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Virtual Queuing Ration Distribution in Cloud Environment

Seenivasan D

Assistant Professor in Computer Science and Engineering, K.S.Rangasamy College of Technology, Tiruchengode-637 215, Namakkal District, TamilNadu, India.

Harini J K

Students of Computer Science and Engineering, K.S.Rangasamy College of Technology, Tiruchengode-637 215, Namakkal District, TamilNadu, India

Nandhini P

Students of Computer Science and Engineering, K.S.Rangasamy College of Technology, Tiruchengode-637 215, Namakkal District, TamilNadu, India.

Abstract---Ration shops are one of the main food product supply centers of Government. has an insignificant amount of goods, theft of material, large waiting time in the ration store and they keep all records in big paper file. This project is execute to overcome the obstacle that exist in the current distribution system. Ration cards are replaced with the smart card in which all the required information (name, contact number, aadhar number) are saved. Once the materials are delivered to the shops by government, through the websites or SMS all customer are asked to collect the ration. The customer checks the availability of products through the website to choose products as per their card type. Then customer will receive OTP to confirm order. Then the controller checks the customer code and details which is stored in database. Once the authentication of the customer is done, then the collecting time will send through SMS. The exact amount of food grains is extracted immediately and as soon as the ration is dispensed email notification is sent to the customer's mobile.

Keywords--ration distribution, queuing, OTP, ration card.

I. Introduction

The Indian ration card provides food for the poor people which is distributed by the government together with the fuel. It provides a definite identity of person

which is beneficial to update with the government record. The essential food items provided by government are rice, sugar, wheat. Ration Card is one among the foremost important document which acts as identity proof for anyone. If people aren't having their own Ration card they will also apply for the identical. The method to apply for ration card has been facilitated to great extent but now each day this process is online which comes as blessing for the applicants who hate standing for very long time in queues

for filling the appliance form and so head to the office again to know about the status. The network of the ration shops is spread everywhere in India to supply food security to the people. This distribution of food and fuel is absolutely controlled by the government. However, it's such a lot of limitations. Most of the ration shopkeepers keep pretend ration cards with them. Due to accessibility of all ration things, this stuff is present with the ration shop dealer so he can falsify the records and use the things to sell within the market loosely. The dealer doesn't give these ration things to the purchasers. Many times people don't seem to be aware that the things have arrived in the shop. The dealer then sells this stuff in enlarged rates within the market. In this method, the current scenario we tend to face problem due to lack in transparency. There is no such sensible system yet developed through that government gets message of usage of grains by the people.

The current Ration Allocation System is an offline one. because of this, corruption is rampant. Dealers usually falsify records for private profit. They additionally offer ration things of the poor people at most rates that isn't even. There is a scarcity of transparency between the dealer and shopper. because of this downside of dealer, the poor people don't get the things as expressed on their card. Moreover, there's no criticism system through that the shopper's interests will be protected. By using the smart card Automation System, we have a tendency to want to try and do away with of these issues and make a system which might be truthful and only for all.

The aim of the project is to develop a more robust, economical ration card system using web technology. Our project offers active participation in Step towards Digital Bharat. Automation of distribution system at the ration look in addition as maintaining the info at one main management station and change the info, so the merchant doesn't cheat the poor individuals as what this project aims at achieving. The ration distribution system can jointly refer to as public distribution system distributes food things to the poor. Major commodities incorporate rice, wheat, sugar and lamp oil. During this system open-end credit are going to be provided rather than current ration cards. User's info is hold on that is provided by Government. The open-end credit should be utilized by the client to indicate the main points of things allotted by government, then it checks client details with hold on information to distribute material in ration shop. The ration allocation system has been in use for several years. Its main purpose is distribution of basic commodities like rice, kerosene, sugar, wheat at cheap costs. This method may be a boon for the Indian society but with the increasing population, there's a necessity for associate automation of the parceling system. The present ration system conjointly lacks security in some regard. As a result, corruption is rampant. There's lack of transparency between the patron and

dealers, typically ending within the client not receiving his dues. Unfair means that like giving bribes as typically utilized by the patron that sets a viscous cycle of corruption into play.

