

IOT Based Ration Distribution System Using Aadhar Card

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Abstract: Ration card assumes a crucial job for the family subtleties, for example, to get gas association, relative subtleties, it goes about as location evidence and so forth. In current apportion dispersion arrangement of India there are numerous restrictions and negligence at different dimensions, which should be improved. This idea speaks to a savvy proportion card framework utilizing Aadhar card and IoT to avert the misbehaviors and defilement in the present apportion dispersion framework. A brilliant proportion card framework utilizing Aadhar card and IoT anticipate the acts of neglect and debasement in the present apportion conveyance framework. This framework displays a proficient technique for the purchaser to purchase the items in the apportion shop. The on-going proportion dispersion framework is having defilement in abnormal state, for example, material robbery, huge holding up time and mistaken estimation of merchandise in apportion shop. Additionally to deal with group isn't simple while circulation of proportion.

Keywords: Aadhar (QR code), DC Motor, Internet of things, Raspberry_pi.

1. INTRODUCTION

Ration Distribution in a nation like India isn't a simple undertaking. India is second biggest populated nation on the planet. Open appropriation framework is a noteworthy open area which oversees and disseminates the basic wares to every one of the natives of the India underneath the neediness line and some held classes, for example, police and military people. In proportion shop, materials, for example, wheat, rice, sugar, dals, lamp fuel, are given. Aadhar card contains all related data, for example, name, contact numbers, Address, ledger subtleties, biometric data and statistic information. Rather than traditional paper based apportion card every family is given one savvy card (electronic proportion card) this card is RFID based card containing all data about the relatives, for example, name, address, kind of card, number of relatives, relative's calling, age, sexual orientation, Aadhar number, portable number, bank details[8 Savvy Rationing System, as observed from numerous year our nation's nourishment office is attempting to supply sustenance and oils in each side of the nation through apportioning toll value shop. Yet every individual can't get his own proportion because of some condition like storing, dark advertising, contaminated. So SRS will be appropriate orderly framework which will circulate to every native as it's their privilege and SRS additionally ready to keep a checkmate with the admission value shop and Government of India. In this robotized framework the convectional apportion card supplant by keen card in which every

one of the insights concerning clients are given including their "AADHAR" number which is utilized for client verification and voice acknowledgment for high security[5]. Common Supply dispersion framework in the present situation faces heaps of difficulties as bunches of questionable issues like unlawful

sneaking of merchandise, debasement and corruptions in products occurs here in the conveyance focuses in both rustic and urban pieces of India. Presently multi day's IOT is a rising innovation. So with the assistance of IOT and implanted framework PDS can be legitimately interface the customer to government to unravel the issue of defilement in proportion conveyance focuses.

2. RELATED WORK

B. Chilad et al, [1] proposed that Smart ration distribution system using RFID. The developed system that substitute the hand-operated task in ration distribution system with automated system. RFID tag holds a unique ID that issued for all BPL bearers. For authentication they used RFID and biometrics but this system did not give the proper information of card whether it is duplicate or original. Gaikwad Priya B et al, [2] proposed E- public distribution system using smart card and GSM technology. In this system the implementation of the system with E-ration shop for public distribution system replace conventional ration card by smart card which consist all details of customer. Customer needs to scan smart card and the then microcontroller checks customer's details with stored to distribute material in ration shop. After successful verification, customers need to enter type of material as well as quantity of material using keypad the material get automatically dispatched without manual interpretation. After delivering proper material to consumer, the microcontroller sends the information to customer as well as Public distribution system authorities through GSM technology. This system did not give voice authentication so this would enhance the system by improving it. Ch.Harisri et al, [3] proposed an automated rationing system by using DC motor through an RFID. This project presents an RFID (Radio frequency identification) based smart rationing system which would overcome the drawbacks of conventional ration system. This will provide RFID tags to the customers instead of ration cards. The person has to show the card before the scanner and it communicates with the microcontroller there by with the PC, which shows the details completely. The microcontroller is attached with the dc motor and a dedicated liquid submersible pump for kerosene. The mechanical assemble along with the motor helps to pour the required quantity of rice for the person automatically and similarly the kerosene is pumped by the liquid submersible pump and poured in the customer's vessel. Padmavathi.R et al, [4] proposed that Digitalized Aadhar

