SMART RATIONING SYSTEM USING ADHAR CARD

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ABSTARCT :_ _ _ _ _*In India E-ration PDS using SMART CARD or ADHAR CARD is an innovative approach in public distribution system (PDS) which is very useful for efficient, accurate, and automated distribution of ration distribution system. Presently ration distribution system has drawbacks like inaccurate quantity of goods, large waiting time, low processing speed and material theft in ration shop. Main objective of the designed system is to replace manual work with the atomization of ration shop to have a transparency in PDS. Proposed E- ration shop for public distribution system replaces conventional ration card by smart cards or adhar card which consist of all the details about the card holder like family details, type of card and its validity etc. Customer's database is stored in microcontroller which is provided by government authority. Customer needs to scan QR code, and then the microcontroller checks customer's details, quantity of material to be distributed to the particular costumer. After successful verification, material gets automatically dispatched without manual interpretation. After delivering proper material to consumer, the microcontroller sends the information to customer as well as PDS authorities.*

Keywords—Public distribution system (PDS), Fair price shop (FPS), Global system for mobile communication (GSM), Visual basic (VB).

I. INTRODUCTION

Smart Rationing System, as seen from many years our countries food department is working to supply food & oils in every corners of the country through rationing fare price shop. But still each person is not able to get his own ration due to some condition like hoarding, black marketing, adulteration & etc. So SRS will be proper systematic system which will distribute to each citizen as it's their right and SRS also able to keep a check mate with the fare price shop & Government of India.

In this automated system we replace the convectional ration distribution system in smart rationing system by using smart phone application which uses adhar card data for authentication and automate this system in smart machine. Government should have control over all transaction happen at ration shop, to involve government in the process we connected the system which is at ration shop to the government database. There will be an Adhar card which will be used to identify the user by machine placed at ration shop. There are five main objective of this project first is to create the transparency in public distribution system. Second is to automatically manage costumer data or record transaction database on cloud so that government can keep check on the distribution status of each distributor. Third is distributor unable to do corruption or black marketing of ration material or cannot cheat customer because ration is distributed by machine which is automated. Fourth is that, customers will get the acknowledgment and keep record of their ration material. Fifth is working load

of distributor gets reduces and it reduces man power. They vehemently leveled charges against the ration shop keepers for delay. In an effort to make the public distribution system (PDS) more efficient, various state government in India has decided to introduce smart ration distribution system for the consumers.

II. RELATED WORK

The concept of replacing manual work/job causing irregularities in public distribution system (PDS) in India, by automated system which can be installed at the ration shop with ease is proposed. The smart rationing system uses ADHAR No. (QR code) for user's authentication. Using such a system, Government would have all required control/monitoring over the transactions at ration shop.

III. PROBLEM STATEMENT

The ration distribution system is one of the largest Govt. economic policies in India. Its main motto is to provide food grains (sugar, wheat, rice, kerosene, etc.) to the people at affordable rates. The network of the ration shop is spread all over in India to provide food security to people. This distribution of ration is controlled and monitored by Central Govt. But it has so many limitations. Most of the ration shopkeepers to keep fake ration cards with them. Due to the fake ration cards, the dealer receives the extra ration from higher authority and he sales it into the open market.

They may not provide sufficient amount of food to consumers. Most of the time people are not aware of the availability of ration in ration shop. The dealer may sales ration at higher rates than recommended rates by Government or may do wrong entries in register. In this way, in current situation we are facing problems of corruption in PDS. There is no such effective system through which Government gets acknowledgement of consumption of food grains by people. Now, we need arise to make the system automated so that human intervention and manual work avoided and create the transparency in system.

