

**E-Ration Distribution and Fraud Detection System Based On QR Code**Ajaykumar Mohite¹, Tirumalesh Wadkar², Keval Dhnnawat³, Padmaja Dhage⁴Prof. Rohini Patil⁵*Department of Computer Engineering,
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Abstract — India comes among the developing and growing country and ration card plays very crucial role over here. Ration Card is among the most important document provided by Indian government to the people who fall under the Below Poverty Line (BPL). A person holding the Ration gets the subsidized grains, kerosene etc... But as we know due to increasingly corruption and commercialization, it's becoming challenging day by day for people to get a hold of goods and stuffs what government sends in the same quality and quantity. In current scenario, this system is having two major disadvantages. Firstly the weight of the material may be inaccurate and inappropriate due to human manual mistakes and secondly, if we do not buy the goods and materials by the end of the month, they will re-sale to others without any intimation to the government and consumers. In this project, proposed an Automatic Ration Materials Distribution Based on GSM (Global System for Mobile) and QR-code.

Index Terms - QR code.

I. INTRODUCTION

Now days it becomes very difficult for common people to get directly the good and stuffs as and when delivered by government. Especially in traditional ration system, most of the time the quality of goods are not same as given by government. Moreover the qualities which common people and consumer get are very degradable. There is no specific measure or mode for common people to check the quality which government has sent and by default they have to accept what distributor gives them. They cannot register the complain or raise voice against the injustice which happens due to fraud by Distributors. Hence to maintaining transparency between distributors and government consumers, we are going to develop a new System for goods and material distribution using QR code generation. This will also used for maintaining privacy between the consumer and distributor.

Currently government is offering sugar, rice wheat, edible oil and kerosene for different kind of users like APL, BPL, and Anthodia people categorized based on annual income. To fulfill the demand of those people who really need the help government introduced fare price shops that are public distribution systems. People who fall under the poverty line get ration card enlisting their details like name, amount of grains in kg or oils or kerosene quantity, their residence address etc. We in this system introducing use of QR code which is unique identity of each customer. This will help us to minimize fraudulence. The existing systems have drawbacks like there is no way to monitor the distribution of grains and stock availability with each distributor. We will be tracking this through the proposed system and status can be logged. We have tried to minimize the human intervention as much as we can so as to run the system efficiently and cost efficiency is also considered here.

II. LITERATURE SURVEY**1. E-Ration system using RFID and GSM Technology**

Authors: Dinesh Aitwade

Description:

The main purpose behind this paper is the advanced Ration Distribution System, Enormous measure of Govt. cash gets squandered because of defilement in the traditional Ration Distribution System. This proposed system worked a straight forward personal data assistant - PDA gadget with RFID tag utilized as an e - ration card set up instead of an ordinary ration card. The consumer needs to utilize this card rather than a traditional ration card to get ration from the merchant.

2. Development of E – Public Distribution System (E-PDS) using Smart Card.

Authors: Mr. Nishant Patel

Description:

The Smart card based programmed ration shop is one of new approach in dissemination framework (PDS) helpful for cost effective ration distribution system. The present ration distribution framework has many disadvantages. Few of them are like mistaken amount of goods, handling speed is low, and holding up time is more and material robbery in shop. Manual work is replaced by this system. The proposed system for ration look for framework depends on Smart Card system that Change by ordinary ration cards. So using this system, the RFID labels are given instead of ordinary ration cards.

3. Public distribution system using SMART card and GSM technology

Authors: Sangita Nikumbh

Description:

In this paper they have revealed that in country like India E-ration PDS using SMART CARD and GSM technology is an innovative approach in public distribution. It plays very important role in terms of efficient, accurate, and automated distribution of ration distribution system. Now days the ration distribution system has disadvantages like incorrect quantity of goods, long waiting time, less processing speed and theft of material in ration shop. Main thing of the proposed system is to replace manual work with the some automatic techniques of ration shop to have a transparency in PDS.s

4. Rationing data updates with consistency considerations in distributed systems

AUTHORS: Hassan Zeineddine

Description:

In this paper, they focus on minimizing utilization and processing cost by reducing the cost of internal data changes in a data system. The system can be a distributed into database, a mobile application, or a communication interface. Our main approach is to rely on frequent internal updates instead of immediate change updates to manage inter-dependent data units spread across a distributed system.

III. PROPOSE SYSTEM

In proposed system we are going to make use of E-government technology that is being implemented in almost every area of government administration. E- Rationing system will eradicate corruption in government ration shops. In this system, online registration will done by user along with that user will fill his personal information and family information in system. Each time prior to ration collection, the person needs to go through verification to prove that he is the authorized person. After the verification is done, Admin will assign quantity for each card. Using QR code, it will be possible to uniquely build a module for each customer.

As well as we are going to develop complaint portal where user can register the complaint against the Distributor if he is providing bad quality food

Advantages of Proposed:-

- Transparency between government, consumer and distributors.
- Using QR code, consumers can view the quality and quantity of goods assigned to them.
- Consumers can register complain if found fraud by distributor.
- Gives more authority to consumer than distributor.

