E-RATION CARD

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Abstract - *Automatic rationing system presented here is an automatic and more efficient system for public distribution of ration to the essential commodities to all the citizen of the country via ration shops. In conventional system there is a chance for smuggling and illegal activities like robbery of goods, making wrong entries etc without the knowledge of the ration card holder. If the replacement of conventional system PDS with smart system PDS we can solve all the problems*

Key Words: ARM7, RFID, GSM, RS232, PDS, solenoid valve, LCD

1. INTRODUCTION

The system presented here, E-ration card is based on radio frequency identification. Each customer have a RFID card. At the counter customer swipe the card. First authenticates the user and then display the balance amount. Withdrawing amount must be entered by customer manually through keypad to ARM unit. System check the balance and if enough balance system will open the valve automatically, through solenoid valve grain will come out. it will weighted by weight sensor. Once the count reached the entered amount controller automatically shut down the solenoid valve. Then update the account of the customer. The advantages of E-Ration Card is more efficient and reliable supply of materials to the customers.

1.1 India's PDS situation:

public distribution system is an Indian food security system with a network of around 5 lakh. Fair Price shops are the largest retail system in the world. The main problem associated with this system is robbery of grains from the essential commodities without their knowledge. The traditional public distribution system today supports over 45 crores Indian BPL with monthly supply of subsidized food grains. The food grains doesn't reach the intended people. This problems can be solved by using E-Ration card.

1.2 UID system:
Each customer have a unique identity (UID) which is issued by UIDAI (Unique Identity Authority of India). Which is a digitalized database contains fingerprint and photographs of family members. The benefits of UID are better identification, technology support, ghost detection and duplicate.

1.3 RFID RATION CARD

RFID cards having 2D bar code contains information of customer. Personal details of the customer and name of other family members. Other details like AADHAR number, mobile number. Whether the customer is BPL or APL. Measurements of food grains and subsidy details.

2. SMART PUBLLIC DISTRIBUTION SYSTEM

Indian food security system is public distribution system. It is established by Government of India and managed jointly with state government. The essential communities can obtain subsidized food and non-food items through this system. Through ration shop they can buy rice, sugar, wheat and kerosene in subsidized rate. State governments are responsible for operational responsibilities. It includes allocation and identification of families below poverty line, issue of ration cards, supervision and monitoring the functions of FPSs. There are concerns about the efficiency of the distribution process. . Fair Price shops are the largest retail system in the world. The main problem associated with this system is robbery of grains from the essential commodities without their knowledge. The traditional public distribution system today supports over 45 crores Indian BPL with monthly supply of subsidized food grains. The food grains doesn't reach the intended people. This problems can be solved by using E-Ration card.
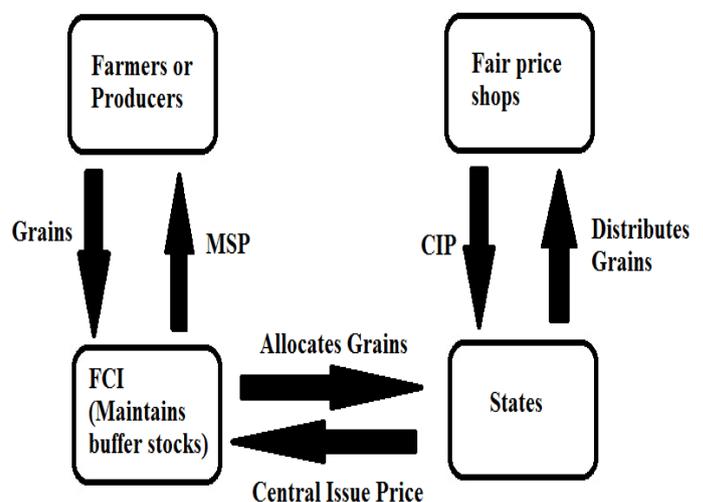
Here the system that consist of RFID reader, ARM processor, RS232, LCD display, keypad. Each customer have a card that having different magnetic flux cutting, which corresponds to that produce a unique code for it. The ARM processor that authenticate with the GSM module via RS232 and identify the person and display his the balance amount. According to the data from the GSM module the decision shown in the LCD display. He can enter the amount on the keypad and collect the grains and kerosene through the solenoid valve. If the entered amount reach solenoid valve automatically close the valve. System will update the account of the customer. Using this system illegal activities can be reduced.
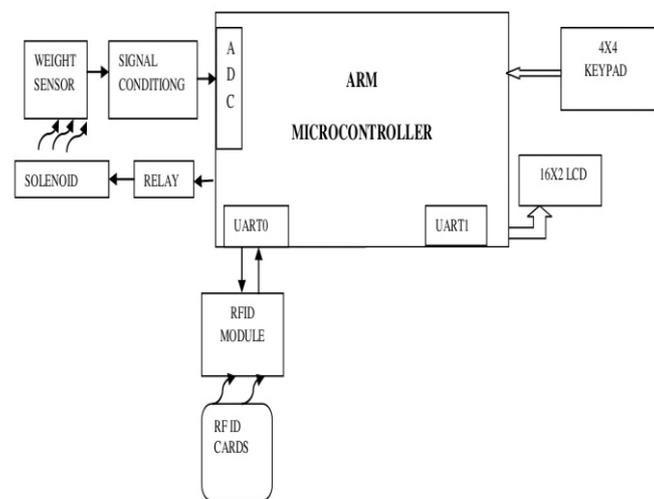

