

# E-Ration Card System using OTP and QR Code

<sup>1</sup>PoojaBisukarma,<sup>2</sup>AishwaryaPachpute,<sup>3</sup>AishwaryaAwate,<sup>4</sup>Prof.AmrutKanade  
Department of Computer Engineering, Jaihind COE, Kuran, Pune, Maharashtra

**Abstract :** In existing Ration Card System consists of three types of cards are available, that information is updated manually. This manual process of updating book is tedious and fraudulent. This leads to unfair practices. The retailers practice forgery by not selling the required quantity of goods to the people. So, most of the time corruption is happened. So, we have proposed a Smart Ration Card System using OTP (One Time Password) or verify by aadhar QR Code . In proposed system, the OTP or QR Code contains and an Identification Number of the customer which will point to the database. First user registered in to system with the valid document with unique password, ration card ID, personal details. Documents verify the government officer such as executive majestic. Then the FCI send SMS to user and the shopkeeper and the food grain officer for quantity of food. Food grain officer to deliver the food shopkeeper and shopkeeper deliver to authorized user. Also, we have added the Bachat Gat System to allocate the shop with registration and log in for add the ration card entry. Then send OTP to user mobile number and after the entering OTP, user seen details and view the food quantity, then receipt that has option to save and print account. User seen only 15 minutes to shopkeeper. The bill is displayed and a Short Message Service will be sent to the customer. This Smart Ration Card System will ensure transparency in the system and hence prevent the corruptions and exploitation of masses.

**Keywords:** Public distribution system (PDS), Fair price shop (FPS), GUI Screen, Automation of ration shop, web enable duration shop.

## I. INTRODUCTION

Now a days, ration card is an important document for everyone and it is used for many different fields such as family members details, to get gas connection, it acts as address proof for various purposes like issuing passport, pan card to buy the grocery (sugar, rice, oil, kerosene, etc) from the ration shops. But in this system has two draw backs, first one is there can be ration forgery and second one is it is very time consuming.

Ration Cards are important documents issued by the Indian Admin. It enables user to buy fuel, food, etc. at subsidised rates. These groceries are distributed to the eligible customers at Fair Price Shops (FPS) Ration cards are also as an identity proof. The existing system consists of a ration cards in book form for three categories. Three categories are based on the criteria given by the admin. The book is updated manually according to the purchase and has to be renewed every year. For purchasing item, the customer is verified using fingerprints. The manual process of updating book is tedious and fraudulent. The retailers practice forgery by not selling the required quantity of goods to the people. On the other hand, customers do not get the deserved quantity of grocery. Many efforts are being taken to improve this system.

Considering all the limitations of the existing system, we have proposed a Smart Ration Card System with Two Factor Authentication using One Time Password. After registration of customer will be provided printed ration card and this registration account along with username and password which will be stored in the database. The customer personal account contains details of name, address, number and names of family members, quantity bought and quantity remaining, etc. will be displayed. For purchase, the customer will further have to enter a One Time Password or aadhar QR Code sent to his registered mobile number using Short Message Service Gateway. One Time Password or Aadhar QR Code is used for the verification of the customer.[1]

## II. Problem Statement

To develop a Smart Ration Card System using OTP or Aadhar QR Code that maintains transparency in the ration card system and prevents corruptions and exploitation of masses caused by retailers.

## III. LITERATURE SURVEY

Prof AartiBhosaleet al [2]“Survey on Smart Ration Card using Internet of Things”. This paper has proposed the smart ration card based on Internet of things based on bio metrics, sensors and RFID technology which will further can be extended with the an idea of clustering database for easily retrieve details. And future system could use high quality sensors and hardware for efficient implementation

Ms. KritikaPatil et al[3] “**Smart Ration Card System Based on GSM Technique**”. In this paper we have proposed Smart Ration card system is based on GSM & RFID instead of ration card through which the controller will send the information to the customer & this same information will be updated on web page. By using this system we can avoid corruption in ration or public distribution system to some extent.

