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CENTRALIZATION OF PUBLIC DISTRIBUTION SYSTEM USING SMART CARD

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ABSTRACT

Now-a-days rationing material distribution is performed manually by writing about consumption of ration items by customer in the entrybook.People may buy various materials (sugar, rice, oil, kerosene, etc.) by using ration card.Sometimes card holder doesn't consume ration items,the stock will remain in the shop.But the person working in the ration shop,put inventories & this type of malpracticing entry that consumer are bought ration items,dealers diverts food grains to open market to make profits for their own.There is no monitoring of such unused material. There is another problem of irregularity in opening shops and false announcement of deficit in food grains.People don't know materials providing date and so they will affected by this false announcement. Sometimes this will affect on routine work of consumer. In the manual distribution system it is difficult to maintain the records. To avoid such a malpractice & regularize public distribution system to people this proposed system is to be implemented. When the consumer proceeds to flash the card the database will retrieve the whole details of the consumer. The user can purchase whatever they want by just flashing the smart card at the shop. The alert message will be given to the consumers when will items available in shop, and consumer purchase details. The consumer will receive purchase details on authorized Email Id year wise report.

Keywords: Public Distribution System, RFID, Finger Print

1.INTRODUCTION

Public distribution system is one of the widely controversial issues that involves corruption and illegal smuggling of goods. One of reason for this to happen is because of every job in the ration shop involves manual work and there is no specific technology involved in automating the job. Involvement of manual work calls a lot of irregularities. These irregularities or illegal activities are like wrong entries in stock register of shop containing wrong inventors information of the products that is supplied to the public. The information regarding the actual available stock quantity in a ration shop that is provided by the Government to the public.

The public distribution stores or ration stores process ration cards which are in the form of a book are used for general identification of the customer and holds the user's personal information and purchase history. On successful purchase, the details of purchase are entered in the card and in the purchase register at the employee's side. This is the system which is existing at the ration stores. This system has a some of drawbacks like the ration card should be renewed every year by pasting additional leaves in the same card, after some years new card will be given to every customer. In some ration stores, shopkeepers involve in malpractices like diverting food grains to open market to make profits. As a result there is a possibility of consumers sent are food grains in stock. When get the material from the ratio shop, first need to submit the ration card to the shopkeeper and then they will put the sign in the ration card depends on the materials. Then they will issue the materials through weighting system with help of man power. If not buy the materials at the end of the month, they will sale to others without any intimation to the government and customers.

In this proposed system, to avoid such illegal activities of selling stocks to private authorities & wrong entries in the stock maintenance book. In this proposed system we use RFID reader & tag for the authentication process of users. The RFID is used to solve some transport problems in an effective way. After the authentication process the shop dealers will distribute items to the card holder according to the quantity of goods available. The card type is allotted by the Government based on the income of the family. The portal for this Public Distribution System will be seen by all people. This is for the purpose of knowing how the system is working on the current situation.

2. Literature Survey:

The existing conventional ration system has the basic issues of renewing the ration card every year by the employees to the malpractices done by the ration store dealers like diverting food grains to open market to make profit. To tackle this problems, an efficient method for the user to buy the products in the ration shop by just flashing the card at the RFID reader. The user authentication is done by sending a random password text to the user mobile which has to be entered in a keypad. The purchase is validated by the employee only after the details are entered in a windows application which stores the user's personal and purchase information.

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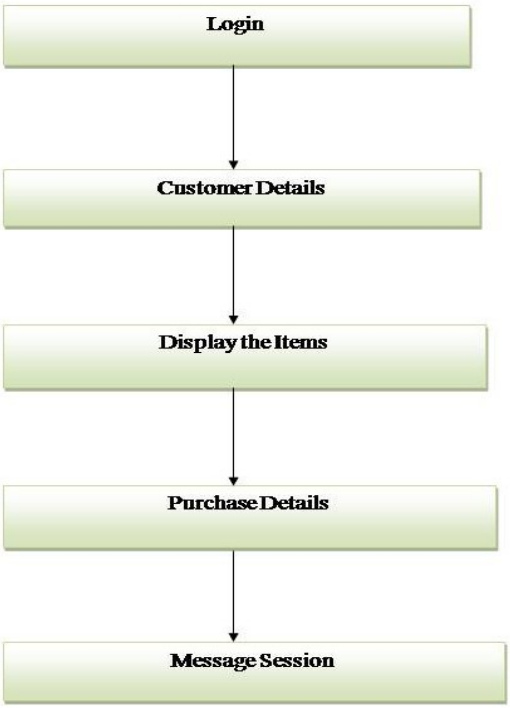
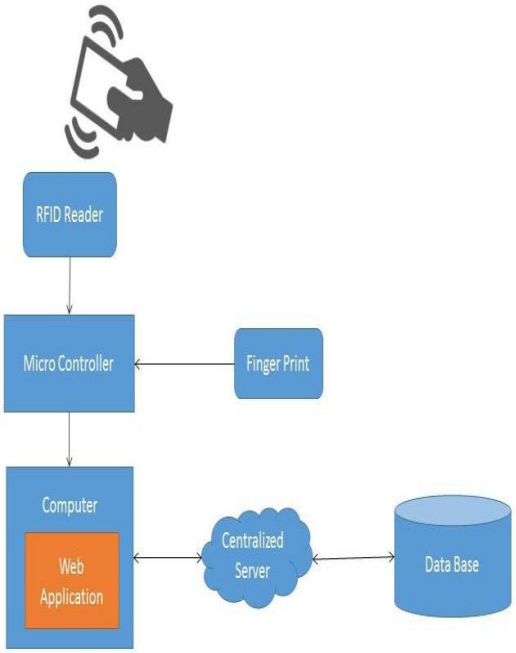
entered in a windows application which stores the user's personal and purchase information. This system will provide the products in the packets of particular units. So these products can available in the exact quantity. Only authenticated users can buy the products in the ration shop. This system is developed by using GSM, RFID and ARM7 processor. Which will take care of all the activities related for avoiding illegal work made by authorized people and help to overcome the problems in this concern area.

