REVIEW ON RFID BASED VENDING MACHINE FOR RASHAN

Prof. Ashwini F. Kokate [1], Mr.Aniket D.Mate [2] , Mr. Avinash S. Ukey [3], Mr. Akshay V. Lanjewar[4],Ms. Bhuneshwari P. Gharde[5]

[1]Prof. ,Department of Electrical Engineering, Madhukarrao Pandav College Of Engineering Bhilewada, Bhandara

[2,3,4] Final Year Student ,Department of Electrical Engineering, Madhukarrao Pandav College Of Engineering Bhilewada, Bhandara

Abstract

Indian government is distributing grains to the poor people at affordable price. The ration distribution system is also referred as public distribution system. The existing system works on manual distribution system, which makes inaccurate measurement in quantity of materials. In this system involves a human errors, corruption and illegal smuggling in commodities. To avoid this problem we are using MASTER KEY method and finger print authentication process. The finger print authentication process involves user One Time Password valid for few minutes. In this paper MASTER KEY method is introduced, the MASTER KEY is mainly to initiate the process.

Keyword :– Arduino Uno, LDR, Relay, Lighting Units

Introduction

Public distribution system provides food for the below poverty section at low price, which is distributed by the Indian government. Each family is using this benefit as per the card. Different food grains like wheat, rice, finger millet and sugar is fixed quality for every month based on the total number of people in each family. The Indian government offering different facilities for poor people by providing ration. Due to more corruption in ration distribution system such facilities do not reach up to poor people. Every family had valid ration card to buy the commodities from the ration shops. This commodities is collected at once in every month at ration shop. The commodities will distributed by shopkeeper through the weighting system with the help of human intervention. In such cases we can noticeable drawbacks which people can suffers, firstly the inaccuracy in imprecise weighting of commodities due to human errors and then secondly, sometimes consumer may miss the commodities, such commodities will misuse by the shopkeeper when there is no monitoring of such commodities. Then the shopkeeper will sell the commodities in the market and make a profit without intimation to government and consumers. Shopkeeper acts as bridge between government and consumer.

Literature Review

This system implemented is possible to detect level of water in water tank,when the switch is on then tanks get empty and when the switch is off then tanks get full. Microcontroller is being interface with LCD to show the level of water, the temperature of the water and automatic procedure of water helps human beings, that without any human interface to the water tap. They are getting enough, pure and temperature-controlled water. Shubham Dwivedi, Sourabh Bhardwaj[1]

"Automatic water dispenser along with mobile charging" : This system is very useful to people who are all using mobile phones without charging condition in public places so that they can reactive a low battery or a dead battery by simply plug in and charge it for Rs.1.They have designed coin based water dispenser machine which will going to vend water according to the desired amount. Chitra Nandanwar, Deeksha Raut [2]

"Real Time Embedded based Drinking Water Vending Machine": This system, coin discriminator is the mechanism of this coin dispenser used to insert different coins of Rs.1, Rs.2, and Rs.5 into the machine. The mechanism used in optical mouse sensor will generate different signals for different coins to be inserted in coin discriminator. The water will be saved after the desired quantity of water is provided into the water container with the help of surface sensor so the wastage of water will be reduced. Astha Shrivastva, Sasikala [3].

"Coin operated Water Dispenser": This system uses pumping of water implemented by a device is known as DC Submersible water pump. It removes water is being removed by mechanical action. Water pump can drive

with help of transistor. Controller passes the signal to the water pump to starts its operation when container is present and coin is detected. Prof. A. A. Shinde, Rajdeep Ghosh [4].

"Research and Development of Practical Water Dispenser": The Practical Water Dispenser adopts the 8052 Micro Controller Unit program control in the circuit design to control the water release time and flow rate of the high-temperature boiled water and low-temperature boiled water and mix the hightemperature boiled water with the low-temperature boiled water to achieve temperature of boiled water and required amount by users. At the same time, the original function of releasing water by pushing button is retained and a voice prompt is provided when the water filling action is completed. When the water from water dispenser overflows the cup, the water filling would be stopped automatically without water waste. It can actually achieve the purposes of convenient and practical use and water saving. Chin Jung Huang, Fa Ta Tsai. [5]

Methodology
1RFID is "talking" barcode

There are people who had the impression that RFID tags are merely barcodes that are capable of "talking" to readers instead of being read by a laser or the imager. This is not entire false, but the real differences are glaring. RFID tags are not only powerful than barcode labels. A typical RFIDtag is able to 2KB of data, which is more than what a typical barcode can do.An ordinary barcode can represent just about 10-12 digits. It is also significant to note that RFID tags can be easily programmed and then reprogrammed. This feature makes it useful for data collection solution where barcodes can be printed and then reprinted every time information is changed.

It's possible to read every RFID tag all the time.