IV. PROPOSED SYSTEM

In our project we propose the concept about to replace manual work in public distribution system (rationing distribution system) by automated system which will be install at the ration shop. In this automated system we replace the convectional ration card by using a smart phone application in which all the details about users are provided including their "ADHAR" number which is used for user authentication. To implement smart ration card system to create transparency in operations so that every citizen can very easily know what is happening and what is supposed to happen and providing food grains and other essential items to vulnerable sections of the society at reasonable prices and avoid corruption.
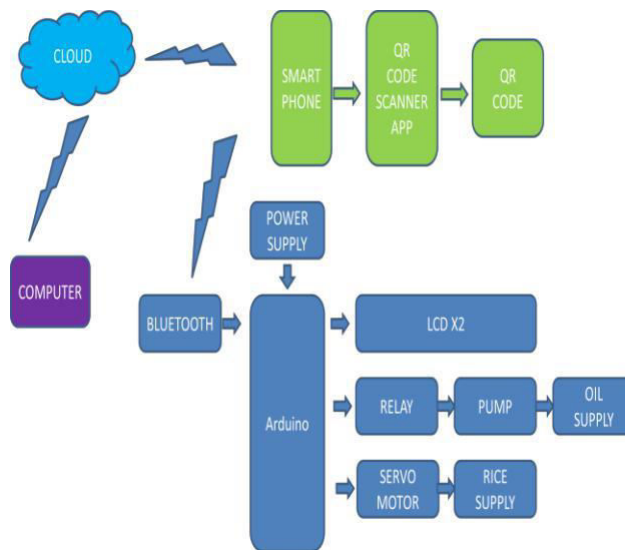

Figure 1 Block Diagram of the Proposed System

Table 1. List of component used :

Arduno	Male bus strip	Transistor
LCD	Electrolytic Capacitor	Relay
12 V Adapter	7805 Voltage regulator	Bluetooth
DC Jack/ Socket	Diode	Water pump
Push to on/off switch	Resistor	Servo Motor

V. IMPLEMENTATION

1. QR Code in Smart Rationing System: In SRS QR is the Primary Key That is Unique Identification Number – Adhar Number. The QR will be scanned through Android Application – Rationing Distribution Application will scan Adhar QR code and display the details such as Adhar Number, Name, and Address etc While registering operator need to enter number of member in family & valid mobile number. After successful registration mention mobile number will received the message as successfully registered with SRS. After registration the Adhar holder will require to scan QR code of Adhar number and dispense the grains accordingly within the period of one month.

2. Bluetooth Module: Bluetooth is a wireless technology standard for exchanging data over short distances (using short wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz) from fixed and mobile devices and building personal area networks (PANs). Range is approximately 10 Meters Bluetooth-HC05 modules are based on the Cambridge Silicon Radio BC417 2.4 GHz Bluetooth Radio chip. This is a complex chip which uses an external 8 Mbit flash memory. These low-cost Bluetooth Sub-modules work well with Arduino and other Microcomputers.HC-05 is a more capable module that can be set to be either Master or Slave (Available HERE) HC-06 is a Slave only device. The module has two modes of operation, Command Mode where we can send AT commands to it and Data Mode where it transmits and receives data to another Bluetooth module.

3. Motors: 300 RPM Johnson Gear DC Motor 12V The Johnsons DC Gear motor offers custom engineering solutions based on a wide range of low voltage DC and high voltage DC motor platforms. The low voltage DC platform provides power density and compact packaging options. Gear motors are electric motors that utilize a type of gear system on the output of the motor. This gearing arrangement is called a gear reducer or gearbox. The combination of

an electric motor and gearbox reduces design complexity and lowers cost, particularly for motors built for high torque and low speed applications. In addition, gearboxes can be used as a means to reorient the output shaft in a different direction.

VI. PROPOSED SYSTEM ADVANTAGES

1. Needs less time for measuring the goods.
2. Reduces spilling of the goods while measuring them.
3. The distributor cannot give less quantity of goods to the customers.
4. It has high precision and accuracy, as it measures time for distribution.
5. It stores the record of the distribution of goods.
6. Reduces the requirement of man power
7. It uses the Adhar card UID number for determining the quantity of goods allotted for the customers.
7. As the shopkeeper has no part in distribution, the customer can withdraw the goods any time in the allotted time span
8. As it uses details of Adhar card, the government can track the record of the distribution of goods. (If a server is maintained.)
9. As the shopkeeper has no part in distribution, the customer can withdraw the goods any time in the allotted time span.

VI. CONCLUSION

Huge amount of Govt. money get wasted due to corruption in the conventional PDS. This paper implements a simple, easy to use and smart rationing system. This device is similar to the ticketing machine used by bus conductor or bank pigmy agent and the e-ration card is similar to swipe card. The Subscriber has to use adhar card instead of a traditional ration card to get ration from the dealer. Efforts are put together from our side to combat corruption and to have better management of public distribution system.

VII. FUTURE SCOPE:

1. Load cell and many more sensors can be added to improve the accuracy and reliability.
2. We can update the feature so that users can withdraw the goods from anywhere.
3. Hardware and software can be upgraded according to requirement.
4. If storage is big, it can serve many people.
5. For more safety measure and thief controlling more sensor can implemented

VIII. ACKNOWLEDGEMENT

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