

Smart Ration Card System using Lab View



S.V.S Prasad, T. Vijetha, A. Sudhakar, M. Raju Naik

Abstract: This paper proposes the innovative distribution system called "smart ration card program using LabVIEW." Money is wasted in the PDS (public distribution system) due to corruption. Instead of a traditional ration card, this paper utilizes the basic RFID Tag system used as an e-Ration card. This machine is identical to the one used by ATM Machine. Compared to our debit / credit card, the e-ration card. Instead of a conventional ration card, the user must use this card to get the ration from the proposed system. Research on reducing bribery and better management of PDS (public distribution system) is being brought together from our side.

Keywords: Corruption; GSM;RFID; Servo Motor; Ration Distribution System

I. INTRODUCTION

One of the biggest Govt is the Ration Distribution System. India's economic policies. The key moto is to provide people with affordable food grains (weat, sugar, kerosene, wheat, etc.). The ration shop network is distributed across India to provide people with food safety. This distribution of ration, together with the state Govt, is controlled and monitored by central Govt. But it's got a few drawbacks. Many shopkeepers with ration hold fake ration card with them. The dealer collects the extra ration from the higher authority because of bogus ration cards and sells it to the market at high prices. The dealer may not provide customers with sufficient quantities of food grains. The supply of ration in the ration shop is not clear to people most of the time. In this way, we are facing corruption issues in PDS in the current situation.PDS is one of the widely controversial offices that involve corruption. In order to make this process efficient and improve the current system of PDS we are implementing SMART RATION CARD. In our proposed system we have machines to do work. The quantity of goods will be accurate and records are maintained in data base. Govt does not have an effective system. Get people's appreciation of food grain intake.Vikram by Al.[1], Smart Ration Card Program has been introduced The smart card is changed by coding the Microprocessor chip present in it according to the specification as a smart ration card. There is a specific barcode in the smart card. When the customer heads to the ration store This card must be shown in front of the barcode reader. Dealer scans the smart card and therefore offers ration.

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* Correspondence Author

S.V.S Prasad, Department of Electronics and Communication Engineering,MLR Institute of Technology, Dundigal, Hyderabad

T.Vijetha, Department of Electronics and Communication Engineering,MLR Institute of Technology, Dundigal, Hyderabad

A.Sudhakar, Department of Electronics and Communication Engineering,MLR Institute of Technology, Dundigal, Hyderabad

M. Raju Naik, Department of Electronics and Communication Engineering, MLR Institute of Technology, Dundigal, Hyderabad.

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An automatic distribution of ration material based on GSM (Global Mobile System) and RFID (Radio Frequency Identification) technology has been proposed instead of a ration card by S.Valarmathy et. al. [2], Mohan et. al. [4] and Sukhumar et. al. [7] Different sensors are used in this system for measuring and dispensing commodities. Dhanashri and so on. Al.[5] Neha et al. Al.[3] has developed a higher public distribution system enabled by the Web. The system monitors different goods and vehicles outlets remotely, providing ration to the ration shop.Subscribers can access the website in this process if they wish to receive a ration. Sharma and so on. Al.[6] proposed a new biometric, face recognition and voice recognition program for the delivery of rations. The equipment must be mounted in each ration shop in an automated ration distribution system.. There are more than 0.5 million ration shops in India in the current scenario. Using an automated PDS is therefore very costly and it is a tedious job for alphabets running such a complex system. On the other side, barcode-based systems are not safe because the dealer can have duplicate barcode on which to make fake ration cards.

II. PROPOSED METHOD

To overcome above stated problems. Automatic ration generation without a man involved process except during the process of grains installation. Our main Moto is to reduce human efforts in stores and maintain the records perfectly and deliver the accurate amount of grains given by the government to the people. Here without a mobile no one can access the machine. All the data is been stored in the data base like amount of grains present in the machine and how much amount of grains has been allocated to his/her account. The database can be changed by the issue authority according their rules. We are mainly avoiding the illegal usage of the ration material provided to the people.

