ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 2, February 2015

E-MSEB

Aquifjaved Patel[1], Zeeshan Syed[2], Akhilesh Nathani[3], Pnakaj Kumar[4], V.S.Kadam[5]

Department of Computer Engineering, Sinhgad Institute of Technology, Lonavala, Maharashtra, India [1,2,3,4,5]

SavitribaiPhule Pune University

Abstract: At the present time, alongside the improvement of the Web, computerization turns into an extremely fascinating topic to face off regarding. This paper talks about the improvement of computerization framework for private power cut off utilizing system based inserted controller. These days, different sort of gadget for home private power lives up to expectations conditionally on human to control signs to reset the condition of data. In light of this circumstance, it turns into an outward inspiration to build up an mechanized framework for private power gadget. The framework comprises of an implanted gadget to control power supply principle switch and overhaul the information into server farm. The clients ready to perspective overhauled force utilization and in addition charging data in the supplier web administrations. Cut-off cautioning message is send to clients through email and short message administrations. The framework makes a difference the power supplier to decrease the operation cost as the framework could cut off power naturally when the utilization point of confinement is surpassed.

Keywords: Android, Computerization system, Embedded.

I. INTRODUCTION

The currently working system is very good with the working. Many modifications were done in previous system which was manual one. Old manual system was suffering from a series of drawbacks. Since whole of the system was to be maintained with hands the process of keeping, maintaining and retrieving the information was very tedious and lengthy. The records were never used to be in a systematic order. There used to be lots of difficulties in associating any particular transaction with a particular context. If any information was to be found it was required to go through the different registers, documents there would never exist anything like report generation. There would always be unnecessary consumption of time while entering records and retrieving records. One more problem was that it was very difficult to find errors while entering the records. Once the records were entered it was very difficult to update these records. So the modified system now in use is digitalized. i.e. instead of old ring electric meter , now digital counting meters are used. And DBMS systems serve for good record keeping purpose. But in these system also some modifications should be needed. The current system is not client friendly i.e. client has to visit the particular location for all his/her tasks of power like bill payment, complaint etc. If client wants to track record then he/she has to apply a application and go through all procedure for approval and retrival. This consumes significant amount of time. Likewise client cant track his past records of use.

The framework serves following purposes:

"E-MSEB System" is an android app that aims to generate information regarding electricity usage to the client with advancement of mobile device support.

In this paper we acquaint a model frameworkthat is meant to partially computerize and mobilize the activities performed in the Electricity meter like acknowledging monthly electricity consumption, record of consuming unit of energy, store record of the customer and previous record.

The other scope of this framework is that the client will be cautioned early of electric power.It will alarm client if and if the client achieve the farthest point of the power utilization they have allotted. Once the client surpasses the breaking point of power use with the unpaid charges, the administrator have the power to cut-off the power supply. The framework helps decrease manual meter perusing employments, and decrease work physically for association/disengagement of supply. The clients will have the capacity to screen the utilization of electrical power constant.

II. LITERATURE SURVEY

A. Automation of Residential Electricity Cut off Using Network Based Embedded Controller

At the present time, alongside the improvement of the Internet, computerization turns into an extremely intriguing topic to civil argument. This paper examines the improvement of computerization framework for private power cut off utilizing system based installed controller. These days, different sort of gadget for home private power meets expectations conditionally on human to control signs to reset the condition of info. Taking into account this circumstance, it turns into an extraneous inspiration to add to a mechanized framework for private power gadget. The framework comprises of an implanted gadget to control power supply primary switch and overhaul the information into server farm. The clients ready to view redesigned force utilization and additionally charging data in the supplier web administrations. Cut-off cautioning message is send to clients through email and short message administrations. The framework helps the power supplier to decrease the operation cost as the framework could cut off power consequently when as far as possible is surpassed[1].

B. Software Agents Based Home Automation An Intelligent Electrical Billing and Maintenance System

The world is moving towards automation and autonomous systems, in which devices are expected to be seamlessly

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 2, February 2015

integrated and complex, which act on our behalf and deliver better quality services anywhere anytime and in any fashion. However most of the Electrical Power Supply Companies across the world still use the good old traditional approaches for home related services pose big challenges for home automation. Author proposes a novel computing model to achieve an autonomous environment for home automation. A model is based on agent technology in which agents are assigned certain tasks to achieve. The architecture is portable, flexible and can easily integrated with other architectures[2].

III. PROPOSED SYSTEM

"E-MSEB System" points is to produce data with respect to power utilization to the client with headway of cell phone help. The point of our task is to add to a framework that is intended to incompletely mechanize and activate the exercises performed in the Electricity meter like recognizing month to month power utilization, record of expending unit of vitality, store record of the client and past record. The issue figured out with current framework was that recently included framework which is in part digitized yet client needs to look at every time with framework by and by. Client needs to stand up to the vitality utilization and different exercises in regards to power meter by and by likewise client can track his past records of use.

A. System Architecture

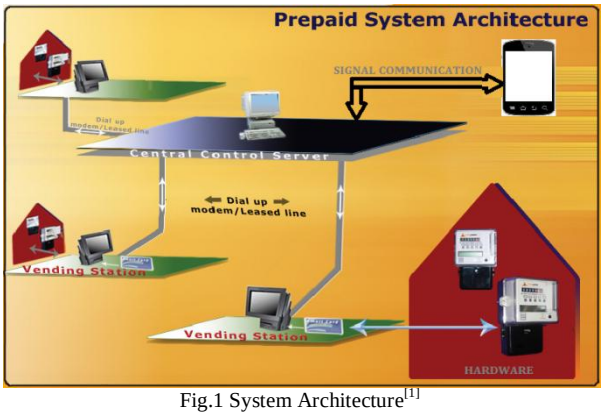

Fig.1 System Architecture[1]

The detailed working is described as follows. The fig above shows system architecture in simple manner. The user firstly logs in the application. Upon authorizing the user credentials the system or main server gives access to the database. Application gives various options to user for accessing information like:

- Check current consumption
- Check previous history according to month or year (if needed)
- Appliances control
- Setting cap limit to power consumption
- Payment of bills directly from application
- Report generation of all activities performed etc.