II. Literature Review

[1] This paper proposes the advanced Ration Distribution System, named as "Smart Ration Distribution and Controlling". Large quantity of government cash gets wasted because of corruption within the standard Ration Distribution System. This paper implements an easy PDA device (personal knowledge assistant) with RFID tag used as an e-ration card in place of a traditional card. This PDA device is analogous to the ticketing machine utilized by bus conductor and therefore the e - card is analogous to swipe card. The Subscriber needs to use this card rather than a conventional card to urge ration from the dealer. Efforts are place along from our aspect to combat corruption and to possess higher management of public distribution system.

Its main motive is to provide food grains (sugar, wheat, rice, coal oil etc.) to the individuals at reasonable rates. The network of the ration retailers is unfolded everywhere in Bharat to supply food security to the individuals. This distribution of ration is controlled and monitored by central government, beside the regime. However, it's such a big number of limitations. Most of the ration shopkeepers keep pretend ration cards with them. Due to pretend ration cards, the dealer receives the additional ration from higher authority and he sales it into the open market. The dealer might not offer a adequate quantity of food grains to customers. Most of the time individuals don't seem to be alert to the provision of ration in ration shop. The dealer might sale ration at higher rates than counseled by the govt. or he might do wrong entries in register. During this approach, within the current state of affairs we have a tendency to face downside of corruption publically distribution system. There's no such effective system through that government gets acknowledgement of consumption of food grains by individuals.

Using this proposed modern system, we will have higher management of the ration distribution system. Government will have indirect check on the provision of the ration to the beneficiary. It's clear and has management over costs of some commodities within the open market. Dealer won't be ready to keep false ration cards with them. System helps to modernize ancient apportioning and combat corruption up to an excellent extent.

[2] Public distribution system additionally called ration distribution system is taken into account a gaping contentious issue that involves corruption and illegal importing of commodities. With no distinctive technology involved for automation of the task, all the tasks square measure manual by FPS (Fair Price shop) agent and thus invitatory irregularities within the system. There may end in true wherever a beneficiary is sold partial commodity entitled to him with the undiversified commodity directed to open market by FPS agent for his personal profit. In this paper, we tend to propose a system that substitute the manual tasks in ration distributed system with machine- driven system that needs associate installation the least bit the FPS which might be through with

simplicity. In the projected system we tend to replace identity card with charge account credit. RFID tag holds a singular ID that's issued for all the BPL bearers. For authentication we tend to use RFID (Radio Frequency Identification) primarily based charge account credit and also the bioscience (R303A). to stay the government incorporated within the method, we recommend connecting the system put in at FPS to the centralized information supervised by the govt and thus establishing direct communication between beneficiary and government.

In this division, we present a concise introduction to Ration distributed system victimization open-end credit. Ration distribution Associate initiative by the govt. of India underneath Ministry of client Affairs, Food and Public Distribution intend for the distribution of commodities to needy at honest worth. Within the projected system we tend to use RFID Technology. One among its elements, an RFID tags hold a singular ID is issued to all or any the BPL card bearers. Here RFID tag (Smart Card) and also the statistics serves the aim of authentication. Data and also the fingerprint impression of the pinnacle of the family and one among the relations are within the centralized information whose access is just legitimized for a government

authority. The primary of the 2 authentication steps desires the beneficiary to swipe the open-end credit against RFID Reader put in at the FPS and also the second step towards Associate in Nursing authentication is that he/she ought to scan the fingerprint of his/her thumb against biometric. On matching his/her fingerprint with the ID hold on within the device, associate degree applicable fingerprint I'd interface with info to checks for valid beneficiary's data. Once verified, updated data is obtained by machine-driven ration system regarding the present subsidies for the beneficiary onto the most interface. A beneficiary is allowable to require solely those subsidies on merchandise distributed to him/her by government consistent with the offered info inventory. When each dealing created by the beneficiary, centralized info is straight away updated and he/she are going to be sent an SMS (Short Message Service) specifying the number of artifact bought by him/her. With implementation of the projected system prime problems like graft, uneven distribution and different difficulties faced by beneficiary is terminated.

