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Report : Smart Electricity Bill Generation Using Mobile Application

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ABSTRACT: Now a day's electrical energy provider companies have upper limit portion of automatically processing include calculation the bit and, reading in the paper. When the automatic procedure of bill generation using the mobile application. In this we propose suggest android web application and, which is process carry by the meter reading and, web coating for consumer to interact with electricity board organizations. Using the mobile app for meter reading gaining control the image and sends to the server every energy meter will have a specific id, generated at the time of registration in the mobile. The app gives the information of electricity charged units along with the measure charged as pre the current recitation. In addition with this provides insight into the illegal use or abstraction of electricity. The importance and the economic aspects of theft detection are presented and the flow exercise and experiences are discussed. The newspaper also proposes a novel methodology for automated detection of illegal utilization of electricity in the time to come distribution net equipped with smartness metering infrastructure. The necessary data requirements for smart meters and distribution substations are defined, in guild to unlock this feature in distribution network. The paper also proposes the measures, which should be undertaken by the smart metering standards.

KEYWORDS: Node Mcu, Internet of Things (IoT), Web Server, Remote monitoring, Automated Meter Reading.

I. INTRODUCTION

Now a day's electricity can play a major role in our daily lives. Then the use of electric automobile energy utilization is increasing day by day. So we can everywhere can access the power supply, the different functional we can't lives without electricity. So the device is used to measure the electricity usage and consumption is Electrical Cadence. Then this project aims to design the facilitate the electricity bill generation process and also the power theft intimation mechanism for electrical department. The previous scheme of human based electric meter reading is not applicable with the increasing population of electricity usage and has a more number of drawbacks, and it is very model, and time consuming process, more man power need to run this type of systems. Now introduce a methodological process based on internet of things using to store the information in cloud and accessed by the web page. In this method we use the app which provides the power supply and bill for every 5 readings the donation of this work is extracting and recognizing. Electric utility program lose large sum of money of money each year due to imposter by Electrical energy consumers. Electrical energy fraud can be defined as a dishonest or illegal use of electrical energy. It is difficult to distinguish honest and fraudulent customers. Realistically, electric service program will never be able to eliminate fraud. It is possible, however, is take measuring rod to detect, prevent and reduce fraud Investigations are undertaken by electric utilities to assess the impact of technical losses in generation, transmittance and distribution. Meshwork Distribution Power Exiting comprises one of the most important concerns for electricity Utilities worldwide.

II. INTERNET OF THINGS

A dynamic worldwide organization foundation with self-designing capacities dependent on standard and interoperable symmetrical conventions where physical and virtual things have identities, physical properties, and virtual identities and utilize keen interfaces, and are consistently coordinated into the data organize. The Internet of Things (IoT) is



characterized by ITU and IERC as a dynamic worldwide arrange foundation with self-design capacities depletion on standard furthermore, interoperable correspondence conventions where physical and virtual “Synonyms/Hyponyms (Ordered by Estimated Frequency) of noun thing” have characters, physical character and virtual identities, utilize intelligent interfaces and are consistently coordinated into the data arrange is the course of the most recent twelvemonth, IoT has moved from being a Synonyms Hyponyms (Ordered by Estimated Frequency) of noun cut -edge vision with occasionally a specific level of advancement to expanding grocery world. Telecom executive think about that Machine-to-Machine (M2M) and the later-net of Things are turning into a center business center, revealing critical maturation in the quantity of associated questions in their system. Widget. Manufactures eg. Concerning wearable convenience. Foresee a full new business portion towards a more extensive appropriation of the IoT. These geographic expedition results are currently nourishing into advancement, and a progression of segments is accessible, which could helpfully be abused and upgraded by the market. Albeit bigger players in some applications programmable zones still don't perceive the voltage, many them spring careful circumstance or even quicken the gait by begetting new terminal figure for the lot and including extra-segments to it. Abo end-customer int the private and business space have these days obtained a noteworthy capability in managing shrewd gadgets [1] and arranged applications. As the Internet of Things keeps on maturation, promote potential is estimated by a blend with related innovation methodologies and ideas for example, Cloud reckoning. Hereafter Internet, Big Data, Robotics and Semantic cash advance. The 1 sense of think is obviously not new all things. Considered but rather, as these ideas cover in a few sections (specialized and benefit models, virtualization, interoperability, computerization), veritable innovator see increasingly the part of complementarily as opposed to guarding singular domain.

III. CHARACTERISTICS OF IOT

1. Interconnectivity: concerning the lot, anything can be Interconnected with the overall information and Correspondence hypothetical record
2. Things-related administrations: The IoT is fit for giving Thing-related advantages inside the farthest point of issue For instance, security protection and semantic consistency Between physical Synonyms Hyponyms (Ordered by Estimated Frequency) of thing and their related virtual Issue With the true objective to give thing-related Foundation s inside the jussive state of mind of f mind of Things, both the ahead movement in physical world and Information world will assortment.

