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Iot Based Electric Meter Tampering Detector

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Abstract: ***IoT based smart and multifunctional energy meter reading of automatic meter using ATmegha kit. It has the ability to connect to the public database maintained by the energy supplier through computing and energy meter tamper detection. It can prevent theft detection for unregistered users and save losses as a result. A unique feature of this meter is its Internet of Things based functionality. Metmegha. In this case, the system will use the wireless system communication protocol. Wireless is used because the application requires high data rate, low power consumption and low cost. This article shows the ATmegha remote meter reading system. This is to solve the shortcomings of traditional ATmega Meter Reading technology by combining the features of wireless technology with Microcontroller ATMega16. The hardware design was implemented and then the usage of the ATmegha meter was analyzed. There are many opportunities for errors, processing delays, meter confusion, and misuse of electricity and other resources. More than one worker is needed; One group of workers must record the readings, and others must reduce electricity if payment is not made on time.***
Keywords: A Tmegha, Microcontroller, Internet Of Things. etc.

I. INTRODUCTION

In the Internet of Things, most of the living and non-living things around us will be available on the Internet in one way or another. Thanks to the popularity of devices powered by technological innovations such as Wireless Bluetooth, Radio Frequency Identification, Wireless Fidelity and embedded sensors, IoT has emerged in its own category and is truly on its way to revolutionizing the Internet. -net looks good on the internet. There are currently billion connected devices, and this number is expected to reach 50 billion by 2020. The world today faces a challenging environment. The energy problem is the most important problem facing our society. Systems for monitoring and controlling energy consumption are one of the solutions to this problem. One of the ways to solve current energy problems is to reduce electricity consumption at home. Consumers are rapidly increasing and are demanding electric vehicles that offer a wide range of products. Consumers should be facilitated by providing the best solution. Embedded systems and real-time operating systems (RTOS) are two of several technologies that will play an important role in enabling these concepts [2]. A large number of people already rely on operating systems for real-time applications; these 'eyes in the sky' will now visibly influence daily events. The onboard system is pre-programmed without connectivity and functions as needed. But in an instruction-oriented operating system. The system is, in principle, a system without a system. Embedded systems are the unsung heroes of much of the technology we use today: the video games we play, the CD player or washing machine we use. Without an embedded system, we couldn't even get online using a modem. Nearly every car coming off the grid these days has the using technology embedded in some way; Most systems in vehicles are rugged in nature, as most systems are operated by a single person. There are no driver accidents or 'system congestion' in the system. Their compact profile makes them easy to fit under narrow vehicles. These systems can be used to implement everything from adjusting the suspension to road conditions and oil octane to anti-lock brakes (ABS) and safety systems. An embedded system is designed to perform a specific task rather than a general-purpose multitasking computer. Some also have specific uptimes that must be met for reasons such as security and availability; others may have little or no functionality, allowing for simpler hardware to keep costs low.

II. METHODOLOGY

The device reads the meter remotely and sends this information to the system computer through communication media such as (RF communication module) or special process cables. The device can detect outages, connect and suspend services remotely, detect tampering, and more. It has advantages such as higher costs, lower labor and material costs, greater accuracy and lower costs. Some customer benefits include 's best customer service, customer choice, and fast response times. If staying at home is controlled by technologically savvy people, the consumer side will be hampered. Thus, this problem allows us to avoid this problem with the system we propose. It is very difficult for energy companies to record how much electricity consumers consume per hour. This inspires us to create a single integrated database that can store the data of users using electricity every hour and to analyze how to prevent the detection of houses in the scope of this problem.

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With the development of advanced technology, research on wireless applications and remote control has become popular today. An electric meter, electrical meter or energy meter is a device that measures the amount of electrical energy used by a residential,commercial or electrical utility.

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III. RESEARCH ANAYLSIS

With the increase in population, homes, workplaces and industry, electricity or energy consumption is increasing more than the number of users due to technology, equipment and systems that are dependent on electricity. To ensure fair billing, it is now imperative that utilities develop efficient, non-invasive, environmentally friendly measurement methods. The benefits outweigh the energy costs. and will form the basis for electricity supply and demand forecasts that will lead to efficient energy distribution, electricity generation and waste reduction. The Smart Metering System is designed to make charging systems more convenient and efficient. The standard measuring system is done manually. An employee of the electric company will come, take a reading and enter the card. There are many opportunities for manual errors, processing delays, meter confusion, and misuse of electricity and other resources. A large number of workers are needed, one group of workers must record measurements and the other group will have to reduce electricity if payments are not paid on time and our service is very bad. Reading by hand may cause errors in calculations. Sometimes the images taken by the meter reader are not in the correct order, which can cause the bill to be calculated incorrectly. This problem can be prevented with the project we propose. If the bill is not paid by the user within the stipulated time, it takes some time for the MSEB employee to go to the house in question and freeze the meter until the bill is not paid by the consumer . This is a time-consuming process. These are the ones that can be defeated by the system we propose.