This PDS works during a multiple level wherever the responsibilities as shared between center and state. The task of procuring or shopping for food grains like wheat and rice at stripped value is that the responsibilities of center. Allocation of the grains to every state in applied by center. Whereas the authorities are chargeable for the identification of social unit eligible to avail the facilities. The method runs as follows, the grains are transported by the center to each state's central depot, when that the allotted food grains are delivered to various independent agency through authorities. Finally, independent agency being the top purpose sells the entitled commodities to beneficiaries.

The planned system replaces the manual add in FPS. The prime objective of the designed system is that the automation of FPS to supply transparency. The planned automatic FPS for public distribution system relies on RFID technology and identification technology that replaces standard ration cards. The RFID tags

area unit issued to a beneficiary rather than standard Ration Cards. Beneficiary's data alongside the fingerprint impression of the top of the family and one in every of the relations is keep within the centralized information that is simply updated or accessed by the govt. authority. Beneficiaries got to scan the RFID open-end credit against RFID reader when that he/she ought to scan the fingerprint of his/her thumb against biometric, then acceptable fingerprint ID checks for valid beneficiary's info within the info, when verification of the beneficiary is done, info is fetched onto the most interface, and beneficiary has to enter variety of trade goods yet as amount of trade goods victimization computer keyboard.

[3] The Ration Distribution System (RDS) is one of amongst the foremost contentious problems in Asian country, and it involves direction, corruption, and miser activities that happen in rural similarly as urban areas. In Existing Ration Distribution System (RDS) the food grains like wheat, rice, etc. square measure given to the Ration card holder manually. And there'll be probabilities that grain not properly get distributed. Similarly, remaining grains are going to be oversubscribed to the user illicitly and there's no transparency during this existing system. Whenever the food grains square measure obtainable within the ration distribution center, the helpful family doesn't get correct info regarding once the distribution can begin as a result of most of the helpful people or either a farmer or employee. To beat such criminal activity and issues we tend to project a system referred to as "Smart Ration Distribution System by exploitation Raspberry Pi". In this system we have a tendency to use Raspberry Pi Associate with GSM technology for automatic ration distribution and informing the people concerning ration is accessible within the Ration Distribution Center by victimization an SMS message. Once the good Ration Distribution system begin, Camera module scans the QR code obtainable on the Aadhaar card as another for identity card. Once the data matches the prevailing system can mechanically show the amount of food grains allotted to the user on a monitor.

In this paper, we've got planned the sensible Ration Distribution System by using Raspberry Pi and GSM. A ration distribution shop, conjointly called public distribution look (PDS), could be a part of India's public system started by the govt. of India that distributes rations at an occasional worth to the poor. These outlets give sponsored food grains like wheat, rice, etc. to the identity cardholder as per the policy of state. Within the Existing system, all the food grains are distributed manually and therefore the data regarding distributed grain is registered manually on paper. Therefore, there'll be possibilities of wrong data get registered.

In this proposed system our main focus is to get rid of the drawbacks of the prevailing system and scale back corruption. Our planned system is straightforward and fewer long. In our system, Raspberry Pi could be a main dominant unit, and also the Camera module and GSM area unit interfaced with it. Here Camera is employed to scan the QR code that is already gift on Aadhaar card and also the data that we tend to get scanning Aadhaar card QRcode is compared with the knowledge already keep within the information. GSM is employed to exchange the information\Messages to the individuals.

The Ration Distribution System (RDS) is one amongst the foremost arguable problems in Bharat, and it involves direction, corruption, and criminal activities that happen in rural yet as urban areas. In Existing Ration Distribution System (RDS) the food grains like wheat, rice, etc. area unit given to the Ration card holder manually. And there'll be probabilities that grain not properly get distributed. Similarly, remaining grains are going to be oversubscribed to the user illicitly and there's no transparency during this existing system. We tend to tried to create the system digitized system and that we decision it a sensible ration system. Mistreatment this technique we will give quality merchandise, sensible grains, and also the method would be more cost-effective and fewer long. Aadhaar card integration is feasible for the Distribution device. This needs less work as compared to alternative devices. It might even be optimized to cut back the probabilities of adulteration and truthful weight policy.

[4] Our countries food department has been working to supply food & oils to each and every citizen with the help of ration and grocery shops. But, many poor people have not yet received ration of adequate quality and quantity due to hoarding, black marketing, and many other reasons. Due to these reasons, a Smart Ration Distribution System is required to ensure proper distribution of food grains (less parched, e.g. wheat and rice), and other basic necessities to all the needy people.

