RFID BASED E-RATION CARD FOR DISABLED PEOPLE

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Abstract - *India's Public Distribution System (PDS) is the largest retail system in the world. Public distribution system provides a ration card issued under an order or authority of the State Government for the purchase of essential consumer materials like rice, wheat, kerosene and oil. Public Distribution System is one of the widely controversial issues that involve malpractice. The manual intervention in weighing of the materials leads to inaccurate measurements and/or it may happen, the ration shop owner illegally uses consumer materials without prior knowledge of ration card holders. The proposed system aids to control malpractices which are present in ration shop by replacing manual work with automatic system based on RFID. Every consumer i.e. family head provided RFID card which acts as ration card. The RFID card has unique identification number. The consumer scans the card on RFID reader which is interfaced with microcontroller kept at ration shop. Once consumer is validated by details, the system shows customer's product and cost. Based on material chosen by consumer, appropriate circuitry will be activated and consumer gets material through dummy Payment gateway.*

***Key Words*: Public Distribution System, Ration Distribution, Unique Identity, RFID Card Reader**

1. INTRODUCTION

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. The Indian ration card is mainly used for purchasing capitalized food and fuel for example fuel. It is an important livelihood tool for the poor people, providing proof of identity and a connection with government databases.

The present ration distribution system has drawbacks like inaccurate quantity of goods, low processing speed, large waiting time, material theft in ration shop. The proposed system replaces the manual work in ration shop.

Now a day this process is online which comes as blessing for the applicants who hate standing for long time in queues for filling the application form and then go to the office again to know the status. In this each user will be having RFID based ration card which contain user information including Bank details. These cards having unique numbers. Whenever user want to buy some grocery he must show his RFID based ration card to shopkeeper. Each ration shop contain RFID reader which reads RFID ration card, RFID reader used to check user valid or not.
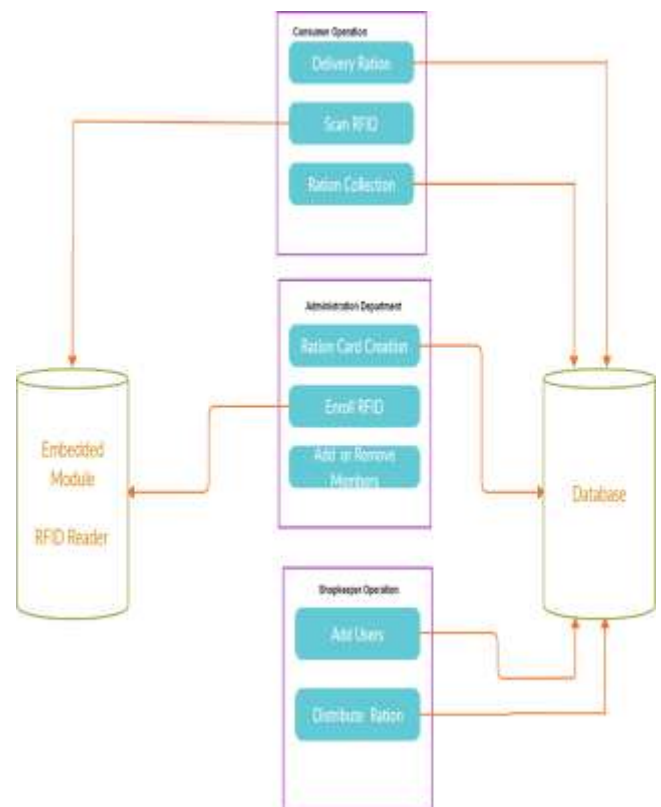
This new produced system will cover the human efforts and also the fraud is detected in that system and the forgery is also remove.

Fig 1. Flow Chart of E-Ration System Working

1.1 Literature Survey

C. Sunitha Ram, D. Gayathri,''e-Ration Smart Card For Disabled People" This paper implements RFID tag used as an e-ration card in place of a conventional ration card. 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. Efforts are put together to facilitate for disabled people to have enhanced management of public distribution system. Through RDS family information and ratio of disability provided by Government is login and registered through registration process into the RFID (smart) card. Every time, the authorized disabled person needs to go through the verification phase and once verification is done, they can get concession to collect their items.