The automatic rationing system by embedded system. This system uses some finger print detectors to access the consumer's log in ID. So they uses Unique ID number for the individual ration card. The password for the user is their finger prints as well as in ADHAAR card. After the assessment of the consumer the details of user will be displayed and units of item allotted for the consumer. It is implemented in ration shop to provide the items to the consumer. They use some machines which sense the bag is placed directly to the valve. The system first identifies the item supplied to the consumer, this may indicated by the lights used in the machine. Belong to the item the light will notifies the item.

3. System Design





RFID Reader and Tag

RFID reader is the device capable of reading and retrieving information stored inside the RFID tags. There are two types of RFID reader, which are the active and passive RFID readers. Active RFID reader can detect an active RFID tag while passive RFID reader can only detect passive RFID tag at a few centimeters away from the reader. The RFID reader being used in the system is a low cost reader for reading passive RFID tags. It operates at 0~ 400C temperatures, 20~80% of humidity, 125 kHz frequency and 12V power supply. The effective detection range of the reader is around 5-8cm.

3.2.Login

The login module contains store login, stock entry, central login. Each login process will do different works for handling the purchase, stock & accessing of shop details also with no of customers in each shop. In the store login, the shop keeper should authenticate with flashing the card. Here it contain another login module called customer entry. In this the shop keeper have to flash the consumer's card to logon to their account. This page contains personal details of them & when the shopkeeper click the entry button it will show the items to be purchased by the consumer. In the stock entry login module, the higher officials update the quantity of each items stored in the shop. The Central login module displays the type of card which shows the quantity of items allotted for the card.

Customer Details

The customer details contains no of family members, ward number the consumer belongs to, type of the card, quantity of items allotted for the card.

Displaying of items

In this module the allotted item quantity for the consumer card type, items the consumer have to buy, items available on the distribution date, the total items available on the current month are displayed. The shop keeper can enter the item to purchase in this module.

Purchase Details

The module displays the purchase details of each consumer, reduces the total quantity in stock maintenance in the store. The consumers can see their purchase details in their own login.

Message Session

When the user finishes the purchase, a message alert will be sent to the consumer about that purchase. The items available at the distribution date will also be sent to the customer.

4. RESULTS

To ensure the system correctness and completeness, system testing has been performed across the system environment that includes the client-side application, server-side application and the hardware.

4.1.System Testing Results

In general our aim to develop a prototype of a Cloud Based Ration Card System was successful. The user-login authentication process was successfully tested, which prevents an unauthorized access into the system. Once a user is successfully logged in, the user is given the access to the main page that displays a menu listing a set of features offered to the user.

5. CONCLUSION

The developed Cloud-Based Ration Card System using Radio Frequency Identification and GSM technology will significantly improve the current manual process of ration card system and will reduce the security issues and malpractices.

In addition, a number of other advantages are gained by having an online web-based system, acting as a central repository of user ration and personal information. Firstly the users can view and modify their personal information at any time with ease. Secondly they can view their ration details and the details of the shop in which they are intended to buy. The accessing can be done from any computer via the web browser, as long as they are connected to the Internet. This way, no specific software installation is required. The shopping details are also processed and updated automatically with less risk of data loss, compared to a manual filing approach. The developed system can be improved and upgraded further, e.g. by extending the system with new features and modules or by improving the web-interface layout with new display style. Better yet the system can be enhanced further to offer another significant enhancement where the system can be extended to store users finger prints for improved security.

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