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Bhojana – e Rationshop Management System

Amal C Bino

1. Abstract:

The Indian food system was set up by the Government of India to provide or distribute food and non-food things to people at subsidized prizes. The scheme of providing basic domestic commodities on subsidy to poor families in developing countries like India is an important aspect to meet the fundamental requirement of people. Essential commodities such as rice, wheat, sugar, kerosene etc… are supplied to the targeted underprivileged sections as per the eligibility and at fixed by the Govt. Of India. The aim of this paper is to dispense the correct quantity of ration to the card holders depending on the type of card and the number of members in the family on corruption and also provide new feature in a computerized manner. This system avoids most of the problems faced by the ration shops. The purpose of this paper is to enhance the visibility, accessibility and efficiency of the ration shop system by properly designing an online website system.

2. Introduction:

A Public Distribution system (PDS) or Fair Price shops (FPS) is an Indian food security framework that is set up by the Govt. of India under the Ministry of Consumer Affairs, Food, Public distribution which distributes ration at a subsidized price. It is managed together by State Govt. in India. Major commodities distributed include staple food grains and essential fuels like kerosene through a network of FPS established in several states across the country. A ration card holder who is under below the poverty line is eligible for 30Kg of rice or wheat every month and ration card holder with above the poverty line is entitled to 15 Kg of foodgrains in a monthly manner. India as more than 5.5 lakh shops consulting the largest distribution network in the world. However, there are concerns about the efficiency of the distribution process. There have been many situations where the ration shop dealers in the PDS have been indulging in malpractice. Poor quality grains are sold at ration shop by the dealer. Sometimes the people have to wait in a long queue for getting their rations.

In order to improve the current system of PDS and make it efficient, we are implementing an online e-rationshop management system. What we are trying to provide here is that the customers can book the goods in an automated manner and also the customers can register complaints in the website, if any. We are providing the customers to choose a time to choose a time slot to get the product that booked through the website, thereby avoiding long queue and also saving the time of customers. The main reason for making this computerized is to remove the drawbacks of the present way of issuing the product based on ration card.

Most of the time, the customers do not get their rightful entitlement in terms of quantity. And also, customers have to wait for a long time in a long queue. So, in order to avoid these drawbacks, we are going to use the e-rationshop system which will help us to avoid the corruption in PDS if not eradicate it.

3. Literature Survey:

The PDS in the country facilitates the supply of food grains to the poor at a subsidiary cost. However, doubts have been raised about the efficacy and cost-effectiveness of PDS. In order to implement social distancing in the Liquor Stores of Kerala during the Covid-19 pandemic and to reduce congestion of people, Faircode Technologies released an app called Bevco App. In this app a person can select the time slot he wanted and while selecting the time slot from the available time they will receive a token number. This is a new scheme introduced by Kerala Govt. to reduce the rush.

Smart Ration Distribution system replaces the manual work in ration shops. RFID technique and Biometric scanner are used to prevent ration forgery. Since this process is online, it avoids a long queue. In this, each user will be having RFID based ration cards, these cards will have unique numbers. Each user will also have fingerprints of their family member. Whenever a user wants to buy some groceries, they must show their RFID based ration card to the ration shop keeper.

We conducted a direct survey to ration shop nearby and collect some details like: Every month, Civil Supplies Department of each State Govt. issue notification stating what are the Rationing articles and their quantity that citizen can have as per the classification of ration cards. Ration card holder can avail these items from these registered retail ration shops on monthly basis. In India there are different types of ration cards. The State Govt. categorizes people and issues different ration cards according to the different categories. The quantity of ration provided to the customer will depend on upon the type of card the customer owns.

4. Methodology:

Existing system:

The Public Distribution System evolved as a system of management of scarcity through distribution of food grains at affordable price. Even though the PDS has become an important part of Government's policy for management of food economy in the country, the current ration distribute is not efficient. Some of the limitation of conventional ration shop are:

1. Ration shop do not open every day, nor do they keep regular hours. Even on the days that the shop is open, ration card holders stand in long queues.
2. FPS dealer may declare "No Stock" even when sufficient stock is available.
3. The Ration shops are not able to meet the requirements of the user due to the over population of our country.
4. Due to the human operations the working hours of the ration shops are restricted; so that the user is unable to get the material at any time i.e., 24 * 7. Main Problems in the conventional ration distribution system.
5. Illegal Usage.
6. Cannot able to get the accurate quantity.
7. Over crowd
8. Processing speed is slow
9. Hijacking of ration cards.
10. More than the prescribed rates are charged.

The existing manual distribution system requires maintenance customers to maintain records of transactions, stock details etc...

Proposed system:

Bhojana e-rationshop system is for the customers to book their rations and also to record all the transactions. The employee can access the system for rations at any time and it is easy for them to use. This system enrols each transaction automatically into the database.

Advantages of proposed system are:

- Manage huge users and is easy and simple.
- Manage ration products and monitoring is made accessible easily.
- No need to wait in a long queue.
- Efficient than the conventional system.
- The beneficiary will get an accurate quantity.
- The customers can register complaints, if any.
- In future, system provides 'home delivery' feature.