Jinali Goradiaa, Sarthak Doshib, "Automated Ration Distribution System"In this paper it implements a new

concept which takes into account the various social, economic and general aspects relating to technical as well as day to day disciplines. Public distribution system is one of the widely controversial officers that involves corruption and illegal smuggling of goods. All these happen because every job in the ration shop involves manual work and there are no specific high-tech technologies to automate the job. Our main objective here is to automate the process of the distribution. The classical method involves customer to tell the person handling the ration shop outlet, the amount of the commodity he/she needs and the type too.

Brendon Dsouza, Tejaswini Gaikwad, Ankush Panghanti, "Smart Ration Card Automation System" This paper follows the use of the Rationing distribution system also called public distribution system distributes food items to the poor. Major commodities include rice, wheat, sugar and kerosene. In this system QR codes will be provided instead of current ration cards. Users database is stored which is provided by Government. The Smart Card must be scanned by the customer to show the details of items allocated by government, and then it checks customer details with stored data to distribute material in ration shop. Biometric i.e. Fingerprint scanning will be done for security and authentication purpose.

Key Words: GSM, Public Distribution System, QR Code, Smart Card.

K. Balakarthik [4] presents the useful technique forth consumer by just sporadic their smart card at RFID reader and then buy their products in ration shop and the consumer can check their consumption details at the dedicated website. The paper intends website functionality by taking needs from the authorized consumer's browser and returns back to the user by directing HTML doc. (Web pages) and files. Creation of database and design of GUI and delivers the information of integrated management and keep informed of the database is all done through the web

R.Ramani, S.Valarmathy [9] projected to practice Radio frequency identification device and Global system for mobile technology built Ration cards by screening the RFID tag(smart card) into the projected to practice Radio frequency identification device, reader. Then supervisor verifies the consumer programs and information of amounts on the consumer's card. After verification purposed systems show amount details on display. The consumer needs to enter materials which they require by means of the keyboard, as soon as getting the resources supervisor send detail information to a government workplace and then send information to the consumer over "GSM technology". In this system, all the process is executing with the help of microcontrollers.

1.2 Existing System

- In the existing system, ration card ration details are inserted manually.

- Lots of inaccuracy in the existing system. No algorithm used for calculation in support n confidence.

- In the existing system, a lot of malpractices happens while the distribution of the ration.

2. Proposed System

The proposed system replaces the manual work in ration shop. RFID means Radio Frequency Identification technique is used to prevent the ration forgery. Now a day this process is online which comes as blessing for the applicants who hate standing for long time in queues for filling the application form and then go to the office again to know the status.

In this each user will be having RFID based ration card which contain user information including Bank details. These cards having unique numbers. Whenever user want to buy some grocery, he must show his RFID based ration card to shopkeeper. Each ration shop contains RFID reader which reads RFID ration card, RFID reader used to check user valid or not.

1.1 Algorithm Used

Apriori algorithm is an influential algorithm for mining frequent item-set for association rules. The Apriori algorithm solves the frequent item-sets problem. The algorithm analyzes a data set to determine which combination of items occurs together frequently.

Apriori uses the bottom-up approach, where the frequent subsets are extended one item at a time. Apriori is designed to operate on the database containing transactions. The Apriori algorithm is at the core of various algorithms for data mining problems.

The best-known problem is finding the association rules that hold in a basket-item relation. Here we used the Apriori algorithm because there is a large amount of data and it is very difficult to examine bank data, so this Apriori algorithm is useful to scan a large amount of bank data.

Basic idea: -

1. An item-set can only be a large item-set if all its subsets are large item-sets.

2. Frequent item-sets: The sets of items that have minimum support.

3. All the subsets of a frequent item-set must be frequent e.g. {PQ} is a frequent item-set {p} and {Q} must also be frequent.