ALGORITHM

Algorithm of proposed system is:

- I. The RFID card that is issued by the government authority is given to each user.
- II. First RFID card is scanned at the time of delivery at the ration shop.
- III. User ID checked by the government authority with the registry that is contained in the integrated LabVIEW program.
- IV. Once verification is successful, a OTP is sent to the consumer mobile where the details are been stored in data base.
- V. OTP received by consumer should be entered in to the machine if it matches it allows you to access the next page i.e., selection of grains.
- VI. Consumer is asked for a select type of material.
- VII. Next consumer needs to select the quantity required.

- VIII. The servo motor is triggered with different time delays based on the type of product and quantity selected.
- IX. IX. Current stock is reflected in the ration store..

FLOW CHART

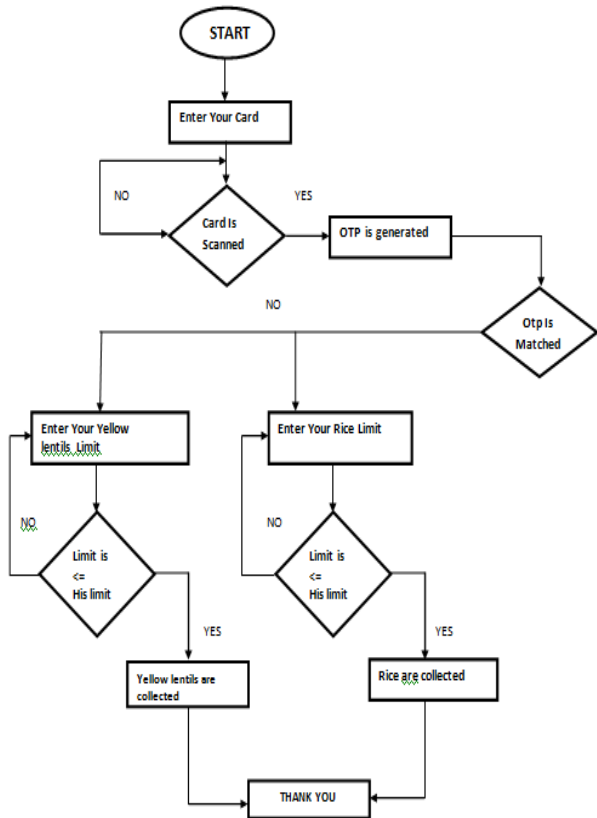


FIG 1: FLOW CHART

BLOCK DAIGRAM

Fig 3: Smart Ration Card VI

OTP VI:

1. OTP saved in the database.
2. OTP is received by the user has to be inputted in this VI shown in fig 4.
3. It compares with the database and opens the buttons selection VI.

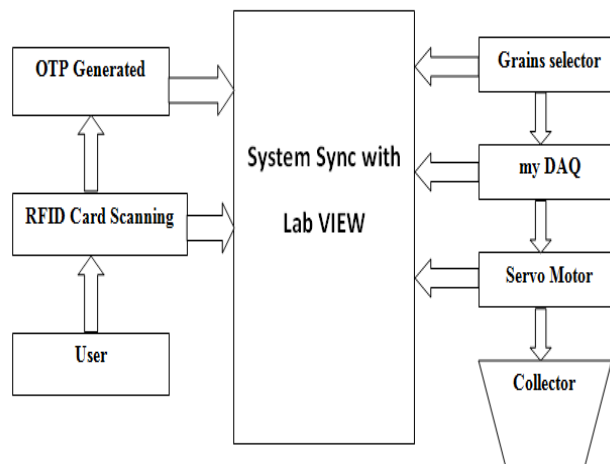


Fig 2: Block Diagram

In these proposed system the main components we used is RFID Reader& Tag, GSM, Servo Motor and my DAQ.my DAQ is interfaced with the LabVIEW software to control the servo motor operation. In this method we have used 5 VI's

SMART RATIO CARD SYSTEM VI:

This is the main VI. Here in this we are reading the unique RFID code with the RFID reader which is connected to the system and interface with the LabVIEW software[8-10] shown in fig 3. The input RFID reader compares with the inbuilt data base given in the program if it matches it generates the OTP and sends to the user, and OTP VI will be opened.