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Enabled Ration Distribution Using smart card. This paper proposes automation in ration distribution using smart card based on Aadhar card technology. In this system, we are using a prototype model based on ATM machine. Using this technology, we can achieve secure and interactive approach for atomization for ration distribution. Aadhar card contains all related information such as name of person, contact number of person, address, bank account details, biometric information and demographic data. Customer details are stored in the central data base which is provided by the government authority. The use of AADHAR number in the system eases the management of distribution for the government. Noor Adibha, et al, [7] proposed that Automated Ration Distribution system using RFID And IOT An efficient, accurate and automated technique of ration distribution using RFID (Radio Frequency Identification) based technology/using of AADHAR number, which is an innovative approach in PDS (Public Distribution system). Public distribution system is also named as rationing 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 grains, long waiting time, and material theft in ration shop and manual distribution is not easy to handle crowd. In this paper, the proposed system replaces the manual work in public distribution system. Subhasini Shukla et al, [8] proposed A Step towards Smart Ration Card System Using RFID and IO. In this system user identity will be verified by microcontroller which is connected to an Amazon Web Services (AWS) database. For added security One Time Password (OTP) is also sent to user's registered mobile number which needs to be entered in the system. If user is found to be authentic then monthly quota of the ration available for the user is displayed. After successful transaction the database will be updated stating the ration content delivered to the user. This system will require less human efforts for operation and this is very secure but this system did not give aadhar data verification so this would enhance the system by improving it. Chaitali Chandan khede et al, [9] proposed that Automating Public Distribution System. In this system Public Distribution System is a government sponsored chain of shops entrusted with the work of distributing basic food and non-food commodities to the needy sections of the society at very cheap prices The current Public Distribution System has several well documented problems such as lack of transparency, accountability, poor governance and poor service delivery mechanisms. A large number of poor and needy members of society are left out and a lot of false cards are also issued. This leads to increase in corruption .Our project proposes the improvised technique of implementing smart ration card system. It also depicts the automated version of the Public Distribution System. At the time of implementation, for identification purpose we are giving unique QR (Quick Response) Code to each customer. This will help to keep track of their respective accounts. Customers will also receive SMS notification of their successful registration and stock allotted to them but this system did not give message on email. Dr.M.Pallikonda Rajesekaran et al, [10] proposed Automatic Smart Ration Distribution System for Prevention of Civil Supplies Hoarding in India .Civil Supply distribution system in now day's faces loads of challenges as lots of controversial issues like corruption of grains, and adulterations in goods happens here in the distribution centers in both rural and urban parts of India. These controversies include irregular

measurement of the goods, duplicate entries in the manual stock register of centers containing false information of the commodities that are delivered to the consumers, other times the actual goods provided by the government for distribution does not reach the poor people effectively as the information or data regarding the goods received by the ration shop and their availability in the shop for distribution can be altered by the workers of the ration shop which cannot be recognized by the consumers as they have no access to the manual record of data. Sneha Ingale et al, [11] proposed that Smart Ration Card and Automatic Ration Material Distribution System Using IOT. Correct, automated and efficient RFID based technology used for distribution of ration using AADHAR card number which is an advanced methodology in PDS. Public distribution system is also called as ration distribution system, which is one of the commonly disputable issue which is involved in malpractices. Now day's in ration distribution system there is large corruption such as material theft, large waiting time and wrong measurement of goods in ration shop. Also to handle crowd is not easy while distribution of ration. In this paper we are replacing the manual work done in the ration shop 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 electronically.

