International Journal of Research Publication and Reviews

Smart Ration Shop Virtual Queue System Using Web Application

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ABSTRACT:

Public Distribution System is a government-sponsored network of stores tasked with providing essential food and non-food necessities at deeply discounted rates to the underprivileged segments of society. The public distribution system distributes a number of important goods, including wheat, rice, kerosene, sugar, etc. One technique of the public distribution system is the ration shop. It undoubtedly benefits the populace, but it also has a lot of disadvantages. Those that provide goods for the ration shop sometimes take some of them and retain it for themselves. In order to obtain the goods, there is a large queue of individuals who must wait, wasting their time. This makes the ration shops crowded. People can use this application to find out the status of the queue's availability. Through a web application, the suggested solution offers customers a simple method to reserve their tokens online without having to wait in queue. Using an application, this article aims to reduce crowding at ration stores. The web application first get information before it can connect to the appropriate ration shop. This application's ability to connect to the appropriate servers and retrieve data will undoubtedly let clients reserve tokens online without standing in queue.

Keywords — Queue, the public distribution system, and token.

1. INTRODUCTION

The system for waiting in queue in virtual form is known as Virtual Queue. We may then apply it to public distributed systems. Because people must wait in huge lines at government ration shops to acquire commodities such as sugar, rice, oil, wheat, kerosene, and so on from the centre. Farmers purchase products for these supermarkets and resale them to receive subsidies. The bulk of grocery store owners are immoral, and the rations offered to clients are not given to authorised workers. Most clients do not have the patience to wait in a long queue, thus they do not receive their goods. It's an opportunity for those suppliers. This application was used to reserve their token and confirm the current status of the queue. It undoubtedly minimises the queue in front of the ration shop and also saves them time.

2. LITERATURE SURVEY

[6] The idea of "Smart Ration Distribution and Controlling" was put up by Kashinath Wakde et al. A Personal Data Assistant device with an RFID tag is implemented and used as an e-ration card in place of a standard ration card in this study.This PDA gadget is comparable to the bank pigmy agent's or bus conductor 's ticketing machine, and the e-ration card is comparable to a swipe card. The RFID reader validates an identification card when it is presented to a PDA device. If it is legitimate, it will display the name of the ration card holder and account information, including the food grains allotted to his household and the government-recommended prices. Then it requests the delivery of the quantities. It displays the amount due after inputting the quantities. After that, it prints the receipt and notifies the consumer of the transactions. Only at the ration shop will the public have access to the stock information. It may make the ration shops crowded.

[7] "Mobile App for Smart Ration Card System" is the idea put out by Mrs. B. Buvaneswari et al.Each user in this system has their own unique authentication login. Information about the user's family members, supplies that are available and have been received, and their pricing list are all presented in their user profile. The user will receive a confirmation message when the buyer blocks the necessary materials and makes a request to the admin. They can purchase their items at the relevant ration shop by utilising this message. The admin of the ration shop will post the information after it has been given to the appropriate user. This document does not take any steps to minimise crowding in the ration shop, even though it lessens corruption.

[5] The "Web Enabled Ration Distribution and Corruption Controlling System" has been proposed by DhanashriPingale et al.The goods in this system are kept in storage tanks. The number of products is updated on the web server when they are added to the ration shop. The collector can use the webpage anytime he needs a ration from a certain ration shop. The user must input the product and quantity needed through a keypad and LCD display into the computer, which already has a database filled with all of the user's information, in order to obtain the precise amount of needed items. The web server updates the ration shop's inventory numbers once again. Power supply is crucial for computer use. The subscriber under this scheme must visit the website each time they want a ration.

[8] The "Real Time Automatic Ration Material Distribution System" has been proposed by PranjalPedwal et al.In place of a ration card, an automatic distribution system for ration materials based on the GSM and RFID technologies was presented in this study. The RFID tag must be displayed to the RFID reader in order to access the items at ration stores. The controller will then verify the card's customer codes and quantity information. These systems reveal the amount information after verification. The controller communicates the information to the government office and the customer via GSM technology once the customer submits their relevant materials using a keyboard.

3. PROPOSED SYSTEM

Through an application, the proposed solution offers customers a simple method to reserve their tokens online without having to wait in a queue. The token in which the consumer has gotten it will be marked, and the reserved token will be unavailable to anybody else for the allotted period of time. The token that the client was unable to pick up at the scheduled time will have a red mark on it. The consumers will get the alert message. The alert message will be issued to the client to remind them that they need to come soon. If they are unable to arrive at the scheduled time, they will have to reserve their token again. The recommended approach has several advantages. The Fig 3.1 describes the system of proposed application.
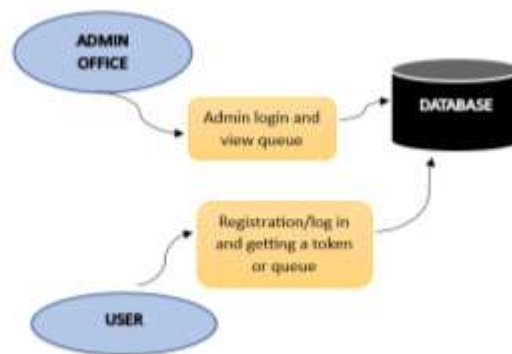

Fig. 3.1 System diagram

User Module

Through a web application, the suggested solution offers customers a simple method to reserve their tokens online without having to wait in queue. The consumer has access to information about product quantities and availability. The token in which the consumer has gotten the goods will be marked green, and the reserved token will be marked black and unavailable to anybody else for the allotted period of time. The token that the client was unable to pick up at the scheduled time will have a red mark on it.

Admin Module

The details of the customer is initially entered by the users into the programme. The application's database will then be immediately updated to reflect this. The product information, including the name and amount, will then be automatically saved in the database. Customers want to reserve the tokens after seeing the queue specifications. The consumer is able to view the tokens' current status. The consumer will then go and obtain the necessary goods at the scheduled time after learning the ration shop's status via the alert message.

Virtual Queue Alert Module

The consumers will get an alert message. The alert message will be issued to the reserved next client from the current customer if one customer is receiving a product. The alert message will be issued to the client to remind them that they need to come soon or else they need to make another reservation if they were unable to arrive at the scheduled time.

4. RESULT ANALYSIS

In fig 4.1 The user or consumer can register their details and select their particular centre for login.

Fig. 4.1 User Login Page

In Fig. 4.2, we can display the current status of the queue, making it easy for the user to know about it. Through this, users can get their token. If the token number is near the current token, an alert message will be sent to them.

Fig. 4.2 Getting a token

In Fig. 4.3 shows the alert message that is sent to the user or consumer who is near the token number.

Fig. 4.3 Alert Message

In Fig. 4.4, the admin of the centre can know the list of queue lines, and they can make changes to them when the user can get their product or not.

Fig. 4.4 Admin Page

5. CONCLUSION & FUTURE WORK

We can improve the management of the ration distribution system by using this application. The database of the application will then be promptly updated to reflect this. The product information, including name and quantity, will then be saved immediately in the database. After reviewing the product description, customers wish to reserve the tokens. The consumer can see the current state of the tokens. After knowing the state of the ration shop via the alert message, the consumer will go and get the essential commodities at the specified time. We can properly manage the ration distribution system with the help of this programme. There is no need for the client to stand in queue to acquire goods from a ration shop. This saves consumer valuable time. Furthermore, the ration shop crowds are avoided. This application modernises the traditional rationing method.

Integration with the Amazon Echo and the creation of a smartphone app for the iOS operating system are planned for the future.

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