The present system uses manual methods of distribution of ration commodities like sugar, rice, wheat, etc. These manual techniques will take more time to give ration to the people. In the initial phase of the project, a database has been created to enter the details of the smart card holders, with the facility of updating and deleting the customer details. Then, in the later phase, we have interfaced the components to Arduino Uno board to make this system work more efficiently. Also, there have been many complaints lounged about the shopkeepers not providing adequate amount of food grains (less parched, e.g. wheat, rice) to people, as he looks to hoard the ration and sell them at higher prices when their need will bemore.

Aadhar card consists of QR code, encoded with Aadhar number. The details of a user will be added using an android application. The details will be stored and recorded as it is entered using a database. It will also be responsible for maintaining logs and RTC, as well as storing a valid mobile number and sending SMS to that number. Microcontroller will send signals to Electronic Circuit. Electronic circuit includes Motor Driver, Relay, Power Supply, Driven IC, Supporting LCD Screen etc. From Circuit processed signal will be given to motor for the rotation according to program requirement[2]. Assembly consists of two gear Bevel and Rack. It will make rotation according to motor movements Door Assembly Consists of door with attached rack gear. For movement as per motor, As the door gets open grains will be dispensed, according to delay.

The proposed system will help reduce the middle-man concept of providing the ration commodities, and reducethe time required to provide the food grains. Due to automated system, the problem of corrupt methods of black marketing and hoarding will be eradicated. This will also be very cost effective for the government to install and use in ration shops.

[5] 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.

The ration allocation system has been in use for many years. It's main purpose is distribution of basic commodities like rice, kerosene, sugar, wheat at affordable prices. This system is a boon for the Indian society however with the increasing population, there is a need for an automation of the rationing system. The current ration system also lacks security in some regard. As a result corruption is rampant. There is lack of transparency between the consumer and dealers, often ending in the consumer not receiving his dues. Unfair means like offering bribes are often employed by the consumer which sets a vicious cycle of corruption into play. The main focus of this project is to bring order to the current system by eliminating all these problems and providing a secure environment for transactions to take place. It is also a prospect for Digital India.

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable. The primary design constraint is the Desktop platform. Since the application is designated for Desktop Systems, effective GUI and well user friendliness will be the major design considerations. Creating a user interface which is both effective and easily navigable is important. We are utilizing the database to store the various information of the users as well as their biometrics so storage space needs to be considered for smooth functioning of system. Other constraints such as memory and processing power are also worth considering. Efficiency needs to be considered since it is one of the major reasons of having an automated system for ration. The input and output generated and their individual working efficiency and its contribution to the overall software application must also be considered. The software will give the desired results only if the specified software requirements are satisfied.

III. Proposed Methodology

The system uses Cloud to read and write data for effective and reliable database. This system is a web based solution, which ensures the cross platform compatibility and is easily accessible with anyone having access to browser. The system is accessible by both the admin and the people buying ration which makes it as an one stop destination and make sure the effective use of the resources. For security purposes, we are going to use OTP to verify the legitimacy of the user.

Consumer and Admin Registration

In this new user can register to access this website by giving ration card number, name, address, contact and pin code. These details are saved in corresponding table present in database. After proper registration the user can receive username and password to access this website. The distribution process starts with the registrations of the Consumer. The registration should be done within the given period of time. Valid documents and details should be provided. After verification, login credentials will be given to the consumer.

In this section new admin can be enrolled under any designation. The details are name, contact, mail id, designation and password. This section is allowed to control by the website admin.