Surbhi A. Surkar et al[4] “**A Survey on “Smart Ration Card System”**”. In this paper Subsequently finish of the venture is to secure and safe access of ration cards in savvy way, and it is extremely secure with mystery scratch protection, if entered secret word isn't right in first endeavor then the structure permitted to enter watchword once more, the client again neglects to enter effectively then the system sends message to affirmed individual through GSM module.

Prof. Shital A. Aher.et al[5]“**RFID and Biometrics Based Smart Ration Card System**”. In this paper we have proposed Ration forgery is one of the most difficult challenges faced by the food distribution department. There may be chances where ration is delivered to the beneficiaries and false records are noted down, regarding the delivery by commission agent. And there is probability of him (commission agent) selling the commodities in open market with extra profit etc. Therefore, the proposed system is more secure and transparent then the normal existing system. Entry of fallacious data in the ration database can be avoided with the use of smart cards and additional security is provided by the biometric authentication. The commission agent is only responsible for entering the quantity of the commodities, whereas updating and deducting is solely handled by the server (food department). Maintaining the database is also helpful for sending messages to the beneficiaries about the ration delivery. It is anticipated that the proposed project will create transparency in public distribution system as the work becomes automatic and also it makes the system free from irregularities.

ShubhamTirthkar et al.[6] “**Android Based Ration Card System using Biometric and SMS Gateway**”. This paper proposes Smart ration card system based on android application instead of the orthodox Ration cards. This will help replace manual handling of data with automatic processing. The IoT based Ration card system will provide a way for efficient management and administration of Ration distribution system. This will also help curb corruption to a great extent.

Neha Sharma et al.[7] “**IoT Based Ration Card System Using Bluetooth Technology**”. This paper describe The IoT based Ration card system will pave a way for efficient management and administration of Ration distribution system. This will also help curb corruption to a great extent.

PoonamN.Jadhav et al[8] “**A Step Towards Digital India Using Smart Ration Card**” This paper presented new Smart Ration Card System and web portal which reduce efforts of the dealer to allocate ration to each and every family consumer area in Allocated area. Also our system reduces corruption through dealer to great extent. Each consumer can complaint if any regarding dealer or give their valuable feedback to the Admin of the System. Our Smart Ration Card System which is being operated by Government itself acting as an admin to the system gives instructions to the dealer regarding ration allocation online so that there will be transparency maintained between admin and consumer. This System can be implemented as a replacement for current manual Ration card system in India, so that will improve the ration transaction to a great extent.

Bhalekar Swati D. et al [9] “**Online Ration Card System by using RFID and Biometrics**” In this paper, we have studied online smart ration card system using RFID and biometrics. Radio Frequency Identification technique (RFID) is used to prevent the ration forgery. There may be chances that the shopkeeper may sell some amount of ration to the customer and make false record for that delivery of ration and sell remaining amount of ration to someone else with extra profit. RFID tag will contain the information about family members. RFID tag given to a particular customer needs show to the RFID reader. It will check whether the card is valid or not and if yes, then by using biometrics the customer authentication is performed. If the customer is authenticated then the monthly quota will get displayed according to the family members. After delivery of ration, records are maintained in the online database.

#### IV. PROPOSED SYSTEM

In proposed system, the OTP or Aadhar QR Code contains and an Identification Number of the customer which will point to the database. First user registered in to system with the valid document with unique password, ration card ID, personal details. Documents verify the government officer such as executive majestic. Then the FCI send SMS to user and the shopkeeper and the food grain officer for quantity of food. Food grain officer to deliver the food shopkeeper and shopkeeper deliver to authorized user. Also, we have added the Bachat Gat System to allocate the shop with registration and log in for add the ration card entry. Then send OTP to user mobile number and after the entering OTP, user seen details and view the food quantity, then receipt that has option to save and print account. User seen only 15 minutes to shopkeeper. The bill is displayed and a Short Message Service will be sent to the customer.[1]

A.FLOWCHART:

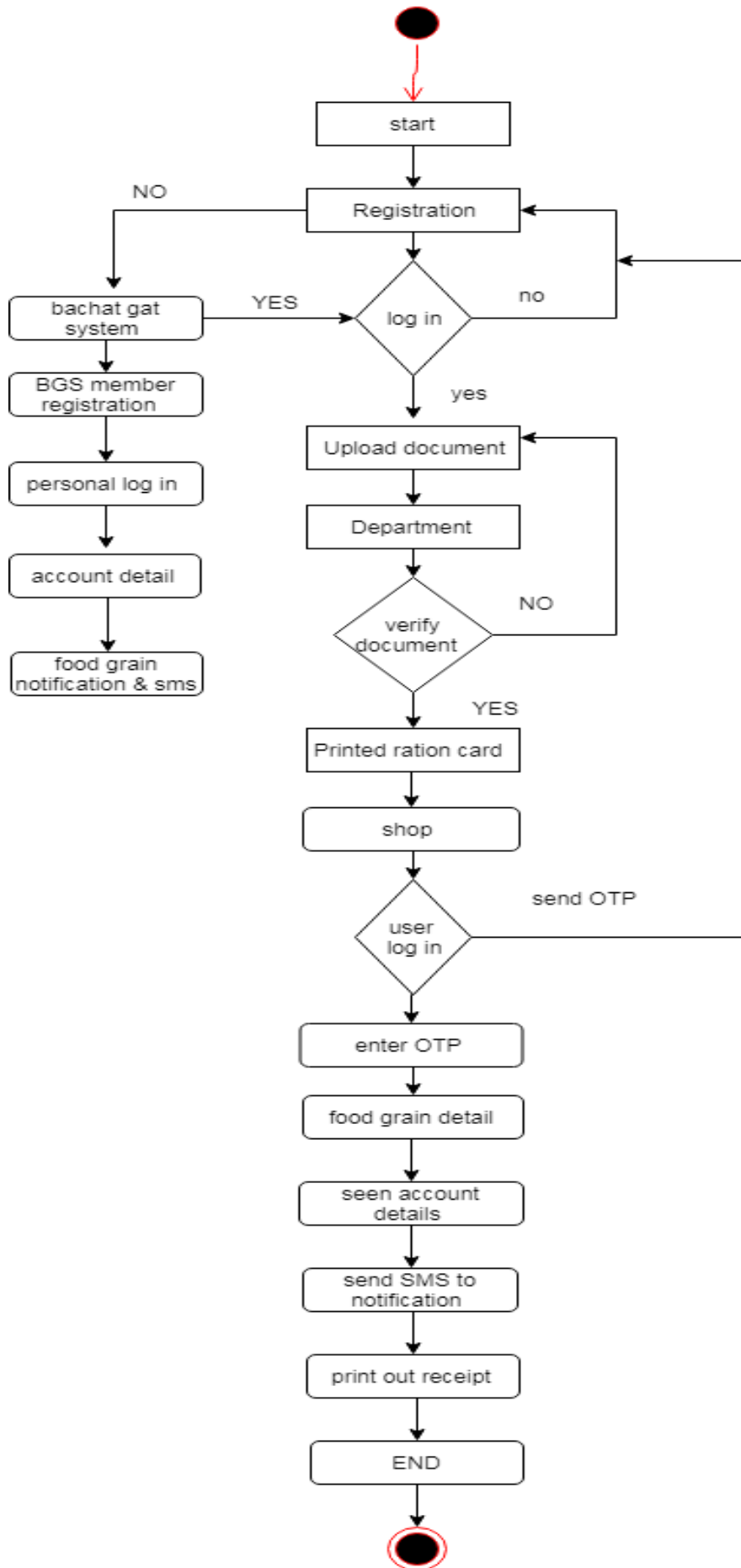


Figure. 1: Flowchart of smart ration card system

**B.SYSTEM ARCHITECTURE :**

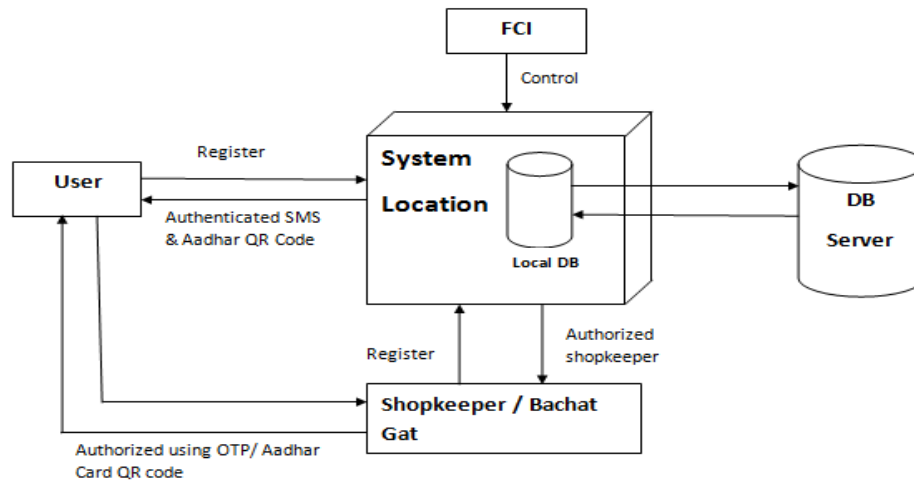


Figure. 2: System Architecture