Many factors influenced the read rate, including the distance of the tag from the reader, and on what substance the tag is placed.. The tag orientation and design can also affect tags readability. A solid engineering and system design will be able to increase the read rate of the tags. It is good to remember that some procedures may have to be altered in order to get acceptable read rates. So, in short, it is impossible to read every RFID tag all the time.

Advantages

1. RFID technology automates data collection and vastly reduces humaneffort and error
2. RFID supports tag reading with no line-of-sight or item-by-item scansrequired
3. RFID readers can read multiple RFID tags simultaneously, offeringincreases in efficiency
4. All RFID tags within range can be detected instantly and matched withinformation in your database
5. Assets can be cross-referenced against assigned locations and recordedas present, missing, or relocated
6. RFID can be integrate with active scanning and fixed readers for atotally automated tracking solution
7. Assets and employees can be tracked and located automatically for everything from supply chain and asset management to facility securityand emergency planning
8. Available scanners support both RFID and barcoding so you canupgrade at your own pace

Conclusion and future scope

The following are the conclusion made

1. We should integrate RFID with hospital information systems (HIS) and electronic health records (EHRs) and support it by clinical decision support systems (CDSS), it facilitates processes and reduce medical, medication and diagnosis errors.
2. In this chapter, we present the conclusions and proposed the future works that can be conducted in order to improve the performance of the chipless RFID tag and RFID readers used to detect the tag.

The following are the Future scope made

Along with wider adoption, new technologies will help make RFID morereliable and cost-effective for a larger number of applications.

Innovative Manufacturing Will Create Durable and Versatile Tags

Advancements in printed electronics have helped create new classes of extremely thin, flexible RFID tags that can now be combined with printed sensors, printed batteries, thin-film photovoltaic solar cells, and other technologies. With new electronic printing and conductive ink technologies, companies could conceivably print their own chipless RFIDtags on site.

There are also companies working on 3D printing technology that would enable direct printing of electronics in products as they are rendered.

While the printing of RFID tags directly inside products may be severalyears away, the technology is rapidly evolving to do so.

New Antenna Designs Could Increase Range

The key to good tag performance is the antenna design. It's the antenna that helps determine where and how a tag can be used, and how well it will perform. Over the next few years, expect to see new antennas and inlays as the competition for RFID antenna design heats up.

Increased Memory Will Create Smart Tags

Building intelligence into the tag and, by extension, the asset being tagged is another key activity. Expect tags with more memory at a lower cost to enable these "smart asset" applications. High-value assets will be an early application for this technology, as the cost of those assets will make it easier to amortize the increased cost of the more robust tags.

Use Sensor Integration to Streamline Your Business

RFID will increasingly be one part of a whole ecosystem of sensors and communication technologies that will help companies better monitor and manage assets and shipments. Passive sensors for temperature, moistures, pressure, vibration and other factors will be combined with RFID to provide even more intelligence form the edge of the enterprise Secure Your Data With New Cloud-Based Capabilities

RFID can potentially enable a whole host of new applications in the retail, healthcare, manufacturing and other sectors, but one stumbling block has always been management of the data flowing in from thousands of tags. With cloud-based applications and services taking the heavy lifting of IT support away from the point of activity, companies can now deploy centrally managed and centrally available solutions without the traditional support and deployment costs.

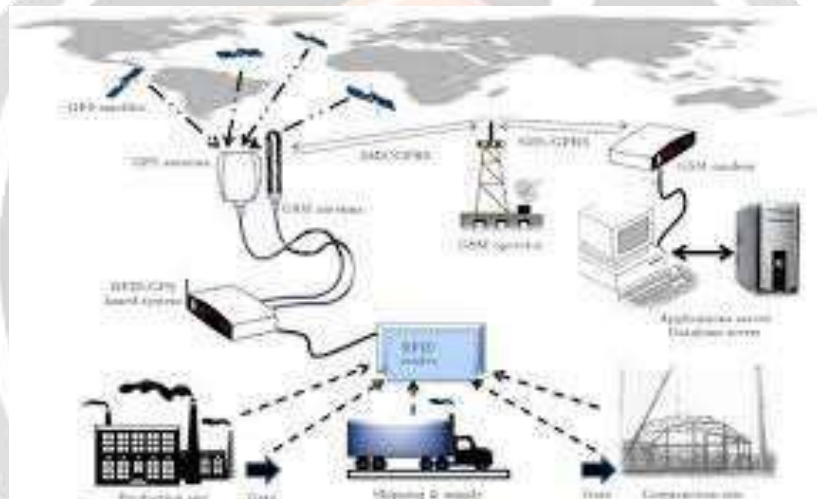Fig 1 :- RFID Based Attendance System Using Node MCU with PHP Web App

Fig 2:- Influence of RFID technology on automated management of construction materials and component

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