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AUTOMATIC RATIONING DISTRIBUTION SYSTEM

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ABSTRACT

Corruption has been around for a very long time and will remain in the future unless governments can figure out effective ways to combat it. E-government is increasingly used to improve transparency in the government sector and to combat against corruption. E-government is being implemented in more areas of government administration for both the local and national levels worldwide. E-government system developed to reduce corruption. This automatic ration system proposed in this paper replaces the conventional ration card system by smart card. *The aim of this paper is to distribute the ration using finger print of any one or the entire family members. The dealer in that area cannot sell the ration to black market. In this way the dealers' corruption can be reduced or avoided.*

Keywords: **E-government, Corruption, PDS, Microcontroller and Aadhar.**

I. INTRODUCTION

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 shopkeeper s to keep fake rations 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. The 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. 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 smart card in which all the details about users are provided including their "AADHAR" number which is used for user authentication. This prompted us to interface

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smart card reader (RFID Based) to the microcontroller and PC hyper-terminal via USB and UART. 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 a Smart card based ration card which will be used to identify the user by machine placed at ration shop. There are two main objective of this project one is to create the transparency in public distribution system and second is to inform the people about new scheme launch by government. In urban areas, kerosene is supplied to ration card holders in the first week of every month and the ration shop keepers are taking keen steps to distribute kerosene to cardholders a minimum of three or four days a week. But strangely, in rural areas, the general public is complaining that kerosene is not supplied to them properly. 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 cards for the consumers. In the initial phase of the project, imputers or hand-held computers would be installed Special training in operating these imputers is being given to ration dealers in the state. In the existing system, normally the system will use man power to distribute the Ration materials like sugar, Rice, Wheat Etc. It will take more time to give the people. And also the authorized person sell individual also.

In this system we will reduce labor work to distribute the Ration material like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. The Concept is to automate Ration Distribution System, A Govt. Of India initiative Process in which a fixed amount of ration is provided monthly to the people by the distributor. The apparatus we are designing is cost effective and can prove helpful to Government of India Ration Distribution System and to various other disciplines. In terms of feasibility it is a vast concept and an interesting task to perform and totally feasible in all aspects technical as well as other. . In this automated system we replace the convectional ration card by smart card in which all the details about users are provided including their "AADHAR" number which is used for user authentication. This prompted us to interface smart card reader (RFID Based) to the microcontroller and PC hyper-terminal via USB and UART.

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II. LITERATURE SURVEY

A.N. Madur, Sham Nayse [1] "Automation in Rationing System using Arm 7", this system is based on radio frequency identification of customer. Here each customer is provided with RFID cards. In this system, by using RFID and by entering the password we can access. First user is authenticated, then system shows the balance of person. User have to enter the amount of Kg he want to withdraw. System checks his account. If the user will have sufficient balance to withdraw the current amount, system will open the valve. Through valve grain will come and it will get weighted by weight sensor. Once the count reached the entered amount controller automatically shut down the valve and update the account of the customer. The updated account information is send to the customer's mobile using GSM module. In this system the data base of customers can be made with their account details, password etc. Rajesh C. Pingle, P. B. Borole [2] "Automatic Rationing for Public Distribution System (PDS) using RFID and GSM Module to Prevent Irregularities", In this automated system conventional ration card is replaced by smartcard in which all the details about users are provided including their AADHAR (social security) number which is used for user authentication. This prompted us to interface smart card reader (RFID Based) to the microcontroller (AT89C51) and PC via RS232 to develop such a system. Using such a system, Government would have all required control/monitoring over the transactions at ration shop. To involve government in the process we proposed connecting the system at ration shop to a central database (provided by government.) via GSM module (SIM900D) and RS232. Hence it is possible to prevent the corruption and irregularities at ration shop. This would bring the transparency in public distribution system and there will be a direct communication between people and Government through this. S.Valarmathy,R.Ramani [3] "Automatic Ration Material Distributions Based on GSM and RFID Technology", proposed to use RFID and GSM technology based Ration cards by showing the RFID tag into the RFID reader. Then the controller checks the customer codes and details of amounts in the card. After verification, these systems show the amount details. The customer need to entered the required materials by using the keyboard, after receiving the materials controller send the information to government office and customer through GSM technology. In this system microcontroller is used for executing the process. K.Balakarthik ,[4]" Cloud-Based Ration Card System using RFID and GSM Technology", Presents an efficient method for the user to buy the products in the ration shop by just flashing the card at the RFID reader at the ration store. The user authentication is done by sending a random password text to the user mobile which has to be entered in a keypad. The purchase is validated by the employee only after the details are entered in a windows application which stores the user's personal and purchase information. Here the user can check their purchase details in a dedicated website. Dhanojmohan,Rathikarani,Gopukumar [5], "Automation in ration shop using PLC'',proposed a methodology for ration shop automation using embedded PLC. Further the updation to the government database about the stock available and the customer details were not carried out.

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III. PROPOSED SYSTEM HARDWARE AND IMPLEMENTATION

In this system we will remove man power to distribute the Ration material like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. And also the authorized person cannot sell. Here, we are designing a system where a person displays his/her Aadhar-card or valid identity and our system gives the Ration to that user. The Concept is to automate Ration Distribution System, A Govt. Of India initiative Process in which a fixed amount of ration is provided monthly to the people by the distributor. The apparatus we are designing is cost effective and can prove helpful to Government of India Ration Distribution System and to various other disciplines. In terms of feasibility it is a vast concept and an interesting task to perform and totally feasible in all aspects technical as well as other.

