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Smart Ration Card and Automatic Ration Material Distribution System Based on IOT

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Abstract: An efficient, accurate and automated technique of ration distribution using RFID (radio frequency identification) based technology/using AADHAR number which is an innovative approach in PDS (public distribution system). PDS is also named as ration distribution system, which is one of the widely disputable issues that involve malpractices. The existing ration distribution system has high level of corruption like inaccurate measurement of goods, large waiting time, and material theft in ration shop and manual distribution is not easy to handle crowd.
In this paper are replacing the manual work done in the distribution centers by smart measuring automated electronic device with the help of ARM microcontroller which measures the goods accurately and updates it in data base periodically about the availability of goods and information regarding the transactions done in a digitalized manner. Here, to have access to the information and data regarding the stock a main data base is created which can be access by the government main stream invigilators for distribution centers from their head office. Therefore, this paper ensures corruption free ration centers working system which will also enhance the direct communication of the consumers with the government and will defiantly provide transparency.
***Keywords*: Embedded System, IOT, RFID, MYSql, Eclipse.**

I. INTRODUCTION

RFID based automatic ration shop is novel approach in public distribution system (PDS) useful for more efficient, accurate, and automated technique of ration distribution. The present ration distribution system has drawbacks like inaccurate quantity of goods, low processing speed, large waiting time, material theft in ration shop. The proposed system replaces the manual work in ration shop. The main objective of the designed system is the automation of ration shop to provide transparency.
The proposed automatic ration shop for public distribution system is based on Radio Frequency Identification (RFID) technology that replaces conventional ration cards. The RFID tags are provided instead of conventional ration cards. Customer's database is stored in microcontroller which is provided by Government Authority. Customer needs to scan tag to RFID reader, and then microcontroller checks customer's details with stored to distribute material in ration shop. After successful verification, customer needs to enter type of material as well as quantity of material using keypad. After delivering proper material to consumer, the microcontroller sends the information to customer.
Every customer has given a RFID tag which acts as the ration card. This RFID tags has all the information of the customer, needed for taking the ration from the ration shops. The customer has to show this RFID tag to the RFID reader, which is attached to a microcontroller, which reads the information in the tag and accordingly instruct the shopkeeper to give this much amount of ration to that card holder.

II. LITERATURE REVIEW

The Government of India in an effort to ensure fair supply of food items under PDS to the targeted underprivileged sections as per the eligibility fixed by the Government of India. In spite of the best efforts by Government officials at various levels, there are a few bottle-necks and inconveniences to the targeted citizens in availing the services provided. All these happen because every job in the ration shop involves manual work. Because of intervention of manual work there are lots of illegal activity occurs. As solution to this problem the proposed system proposes a transparent and highly scalable Ration Distribution (Food Distribution) system with biometric authentication. The conventional paper based ration card is replaced by smart card. The system is placed at each ration shop which is connected to the server through web. Every time before ration collection each user has to login into the system. The user need not to pay the cash money as the appropriate balance is deducted from users bank account, so there is no direct involvement of ration shop owner in transaction. The transaction details are send to users mobile. The government can have overall

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control and monitoring at each ration shop through web. In addition user as well as ration distributor will get SMS based alert about arrival of commodities. As a result, this new e-PDS system can reduce possible human errors and provide accurate information of public distribution system at any point.

The Rationing distribution system also called public distribution system distributes food items to the poor. Major commodities include rice, wheat, sugar and kerosene. In this system QR codes will be provided instead of current ration cards. Users database is stored which is provided by Government. The Smart Card must be scanned by the customer to show the details of items allocated by government, and then it checks customer details with stored data to distribute material in ration shop. Biometric i.e. Fingerprint scanning will be done for security and authentication purpose.

III.PROBLEM STATEMENT

Ration card acts as the address/identity proof of a person. According to number of member's in the family, ration will be given in that proportionate ration. The current Ration Allocation System is an offline one. Due to this, corruption is rampant. Dealers often falsify records for personal benefit. They also provide the ration items of the poor people at maximum rates which is not justified. There is a lack of transparency between the dealer and consumer. Due to this problem of dealer the poor people do not get the items as stated on their ration card. Moreover, there is no complaint system through which the consumer's interests can be protected. Using the Smart Ration Card Automation System, we wish to do away with all these problems and create a system which would be fair and just for all.

