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Smart Card based Ration Distribution System

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ABSTRACT

In the proposed work, we have developed a smart ration card using web based technique to prevent the ration forgery as there are chances that the shopkeeper may sell the material to someone else and take the profit and put some false amount in their records. In this system, if the user is found authentic then the quantity of ration to be given to the customer according to the total number of family members wil l be displayed on display to the admin. This smart ration card is free from theft as the information about the delivered ration will be send directly to the government.

Keywords: **Ration Distribution, Public Distribution System, Unique Identity.**

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I. INTRODUCTION

In an effort to make the public distribution system (PDS) more efficient, various state government in India has decided to introduce smart cards for the consumers. In the initial phase of the project, system would be installed Special training in operating this system is being given to ration dealers in the state. The computers would keep updated consumer information provide online information of all stocks available in a particular PDS outlet. In the initial phase of project each user has to register for ration card online from respective ration shop through web and l the form will be scrutinized by s given by smart card. A smart card has a computer chip and enables its holder to purchase goods or avail of services, or perform other operations using data stored on the chip. As Government provides the food, oil and fuel to economically challenged people at subsidized rates which are distributed to the public through ration shops. They also fix an upper limit on the consumption per head. Depending on the number of dependents in a family the system will calculate the upper limit of the rationing and will maintain this record for future references. It can also maintain a log as to which family has been consuming how much. Once user select the quantity, his account balance is checked and if it is sufficient user will get the items and account will be automatically updated. The proposed system will also be maintaining an account of the material which is coming in the ration shop and will automatically be maintaining the current status so that the owner cannot claim that the goods are over. In all this mechanism will be a boon for the economically challenged people who depend on these shops.

A. Rationing System in Maharashtra

The ration card is issued one per family by the state government. It has three categories extreme poverty level (Antyodaya), below poverty line (BPL) and above poverty line (APL). These poverty lines are the Planning Commission of India every few years based on data collection and analysis from various sources.

II. LITERATURE SURVEY

In this section, we briefly discuss the existing works about Public Distribution System[1] In this automated system conventional ration card is replaced by smartcard

in which all the details about users are provided including their AADHAR (social security) number which is used for user authentication. This proposed to use smart card instead of manual ration card with UID for unique authentication.

K. Balakarthik [4] presents an efficient method for the user to buy the products in the ration shop by just flashing the card at the RFID reader at the ration store and the user can check their purchase details in a dedicated website. The paper proposes web site functionality by accepting requests from the user's browser and responds by sending back HTML documents (Web pages) and files. Database creation and GUI design and provides the details of centralized management and updating of database through web.

Rahul J. Jadhav, Dr.Pralhad K. Mudalkar [7], The structure of e-PDS system, software requirements and implementation is mentioned in the paper and it proposed to create different database tables as well as GUI including different login pages. It also defines role of administrator as well as ration distributor.

S.Valarmathy, R.Ramani [9] proposed to use RFID and GSM technology based Ration cards by showing the RFID tag into the RFID reader. Then the controller checks the user codes and details of amounts in the card. After verification, these systems show the amount details. The user need to entered the required materials by using the keyboard, after receiving the materials controller send the information to government office and user through GSM technology. In this system microcontroller is used for executing the process.

III. METHODOLOGY

A. System Architecture

The proposed system consists of two units. Server and Client unit. The server will completely control the activities like customer identification, alerting the customers as well as shop owner at the arrival of grains and updating the database. The Admin have overall access to Server unit by logging into the system. Admin can perform various task which are under his control. The second unit is client unit which is placed at the ration shop. FPS user will interact to the system by this unit and also the user registration process is done by FPS owner at client unit which is connected to server through web. The overall architecture of the system is illustrated in Figure 1, where the main components are shown.