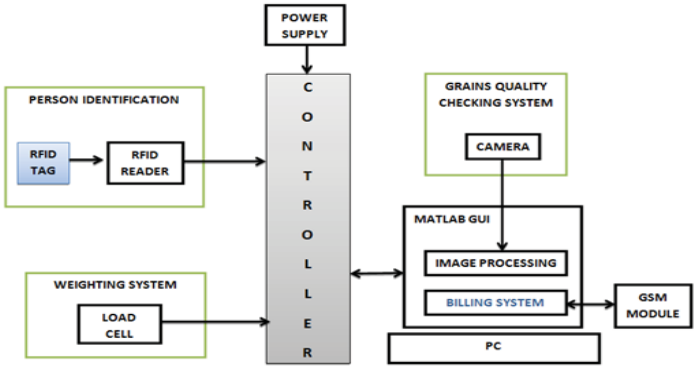

Fig. 1. Block Diagram of Automatic Ration System

All customers have to register for the ration card. The registration is done at each ration shop. For registration all customers have to provide their personnel details about their family. After this head of family is provided with RFID card which is used to buy their monthly ration. At ration shop we are using RFID card and RFID reader for identification. After reading RFID card the reader transmit the unique RFID no to the controller through UART at this time all other interrupts are disabled. Then controller will scan the database to check that the RFID card is valid or not. If it is valid then it asks for password from the customer. Keyboard is provided to enter the password. Again controller matches the password with database if valid member then the weighing machine is activated, the name and the amount of ration allotted is displayed on the LCD. Using keypad customer has to enter the product's corresponding serial number they want to buy along with quantity. After getting the input from the keyboard controller open the valve of particular container containing the products whose serial number is entered by the user. The grain will directly fall into the container placed on weighing machine. Controller continuously monitor the weight in weighing machine if the weight of grains and the quantity entered by the customer is matched then the controller will close the valve of container. The system has a one pump and one valve for the purpose of giving oil and grains respectively. The total amount which is too paid by the customer will be displayed on the LCD and the

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bill is deducted from his account balance and displayed on screen. Thus the system works for automatic rationing. This system will remove man power to distribute the Ration materials like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. And also the authorized person cannot sell. Here, we are designing a system where a person displays his/her Aadhar card and our system gives the

Ration to that user.

- *Replacement for existing Ration Distribution System*

  It can replace the existing Government of India's Ration Distribution System which is responsible for distributing essential commodities to a large number of people through a network of FPS (Fair Price Shops) on a recurring basis. Our system also performs the same functions in an automated way.

- *Retail Market Sector*

  It can be used in retail market sector such as in Shopping Complexes, Supermarkets, and Ration Shops to automate the process and to sell items without human intervention.

- *Large Scale implementation*

  If implemented on large scale it can be used in ration processing factories and organizations for simultaneously weighing and packaging of items which are intended for selling.

IV. PROPOSED METHODOLOGY

In this system we will remove man power to distribute the Ration material like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine.

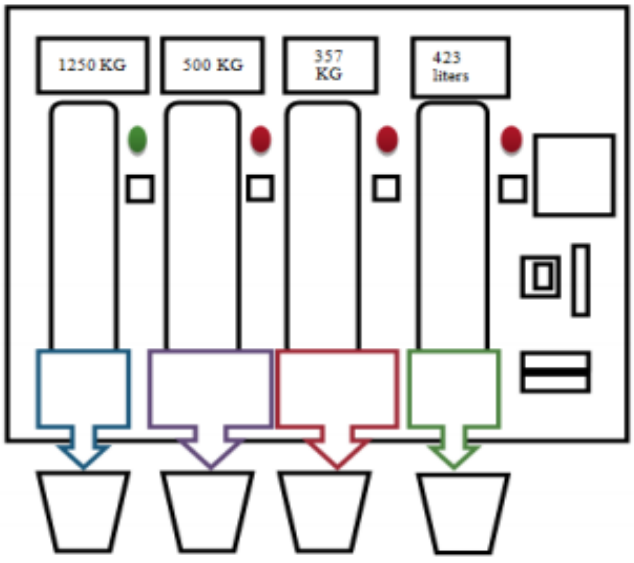

Fig. 2. Proposed Methodology of Automatic Ration System

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V. RESULTS ANALYSIS

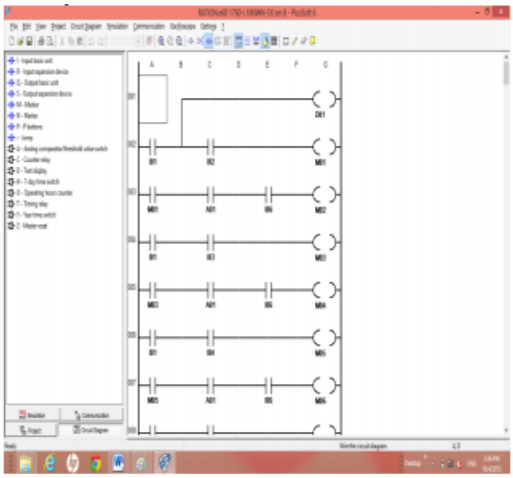

Fig. 3. Ladder diagram of Automatic Ration System

V. CONCLUSION

This proposed Automatic Rationing System can provide a safe, secure and efficient way of public distribution system. By using this technique ration shops solves the problem of too much manual process in Public Distribution System (PDS). This proposed project definitely paves way for a corruption reduced India in the future. This new technology gives solution and this work will make a great change in Public distribution system and provides benefit to the government about current stock information and reduce the manpower.

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