Database:

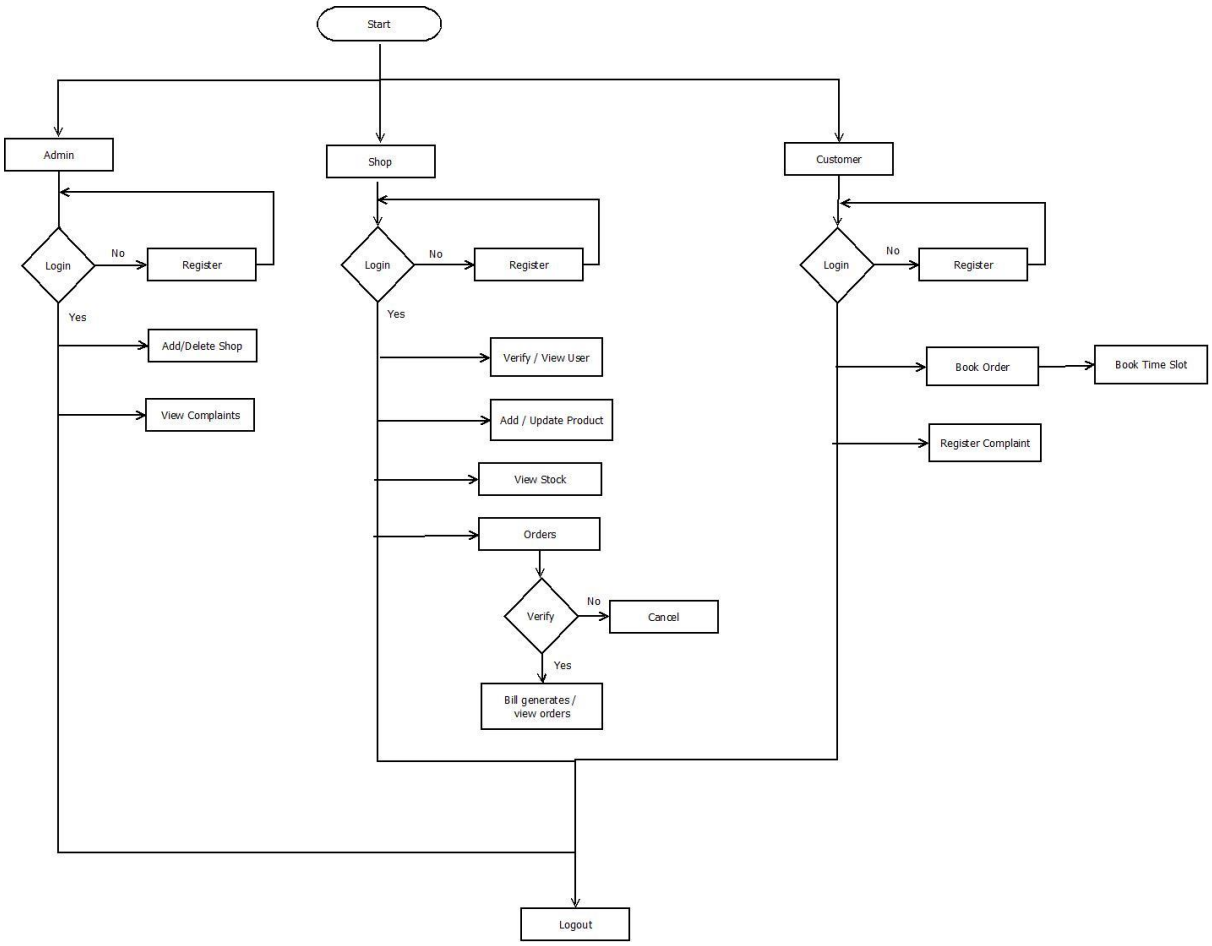
Bhojana e-rationshop have two databases for two different categories. One for the ration card holder information and other one to store the product's details. So, every time the distribution has been made, there is a necessary of updating and maintaining the database to avoid miscalculations.

- Customer's Database:
  This database stores all the records related to the ration card holder. Whenever there is any change in the details of customer, it should be immediately updated into the database.
- Product Database:
  This database stores all the details of products available at a Fair Price Shop. Whenever new stock of product arrives at FPS, it is updated to database. When the distribution is made to the people, then the quantity of the product reduces in that particular FPS and hence it should be updated in the database.

Maintaining the database and generating the bill becomes important because these are the two factors that will help the Govt. to avoid the corruption in PDS.

System work flow:

The following is a work flow diagram of the proposed system:



Implementation:

This system consists of different modules to perform e-ration shop system. The module is divided into Government (Admin), Shop and Customers.

- The customers can book their rations an online software prior in the time. Request for booking the ration is stored in the database. The customers can then choose an available time slot to come and collect the products booked. Customers can also register complaints against the FPS to the Govt. through the system
- The shop can manage customers, products, orders, stocks and time. They are responsible for authenticating the newly registered users that is a new user can only access their account when the shop approves their registration. And also, the bill will only generate when the shop approves to the order booked by the customer. Shop can update or add new products and also can manage the stocks.
- Government module will provide new owners to their FPS, that is this module is responsible for adding new shops or shopkeeper. And mainly this module will function as an Admin. This module can view the complaints registered by the customers.

5. Results And Discussions:

The drawbacks of the old ration distribution system are overcome by our system. As the system propose, we can see that by using such a system we can avoid corruption in ration distribution system. As there is no manual data stored in old ration distribution system. Whereas in the new system all information is stored in the database, the higher authority can check the details. Customers can book their ration prior in time. It is efficient than the old ration distribution system. Customers can save time and avoid long queue. The customers will get the accurate quantity of ration every month. Beneficiary can check the availability of commodities online without going to the rationshop that is by viewing the website.

6. Conclusion:

This paper portrays the computerized version of PDS and its recompense over the present FPS. By this, we can reduce the corruption level. This system is easy to implement and using this system we can avoid the malfunctions because there are no manual operations. In this system, all the information is stored in database. The proposed system is more secure and transparent than the normal existing system. Using this modern system, we can have better management of the ration distribution.

7. Future Scope:

- 'Home Delivery' feature can be added for those who need to deliver the booked product.
- For better understanding, the website can be made available in different languages.
- It can be developed into an android application.
- It can be collaborated with RFID technology.

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