**V. EXPERIMENTAL RESULT**

1.User Login

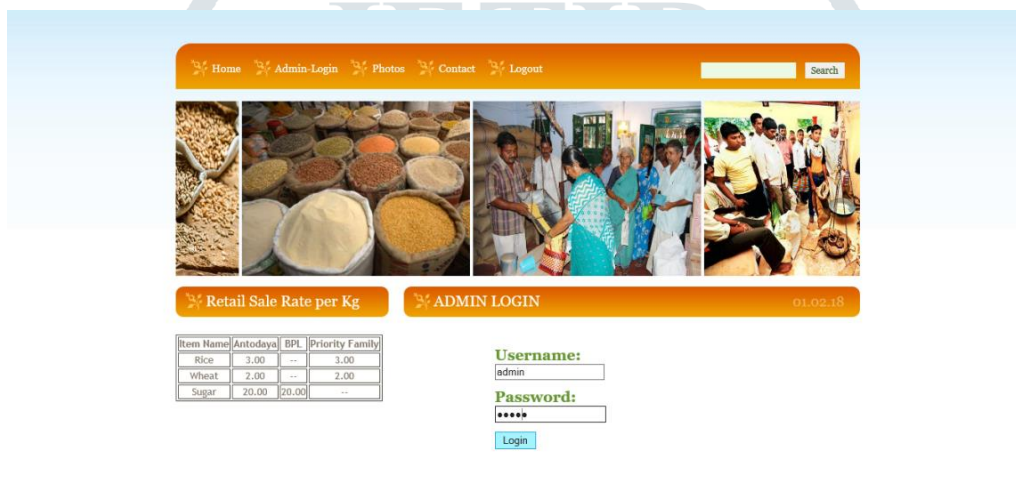


Figure. 3: User Login

2.Email varification

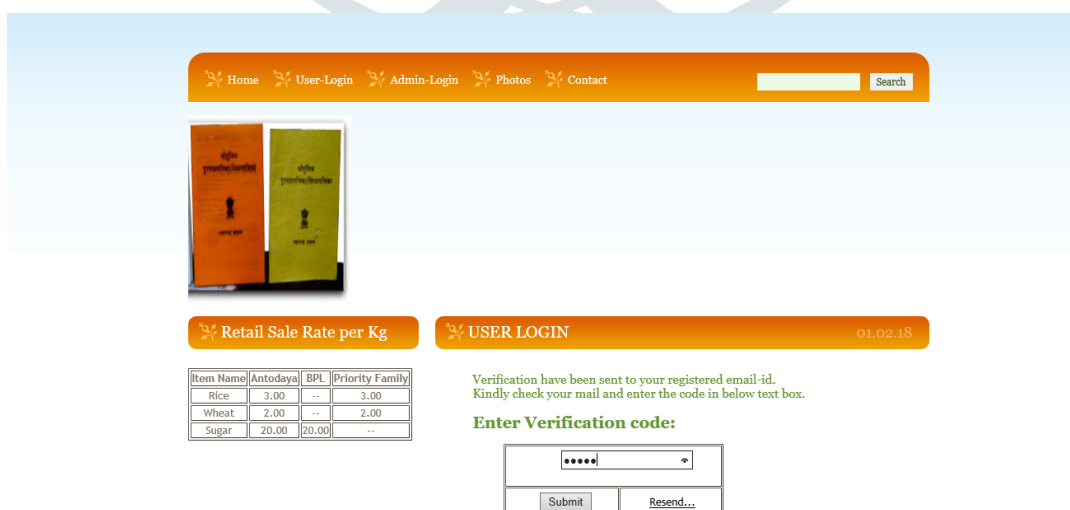


Figure. 4: .Email verification