3. METHODOLOGY

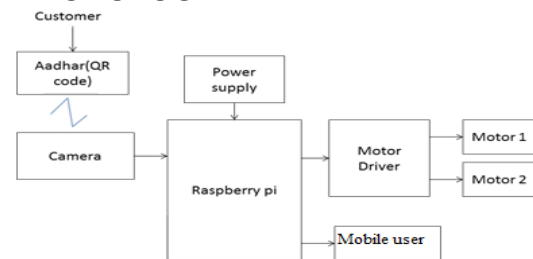


Fig.1. Block Diagram of Ration Distribution system

In proposed system Raspberry pi works as main controlling unit, camera is input to the controller and motor. Data is stored in Raspberry pi. Camera is used to scan QR code of the Aadhar card, QR code of each and every customer's Aadhar card is already stored in database. When Aadhar card is scan in front of camera, system opens data of that particular person which contains quantity of goods particular customer has to give. The main objective of this work is to develop a solution using Aadhar card with IOT based to proper management of ration distribution material. In this system the shopkeeper will scan the Aadhar card and the scanner will check the Aadhar whether it is duplicate or original. If the Aadhar card is original then the system will check information of particular person and also it will check whether the information is match with stored information or not. Once the information matched with stored information then and then machine will provide the grain like sugar, rice etc. Whatever grains are allotted to customer is displayed on the screen and shopkeeper cannot change this data as he use to do when it was stored manually. After all the transaction is finished then that message will be received by customer on his mobile number, similarly same data will be updated on embedded web server which can be used by government servant and customer so that customer will have

all the backup of his ration account and shopkeeper cannot lie to the customer. Every time when a customer dispenses some ration, the system conveys this info to customer via SMS. Processor and the block diagram of the proposed methodology are as given in the above figure 1.

4. RESULTS

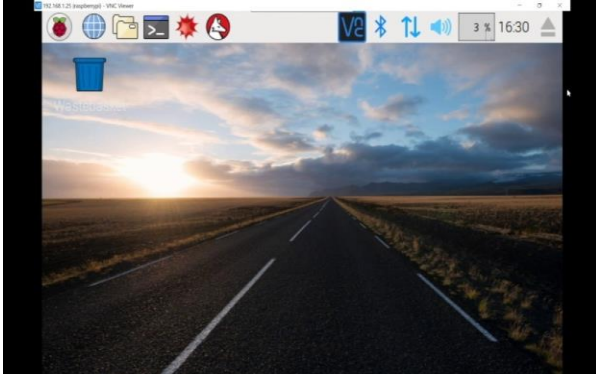


Fig.2. Home page of Raspbian OS.

1. Hardware Model

Figure.3.shows the actual hardware model of the proposed system which consist of Raspberry pi as main controller which decides whether the Aadhar card scan by camera is valid or not and if valid then according to data (quantity of grain/seed), send signals to motor (via motor driver IC) and to solenoid valve (via relay) conveying them for what period they have to switch ON.



Fig. 3. Hardware model of the system.

2. Web page

Fig. 4. Shows the login page of the Aadhar based smart ration card system.



Fig .4. Login page.



Fig.5.Final message related to quantity and type.

After all the transaction is finished customer will get message through email or SMS. Whatever grains are allotted to customer is displayed on the screen and shopkeeper cannot change this data as he used to do when it was stored manually. GSM is used to send message to customer conveying him/her about rations remaining in his/her account when he/she dispenses some.

5. CONCLUSION

This framework is more secure and keep up straightforward than the ordinary existing framework. Impact of extortion deception information section consumption in the proportion database can be kept up essentially with the utilization of this shrewd apportion card framework. Just approved individual (businessperson, tradesman) can work the database. Client can be validated utilizing the Aadhar card filter through web camera and get apportioned proportion after scanner tag verification. On the off chance that client needn't bother with the distributed apportion, at that point it is given to the client who actually needs the proportion. The buyer will get the affirmation SMS and database will be refreshed continuously.

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