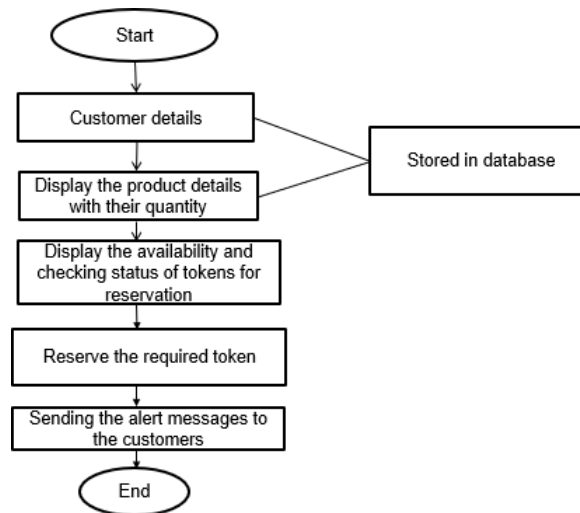


Table Structure

Table Name : Admin

FIELD NAME	TYPE	SIZE	CONSTRAINTS
Id	Varchar	30	Primary key
Password	Varchar	10	Not Null
Mobile	Varchar	10	Not Null
Gmail	Varchar	30	Not Null
Designation	Varchar	30	Not Null
Place	Varchar	20	Not Null

Description : Used to store the login details.

Table Name : Consumer

Description : Used to store the user details.

FIELD NAME	TYPE	SIZE	CONSTRAINTS
Ration Id	Varchar	30	Primary key
Password	Varchar	10	Not Null
Name	Varchar	30	Not Null
Mobile	Varchar	12	Not Null
Place	Varchar	30	Not Null
Pincode	BigInt	10	Not Null
Address1	Varchar	20	Not Null
Address2	Varchar	20	Not Null
Wheat	BigInt	6	Not Null
Rice	BigInt	6	Not Null
Sugar	BigInt	5	Not Null
Oil	BigInt	6	Not Null

information. Whenever a beneficiary gets the commodities from FPS (Fair price shops) all the transactions are recorded in the server. The system not only reduces the labour cost but also increases the accuracy and save some amount of time.

IV. Conclusion

Scheduling Phase

The scheduling phase was implemented after the successful registration. The consumer can check their scheduling details in their website which was scheduled by admin. Consumer will receive mail regarding distribution details. Customers are allowed to view the distributed ration items at anytime anywhere through this website. Admin can also check whether the products from specific category is available in stock or not.

Distribution Phase

In this section consumer can view their distribution details which include past distribution (In past distribution consumer's early distribution will be displayed) , next distribution, save new distribution these distribution details are stored in cloud server which was maintained by the admin.

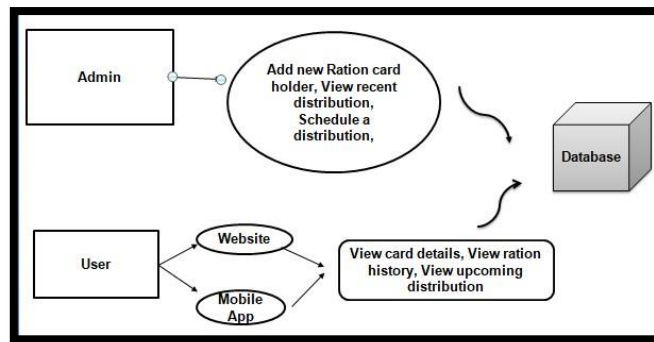


Figure 1: Block diagram

VI. Result

A technique has been developed to read all the information from a centralized server automatically using the internet for computers. In the proposed system, every family will have a separate smart card to collect ration items. These cards are unique and it will contain beneficiary's In the existing system having two draw backs, first one is that the weight of the material may be not correct due to human mistakes and the other drawback is that, if consumers do not purchase the materials at end of the month, they will sell these items to others people which are not actually the real customers of that items without any proof provided to the government and customers. The above drawbacks are removed by this method. In this system, ration Materials (sugar, rice, oil, kerosene, etc.) is available by software through automatic mechanism without any help of humans. After receiving the materials, information is send to government office and customer through cloud technology. This system is very accurate, which is used for the real time applications. Thus, on the basis of literature survey and by analyzing the existing system, we have come to a conclusion that the proposed system will not only aid the government agencies but will also help to digitize the system and in turn help to deploy resources efficiently to the citizens.

Scope for Future Development

For author's of more We would like to add partial payment feature through credit cards debit cards etc all transactions online for the ease of the customers because currently we are using the cash payment feature only. In the present system we have used limited items in the database so in the future new items can also be added in the databases. A mobile app can also be developed so the the users need not every time visit the shop for knowing whether the items are available at the shop or not.

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