4. Find frequent item-sets frequently with cardinality 1 to K (K-item-set).

5. Generate association rules from frequent item-sets.
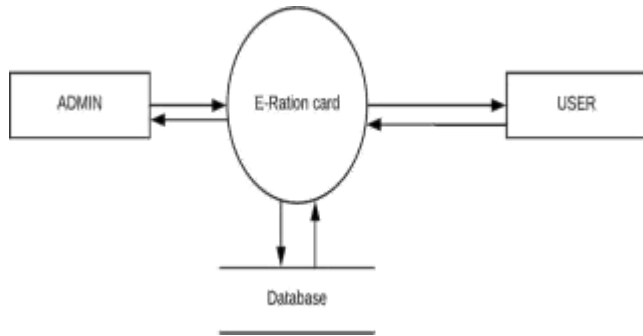
1.2 Diagrams

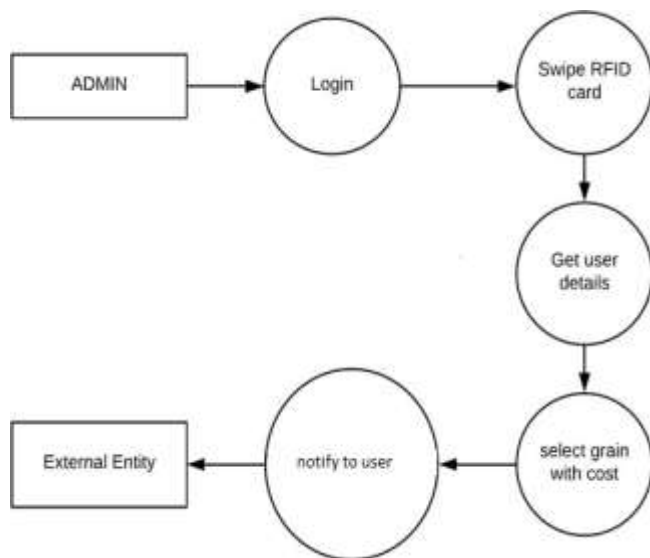- **Data Flow Diagram**

Fig 2. DFD (Level 0)

Fig 3. DFD (Level 1)

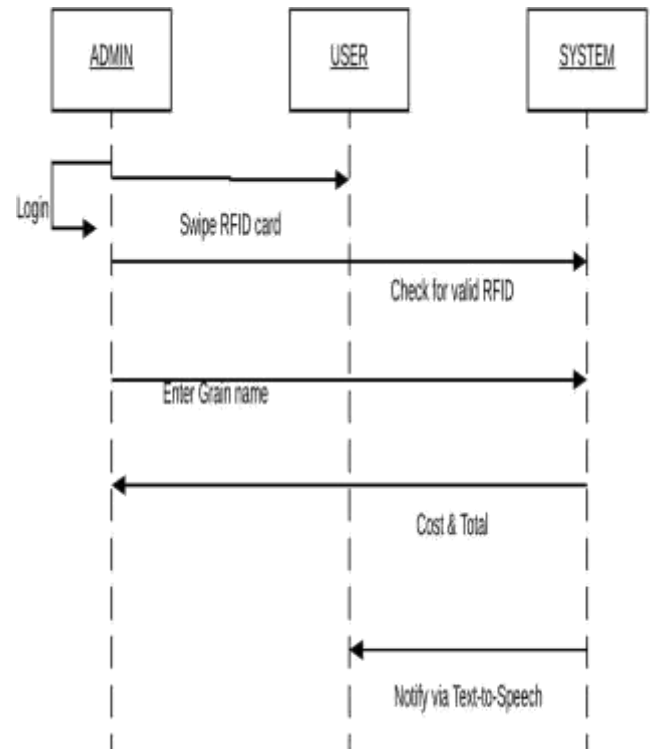- **Sequence Diagram**

Fig 4. Sequence Diagram of System

3. CONCLUSIONS

The proposed system is more secure and transparent than the normal existing system. Influence of fraud data entry in the ration database can be maintained simply with the use of this smart ration card system. Only authorized person (shopkeeper) can maintain the database. Customer can be authenticated using RFID swapping and thumb detection.

In the plan, it is expected that the proposed system will be more transparent, reliable than the existing ration card system.

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