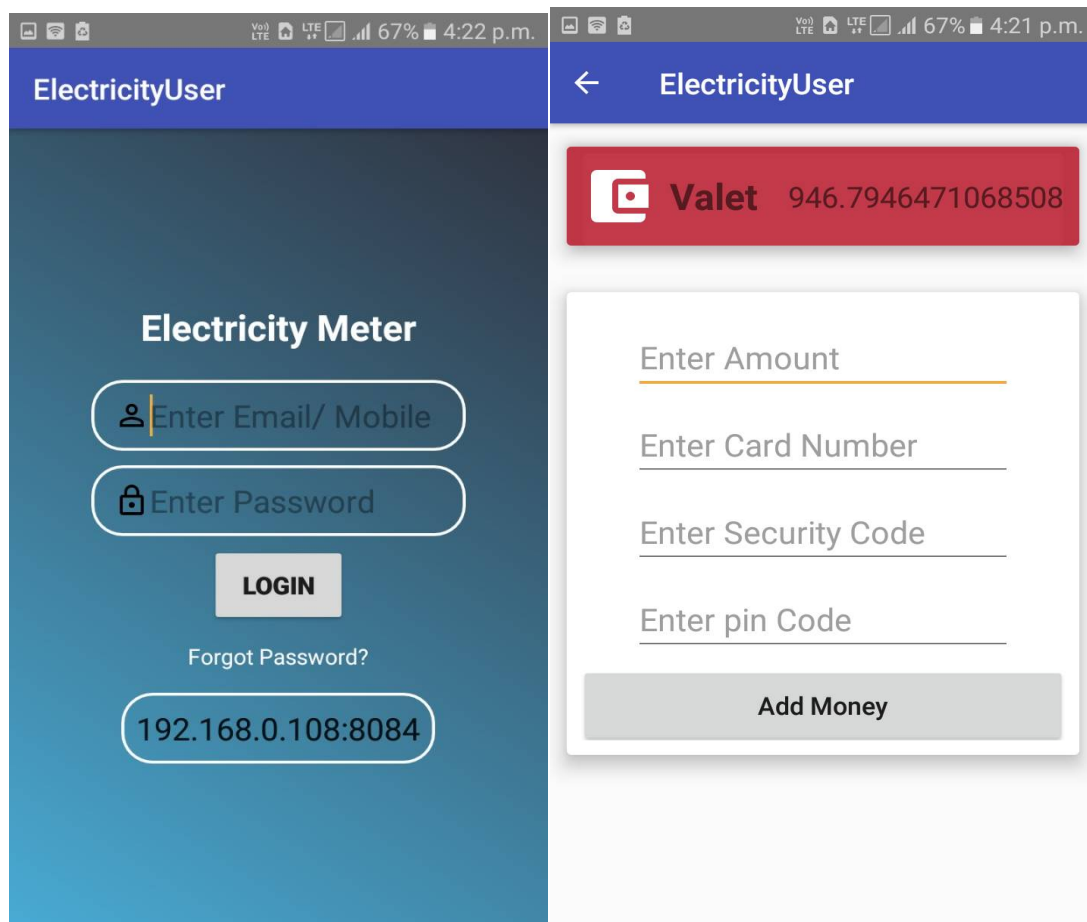
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- To take necessary action to make the solution reliable, robust and effective.
- To avoid human intervention in bill generation process.

III. ALGORITHM: Polling

```
1: procedure Polling controller
2: begin:
3: sensorValue readSensor();
4: sendMsgToServer(sensorV alue);
5: loop:
6: if resultAvailable() then
7: result readResult();
8: applyValue(result);
9: goto begin;
10: goto loop;
```

IV. RESULTS



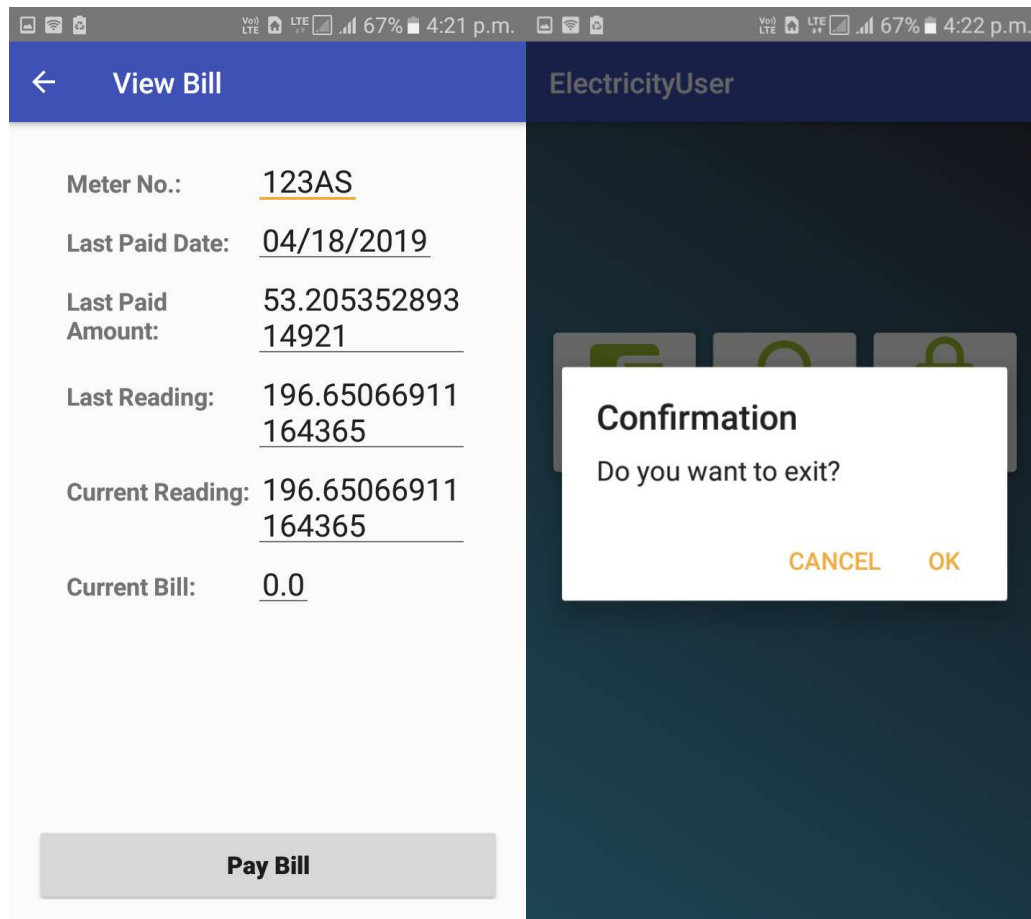


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V. APPLICATIONS

- This is used in applications such as Also if consumer gets faulty bill he has to go to Electricity Board office to correct it.
- Also as customer is getting message of bill printing can be avoided to reduce paper wastage.

VI. CONCLUSION AND FUTURE WORK

In this paper, we study the predictability of home energy consumption through a analysis of appliance power draw and whole-home energy consumption. Electricity Billing process using IOT is the framework which is introduced in this system is for time efficient and cost efficient. Voltage, Current, energy consumption units, temperature will be displayed on LCD. Exact power calculations of power will be calculated. IOT based power consumption will be recorded in this system. In future We can make a system which can send SMS to the concerned meter reading man of that area when theft detected at consumer end. We can make an IOT system where a user can receive SMS, when he/she crosses threshold of electricity usage slab.



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