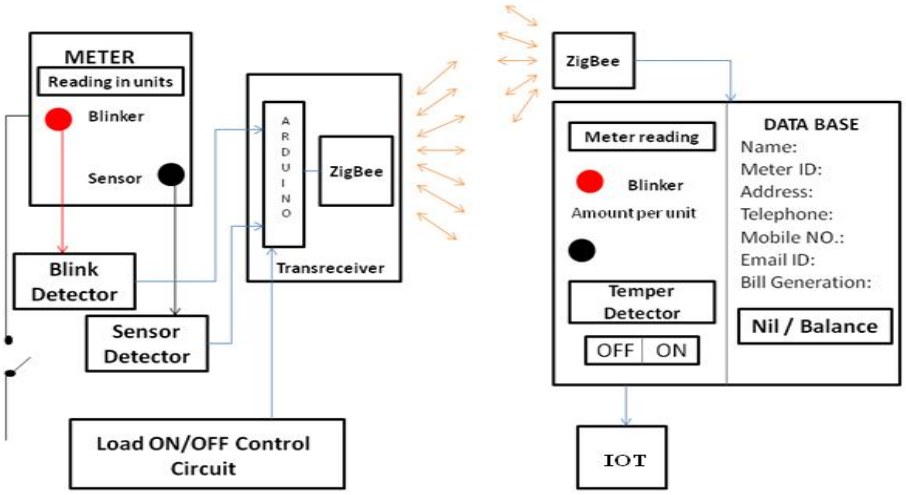


Fig 1. Iinterfacing circuit and transmitter module

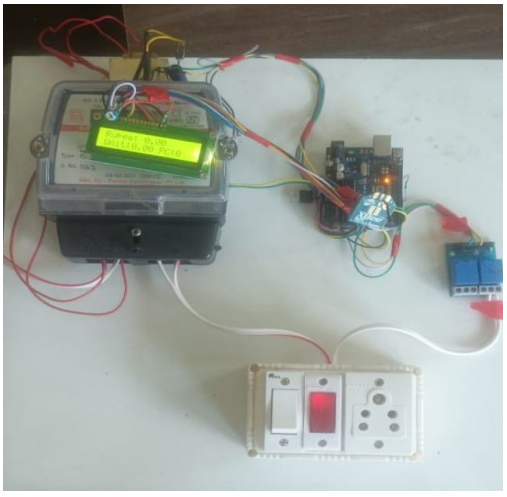


Fig 2. Project Model

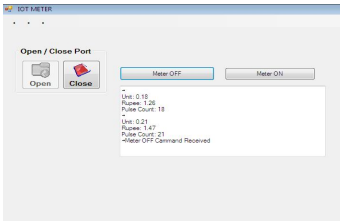


Fig 3. Server Side

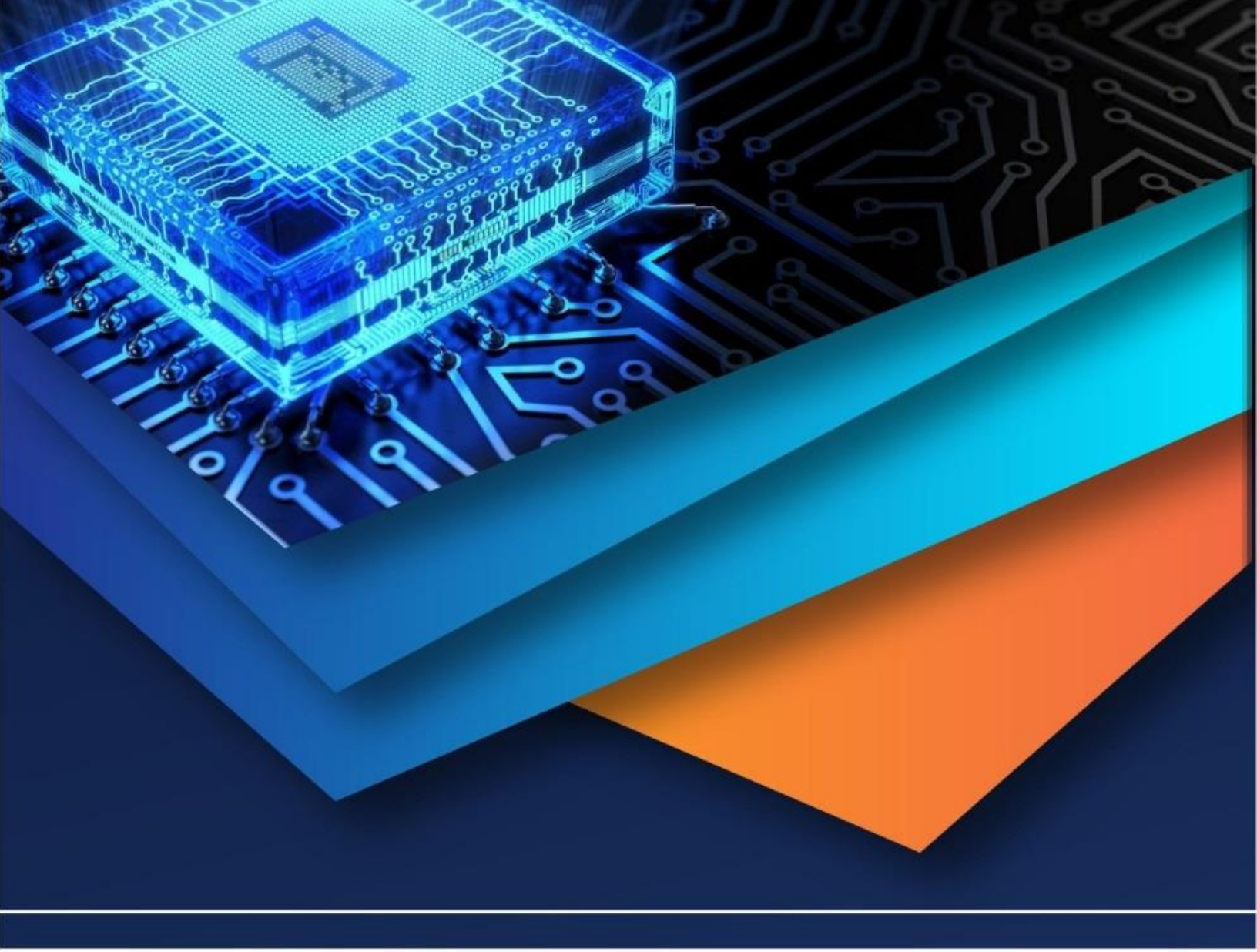
We are going to achieve following objectives which are further divided into two sections. Interconnection lines and transmission models We will achieve the following objectives, which are divided into two parts. Benefits of Electricity Company:- Application of artificial intelligence to replace manual work. Provide real-time information from the network to increase maintenance and investment. Providing specific prices and invoice dates. To facilitate project research. Determination of meter readings. To ensure accurate measurement of pollution losses. Implementation of network efficiency and effectiveness. Ensuring good requirements and good management. Add more wisdom to business planning. To establish a good corporate reputation. Preventing theft detection by unregistered users. Preventing criminals from using technology to find out who lives in a consumer's home. Facilitate monitoring of users' electricity consumption through cloud computing. customer benefits:- Provide correct information before use. Providing clear and complete invoices. Ensure data interruption and recovery rates. Prevent theft by detecting users at home.

IV. CONCLUSIONS

This page is mainly focused on IoT network. The first step is to convert the electromagnetic energy meter into a digital meter. We do automatic reading and also connect and disconnect the meter using a wireless module. Then the meter reading came quickly. It is available to customers. If the meter is connected to and disconnected before the stipulated date, people will use the information according to their needs and will have the freedom to check and reserve the bill. Thus, we are closely monitored while tightening the damaged stamp and reading the meter notes on the website with the IOT concept. Overall, the new thing we are working on in our project is the combination of the controller with the ATmegha controller and the IoT model. meter reading is a unique solution to problems in manual systems. Meter reading is the only reliable system. Meter reading using a special system is a new concept. There are many possibilities like manual errors, delays in operations, confusion of meters, misuse of electricity and other resources, but we can easily overcome them with the help of meter reading. The Standard system is very suitable for achieving force transfer. Prepaid services allow us to use or save electricity. benefits include higher income

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