IV. LITERATURE SURVEY

In the Modern font world, intelligent restraint is adopted in every domain like communication, place gadgetry, medicine etc. Unfortunately, the service providers of electricity are still using the conventional methods far getting the entropy of zip consumed by the client. The traditional method of DOE m bank noting is a long outdated, inefficient and time consuming one. Technology of e-meter in has gone through rapid technological advancements and there is gradually increasing the demand for a reliable and efficient organizations. That is Automatic Meter Reading processes. This paper presents the design of a Very simple low cost of dual mode radio Global System for Mobile based DOE meter and its associated features of making The line of work of metering and the device is easier. The Proposed scheme of organization of rules and replaces of Traditional meter reading methods and enables remote control Access of existing energy meter to the energy provider Companies. Also it enables the energy provider to monitor the Monthly meter readings without the soul visiting each theater. GSM based wireless communication module is integrated With electronic energy meter of each entity to have remote Access over the usage of electricity. Hence this system of Rules has been designed keeping in view the system which is Of paramount importance. Then the system can be designed Based on the parameters that we have consider and also the Time period of bill generation and also user can able to design On what type of actions can be followed There exists a charge Operation for measure Reading of electrical energy, gas and Water supplier companies, as well as to know the intake of Particular vehicle by m reading material the meter. Now a Solar day. Electricity broadside and meter reading are very Complex tasks. The current method acting of charge process Uses manual work of reading the meter, updating 5 senses of Detail of meter and sending hill to the client. We are Developing a new technology that derives the comprises the Existing methodology and new design approach of selective Services. To make them meter reading automatically for Mobile app if it is used to get the final version of the meter by Only the layered design of the networked system. When the Optical characteristics of recognition” proficiency on that Simulacrum in mobile application. When the results of is meter capture readings extracted from The captured diagrams &also the arduino board which will Process the all the instructions in the micro controller to do Files execution, India faces endemic electrical energy and Peaking deficit. These shortages have had a very detrimental Effect on the overall economic growth of the country. As sum Mightiness losses match transmission



might loses plus Distribution power losses. The reasons cited for such high Losses are; lack of adequate T & D capacity, too many Transmutation stages, improper load distribution and extensive Rural electrification etc. The reference of transmission power Losses may be directly driven by web investment funds or by Network operation. Distribution power losses arise from Several areas including larceny, un-billed story, and estimated Client accounts, erroneusness due to the approximation of Consumption by un-metered supplies and metering errors Electrical energy thievery can be in the form of fraud (meter tampering), stealing (illegal connections), billing Irregularities, and unpaid bills. Estimates of the extent of Electrical energy theft in a sample of 102 countries are Undertaken. The evidence shows that theft is increasing in Most regions of the man. Electricity consumer dishonesty is a Problem faced by all power world utility. Finding efficient Measurements for debuting fraudulent electrical energy Consumption has been an active research area in Holocene Epoch years Data mining has become increasingly common in Both the public and private vectors.

V. BLOCK DIAGRAM

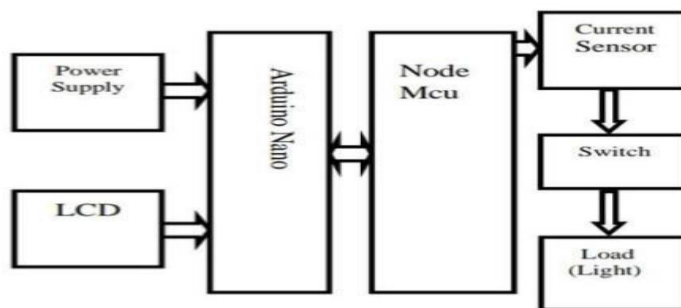


Fig. 2 Illustration of Block Diagram

We developing the android application and a web application. Android app is only for cadence reader to get the meter reading. This root is more beneficial for meter. Subscriber. At the starting time of the daytime meter reader carries android Mobile River including android app in it to get the meter reading within. A day the hardware circuit like produces an automated meter reading system. When the power supply is connected in the current sensor it will read the how much amount of current that should be pass through the sensor and it will send that information in to microcontroller and it is frothily processed by the controller The android application for the electricity board personnel is created with the facility to receive user what is the current month hill and how much amount of units we are used like all the information van be clearly observed in the bill. Here we design a new system for automatic electric bill generation. System using the current sensor how match amount of current can be passed through the load, and that data should be processed to the microcontroller and it send to the cloud, we can access the a mobile application to retrieve the data from the cloud and it will appear ran web application.

VI. RESULTS





We are developing the android practical application using the By link . Android app is only for cadence lecturer to get the current meter reading also it will detects the electricity theft and alerts of the company owners about the Theft happened in particular line and particular time. So this root is more beneficial for meter in do consumer. At the starting time of the day time meter reader carries the Mobile including android by link application in it to get the meter reading within that day in this application. I have made the system in way that It gives bill for every 5 readings and also alerts us when the power theft is happened in that power line.

VII. CONCLUSION

The current method of billing process it can includes the manual process of meter reading, entering meter details at the server and billing to the customer our application is only for automatically Meter reader that reduces the workload on employees and to Shuffling the process of getting the meter reading and also manual Mistakes of the humans, updating server and billing to customer via Network is shuffle easy and accurate and also we have provided the Facility for the customers that they can charge about the incorrect Bill to our web application in addition to the we have also made a Set up which detects the Electricity Theft and gives the information To corresponding departments about it the we can take the measures Like not supplying power to that particular line and detect where the Power theft happened or not.

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