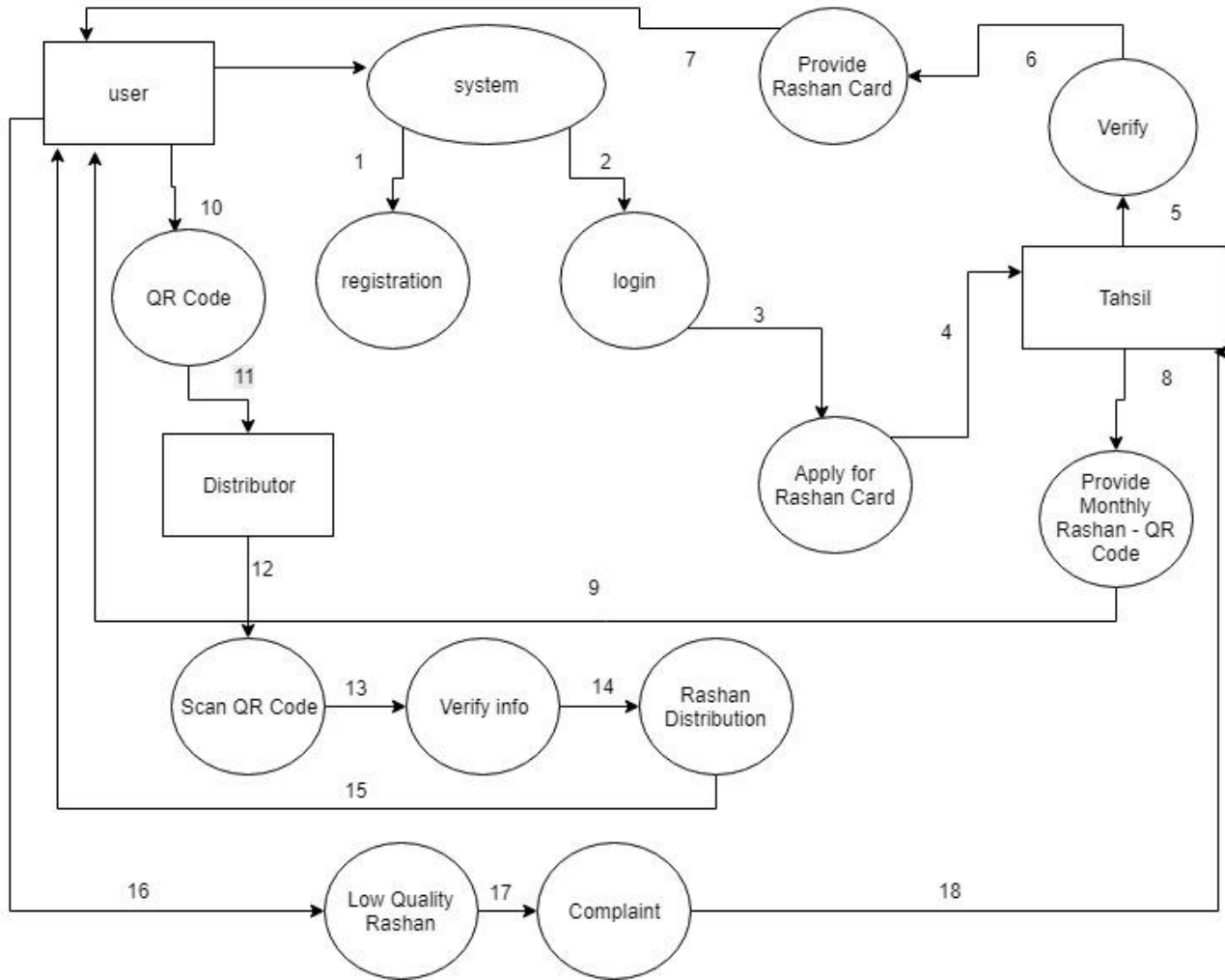


Fig.1 System Architecture

IV. MATHEMATICAL MODEL

Let Y be the set of whole system which consists of the input, process and output of the system.

$Y = \text{input, process, output.}$

Where,

Input = is the set of inputs provided to the system to achieve the desired results.

Process = is the approach or the algorithm applied to the system which gives the expected output.

Output = is the output of the system.

Input = B, U, A, R, P, N, Avg.

Let,

Let B is the Whole System Consists:

$B = U, M, E, G, SC, D$

Where,

1. U is the set of number users.

$U = U_1, U_2, \dots, U_n.$

2. Monthly Food Distribution

$T = t_1, t_2, \dots, t_3$.

3. E be the Encrypt Info.

4. G be the QR Code Generation.

5. SC Scan QR Code.

6. Decrypt Info.

$S = (U \uparrow T)$

S is the users who are Eligible for getting monthly ration from government.

$SC = (U \uparrow T) (E \downarrow G)$

Final QR Code.

Process:

Step 1: User Will Register and login into our System.

Step 2: Apply for Ration Card.

Step 3: System will Create a New E Ration Card as per his/her Financial Income.

Step 4: System will send monthly Food Distribution item with qty to particular User in the form of QR Code.

Step 5: Finally, Distributor will Scan QR Code and crosscheck all Details. If all details are correct then he will Distribute the Items which is provided by gov..

Step 6: If Food Quality is not up to the mark - User will register complaint against that particular Distributor.

V. SUMMERY AND CONCLUSION

In this paper, we have explained how the fraud of distributor can be minimized and more power can be directly given to consumer. This project will provide safe and secure method for consumer and can directly access to the goods granted to them. Use of QR code technology makes this more transparent for government, distributor and consumers. As well as users can easily register complaints against fraud distributor which are not possible in current System.

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