BLOCK DIAGRAM 1: E -RATION CARD

When a user swipes the smart card, and provides the password to the system, it is a smart card reader (electronic device) which detects and reads the RFID Tag (or smart card) and forward the details to the interfaced microcontroller module for further processing. The ARM processor that authenticate with the GSM module via RS232 and identify the person and display his the balance amount. According to the data from the GSM module the decision shown in the LCD display. he can enter the amount on the keypad and collect the grains and kerosene through the solenoid valve. If the entered amount reach solenoid valve automatically close the valve. System will update the account of the customer.

ICSP programming header:
In circuit serial programming (ICSP) , is the advancement provided in logic devices and micro controllers, which has to be programmed while installed in complete system, rather than use of another chip after connected to that system.PIC , micro controller, AVRs and the parallax propeller like these micro controller have incomparable in system programming

protocol. ICSP has been primarily implemented by microchip technology for programming PLC and DSPIC devices.
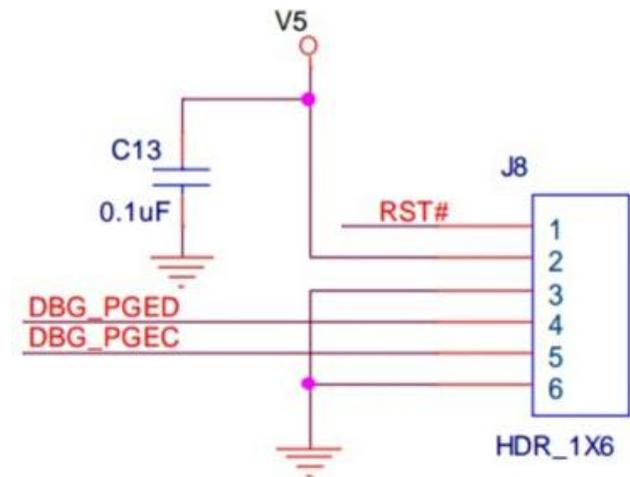
3. ADVANTAGES

1. If this system becomes automated, corruption in government as well as market sector can be prevented.
2. Increased robbery in consumables can be prevented.
3. Price hike can be prevented.
4. It is a cost effective approach and also save time.

4. APPLICATIONS
We can replace our traditional Public Distribution system using this Smart Public Distribution system.
Government authorized shops.

5. CONCLUSIONS

The proposed system can provide efficient and secure way of public distribution. Here we tested and implemented RFID cards instead of ration cards. In conventional system there is a chance for illegal activities such as making wrong entries without knowledge of card holder. If they not buy material at the end of the month they lose their grains and kerosene this can be solved by our project by automatically update the account of the customer after every withdrawing of grains and kerosene. This system is used for real time applications

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BIOGRAPHIES

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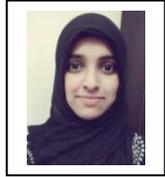
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