IV.SYSTEM ARCHITECTURE

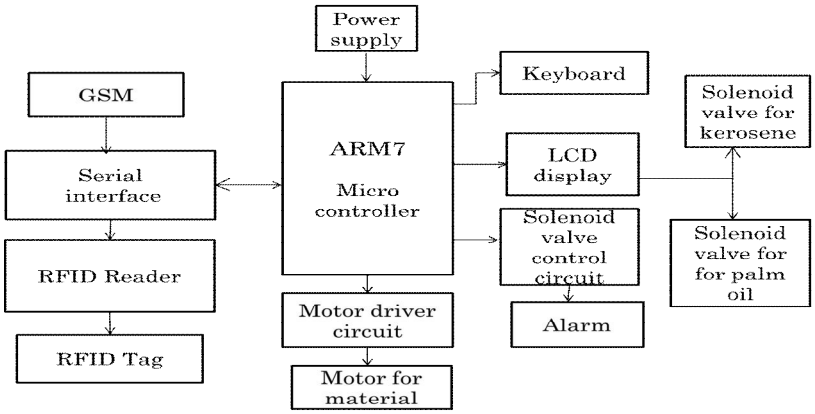
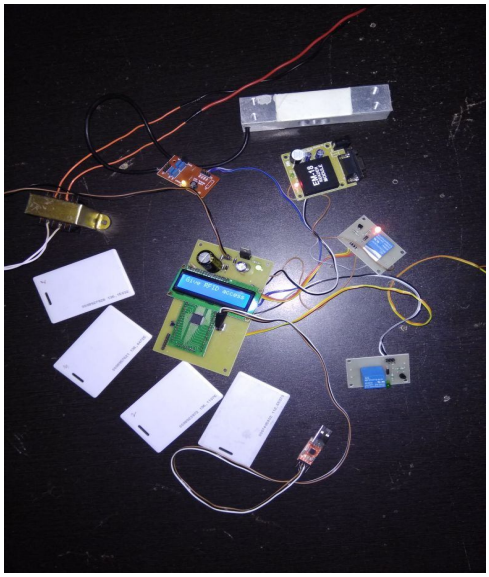
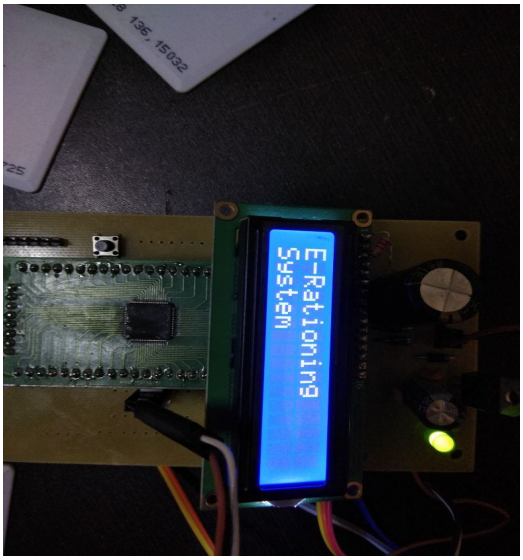


Fig. System Architecture

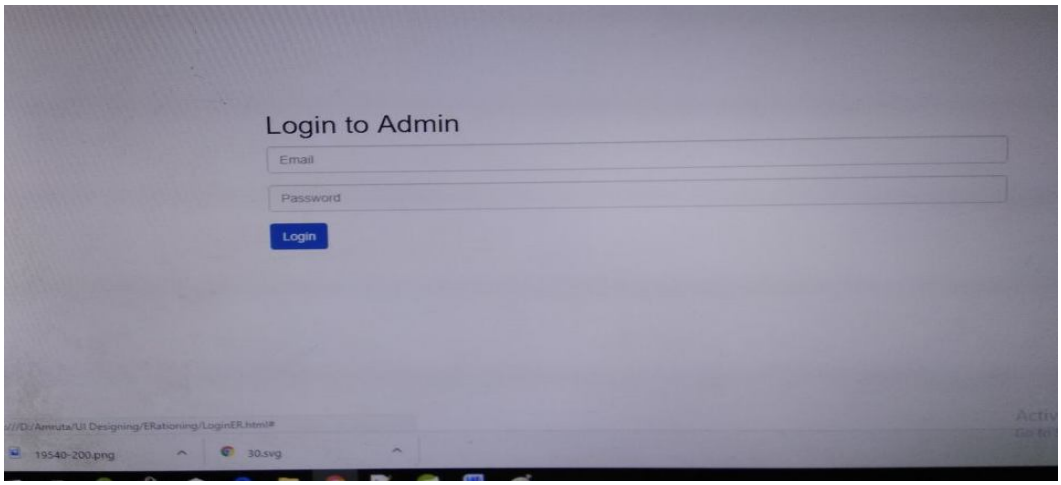
Hardware Implimentation





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Software Implimentation



V. CONCLUSION

This proposed project is for the benefit of common people and the government. The device will find's its application in the ration shop run by the government. Also, this project includes an electronic device which can be used in the rationing shops and distribution centers.