B. Hardware System Flow

The hardware system flow can be summarized from following diagram:

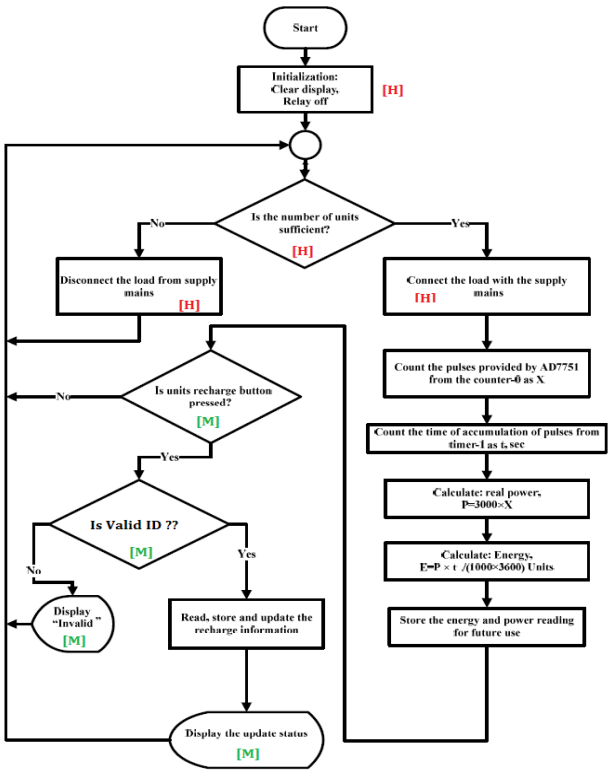

Fig.2Hardware System Flow[1]

The hardware consists of Peripheral Interface Controller, power meter and an output display, the software consists of programs that is user for the working of the system usually written in embedded C. system is designed to attach with the existing KW meter in our house. This KW meter measures the consumption of electricity and interrupts the microcontroller. The microcontroller counts these interrupts and saves it in a non volatile memory and it also displays these counts and units on the LCD. Wireless module is used to communicate with the server. When server sends a request to client through these module. The microcontroller reads this request and sends back the current reading through the same media On the server side, An application program frequently sends the requests to the clients , and whenever it gets the reply ,it calculate s the bill and sends it back to the corresponding user. This server then accepts request from user for various operations and upon that request the appropriate user notifications and processing is done following generating reports to user.

IV. FUTURE APPLICATIONS

- This application can be utilized to caution the client to stay away from postponement installment of the bill and help one to dispose of the punishment or power cut-off.
- This application can be utilized to keep up the past history of his/her records of bills paid and power utilized by a single click of versatile application.
- This application can be utilized to check the current status of the power devoured and bill produced is right or not.

DOI 10.17148/IJARCCE.2015.4275

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 2, February 2015

V. CONCLUSION

- This application is pretty much useful to the user in various aspects. The user got the capabilities for various tasks to perform from single application in hand.
- It enables user to perform history checking, monitoring current usage and also the appliances can be controlled via signal of activity. Thus we can conclude that the usability and performance of application can be a great use for anyone who accesses this application.

REFERENCES

[1] Nazri Bin Abdullah, SitiSalwaniYaacob, BanaHandaga, YuszaimiYaacob, "Automation of Residential Electricity Cut off Using Network Based Embedded Controller," 2012 international Conference on Computer & Information Science (ICCIS)
[2] Yadawad.R.G , Kulkarni, U.P. , Joshi, S.M. , Vadavi. J.V. , Yardi A.R. Industrial Informatics, 2007 5th IEEE International Conference on Volume:1 DOI:10.1109/INDIN.2007.4384787
[3] http://www.tnb.com.my/residential/billing/penalties-and-charges.html, access date 24/02/2012
[4] http://www.tnb.com.my/residential/billing/connection-disconnection-of- supply.html, access date 24/02/2012
[5] Primicanta, A.; Nayan, M. & Awan, M. Hybrid Automatic Meter Reading System Computer Technology and Development, 2009. ICCTD '09. International Conference on, 2009, 2, 264-267
[6] Primicanta, A.; Nayan, M. & Awan, M. ZigBee-GSM based Automatic Meter Reading system Intelligent and Advanced Systems (ICIAS), 2010 International Conference on, 2010, 1-5
[7] Tan, H., Lee, C. & Mok, V.; Automatic power meter reading system using GSM network Power Engineering Conference, 2007. IPEC 2007. International, 2007, 465-469
[8] MBED Rapid Prototyping for Microcontroller, http://mbed.org/, access date 24/02/2012
[9] Malaysian Intelligence Meter, http://www.mim.net.my Koay, B.; Cheah, S.; Sng, Y.; Chong, P.; Shum, P.; Tong, Y.; Wang, X.; Zuo, Y. & Kuek, H. Design and implementation of Bluetooth energy meter Information, Communications and Signal Processing, 2003 and the Fourth Pacific Rim Conference on Multimedia. Proceedings of the 2003 Joint Conference of the Fourth International Conference on, 2003, 3, 1474-1477 vol.3