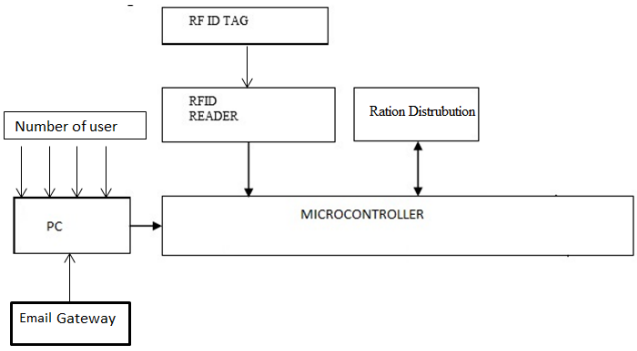


Fig 1 System Architecture

All customers have to register for the ration card. The registration is done at main control station. For registration all customers have to provide their personnel details about their family. After this head of family is provided with smart card which is used to buy their monthly ration. When the ration is dispatched to a ration shop a message is sent to the shop. The message contains the quantity of grains allotted for this month as well as message is send to all customers related to the particular ration shop to alert the customers that their monthly ration has been arrived. At ration shop we are using smart card and Fingerprint authentication for identification. After reading smart card the LCD will display message "Enter UID no". The user will enter UID no through keypad then controller will send this data to server, server will check that ration card is valid or not. If it is valid then it asks for user authentication using fingerprint. Again the fingerprint is verified with database at server side if valid member then, the name and amount of ration allotted is displayed on the LCD. Using keypad customer has to enter the product's corresponding serial number they want to buy along with quantity. After getting the input from the keypad controller will send this data to server, the server will check for account balance and if it is sufficient user can get the commodity otherwise insufficient balance is displayed on LCD. The transaction details are sending to the customers mobile.

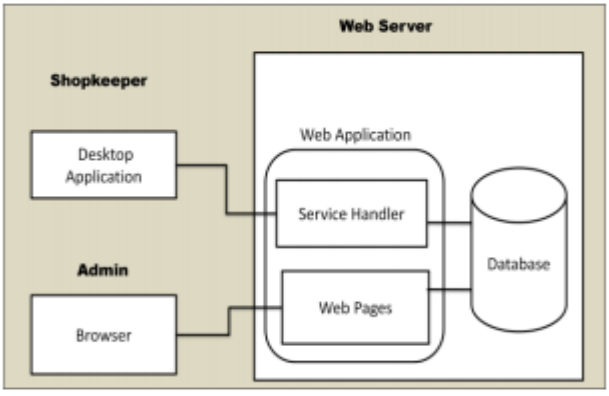


Fig 2 Software Architecture

The software which acts as an interface between the hardware and the cloud is a windows application. It is a Graphical User Interface which will be accessed by the ration shop owner and government authority. The software

architecture is shown in Fig.2 The software is designed in way that nothing is stored in the local computer and all the details are either retrieved from the cloud or updated in the cloud.

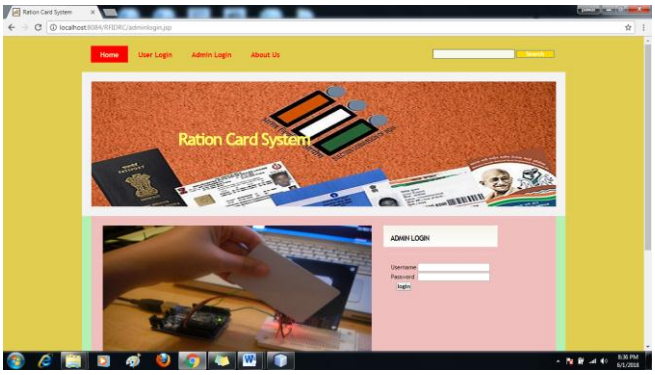
Database:

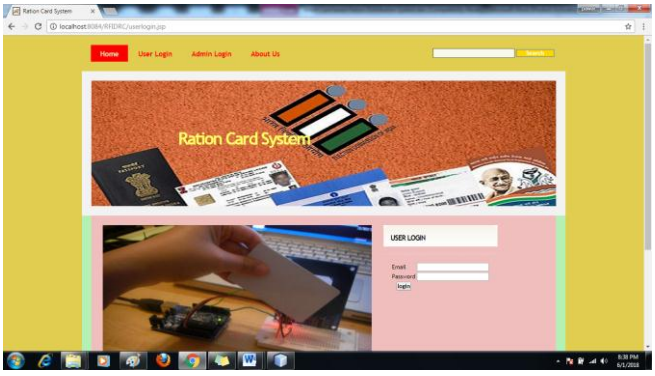
A database is defined as an organized collection of data and tailored to our system, our database is employed to mainly store the user's personal and ration information including tables namely Admin, State, Taluka, City, Shop, Ration Card, Person, Item, Allocations, Purchase Secondarily the database is also used to store data gathered from the online web-interface, such as updated personal information, password, email and mobile numbers by the users. In offering more features to the users, our online system can manipulate the user information by querying the database for complex data retrieval. This includes automated operation, such as summarizing an individual's monthly purchase details.

Graphical User Interface (GUI)

The GUI component of the system is purposely developed for friendly interaction with the users. All types of users, namely the customers, employees and the system administrators are given unique access to their individual member area, where the customers can access their personal information, purchase details and availability of food grains, while the employees can access their shop details and the administrator can access all the details and he can activate or deactivate the user accounts.

IV. RESULT





V. CONCLUSION

Using this proposed system we can avoid the corruption in rationing system to a large extent by providing transparency at each level. As there is no manual data stored in books or register, all the data is stored in database hence it is easy for higher authority to cross check the data at any point. So implementing this will be really helpful to targeted people.

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