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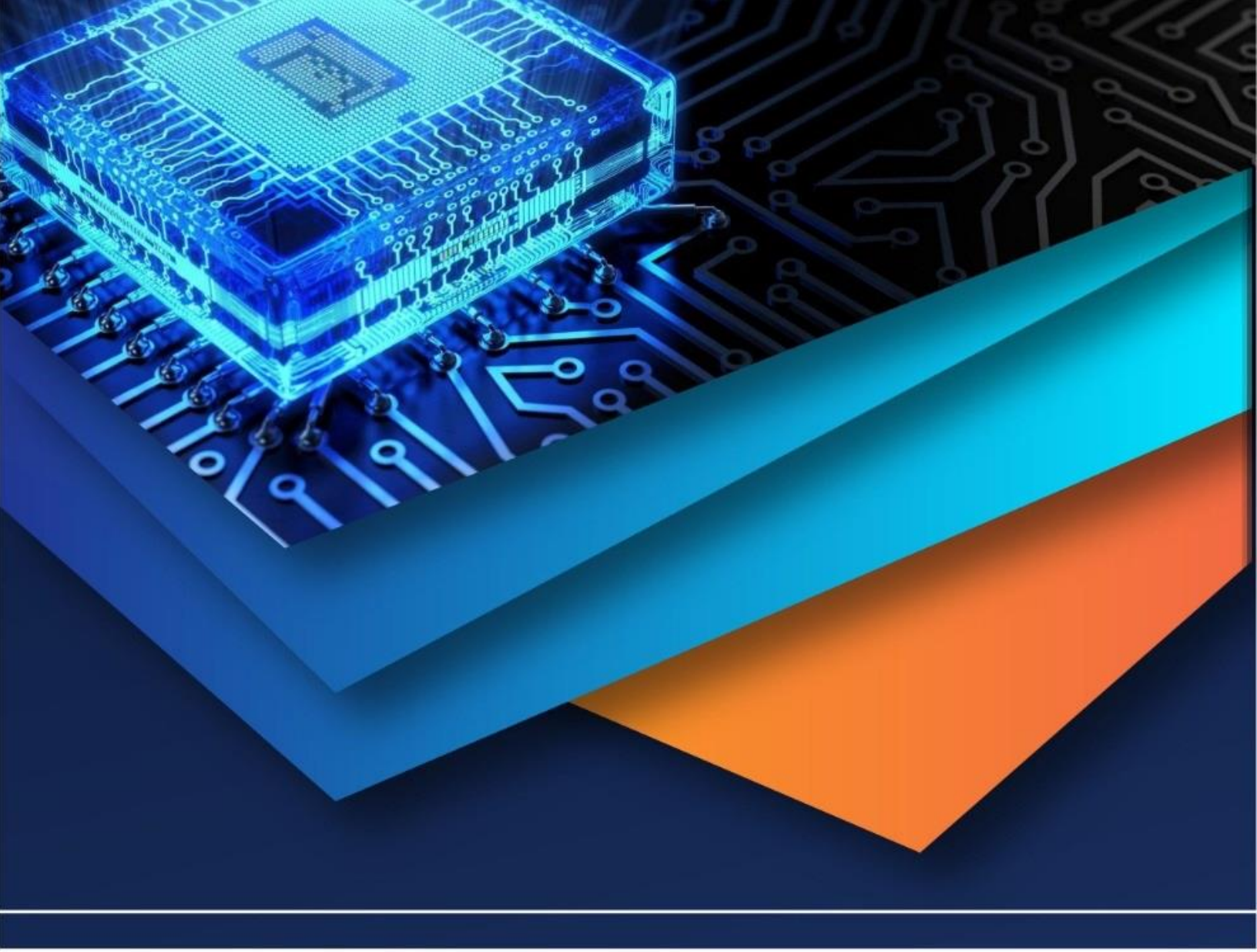
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