Fig 4: OTP VI

OTP GENERATOR VI:

1. It generates the OTP.
2. Sends message through the GSM module.

BUTTONS VI:

1. We can select what ingredients we want shown in fig 5.

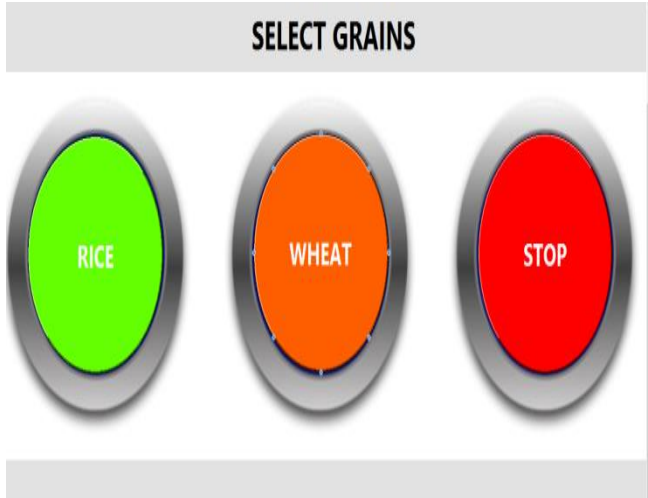


Fig 5: Buttons VI

GRAINS VI:

1. After selecting the buttons.
2. We have to give the input which required in Kg's.
3. It will run the program according to the given VI shown in fig 6.

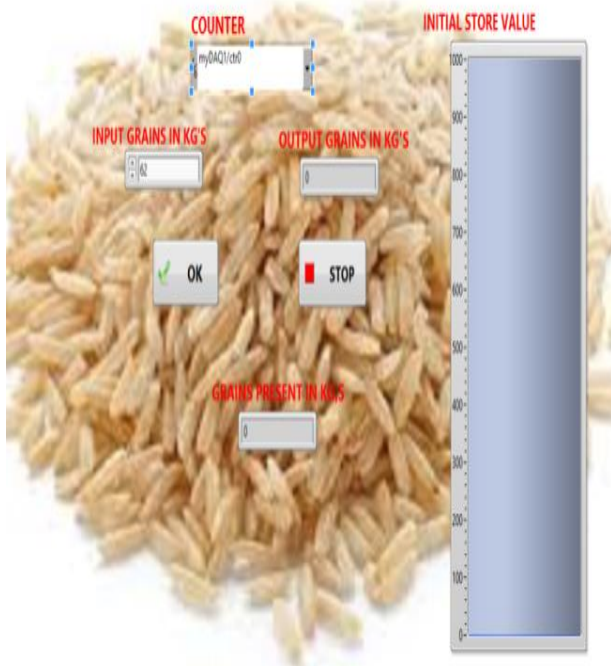


Fig 6: Grains VI

Result



Fig 7: Prototype of Smart Ration Card System Using LabVIEW

1. In this system both the RFID reader and GSM are connected to the system integrated with LabVIEW software through serial to parallel converters (HL-340).
2. Servo motors are connected to my DAQ digital ports i.e P3 (it is for counter pin) .VCC =5v (it is for supply voltage to servo motors) and a GND pin
3. Both the RFID reader and GSM are connected with the separate adapters.

III. CONCLUSION

Using this new modern system, the public distribution system can be better managed. Govt. May have indirect control over the recipient's availability of the ration. Dealer won't be able to bring for them fake ration cards. System helps to greatly modernize traditional rationing and fight corruption. It is possible to change the registry in this process at any time, Govt authority individual

FUTURE SCOPE

A biometric device can be used to enhance customer authentication. The provision can be made such as uploading data directly to the online database via PDA computer. We can use the load sensor for the exact amount of commodities.

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AUTHORS PROFILE



Dr. S.V.S Prasad completed his B.Tech in Electronics and Communication Engineering, M.Tech in Computer & Communication at JNTU Kakinada, Andhra Pradesh & Ph.D at JNTU, Hyderabad His area of interest includes Communication Systems and Image Processing. He has published more than 20 papers in International Journals and published 4 books in International Publishers. Currently he is working as a Professor & Head of the Department of Electronics and Communication Engineering, MLR Institute of Technology, Hyderabad.