3.Admin

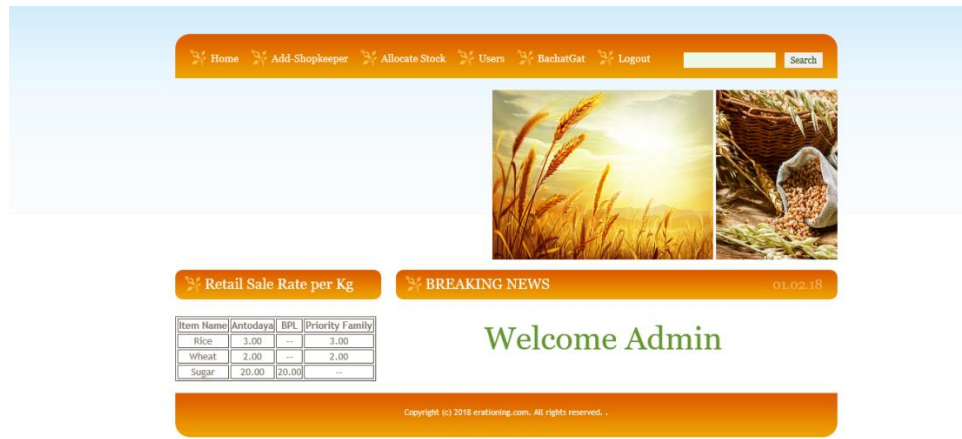


Figure. 5: Admin

4.Admin Account:

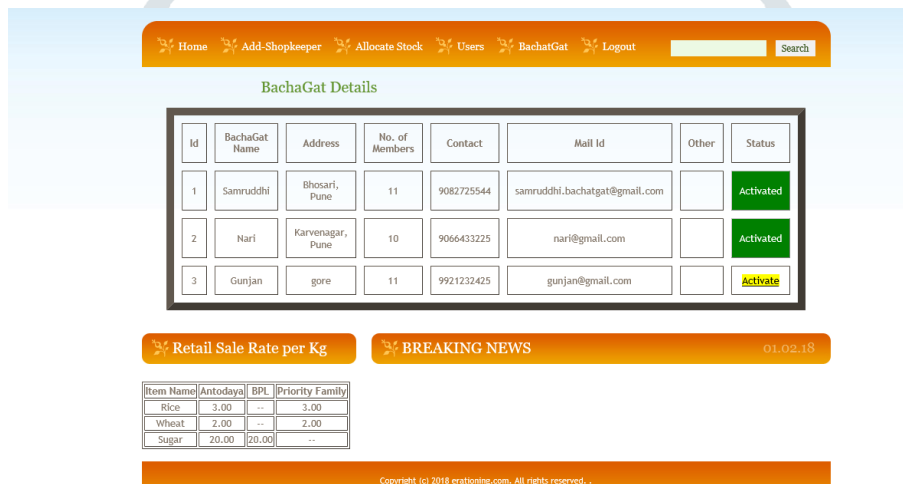


Figure. 6: Admin Account:

5.BachatGat Registration

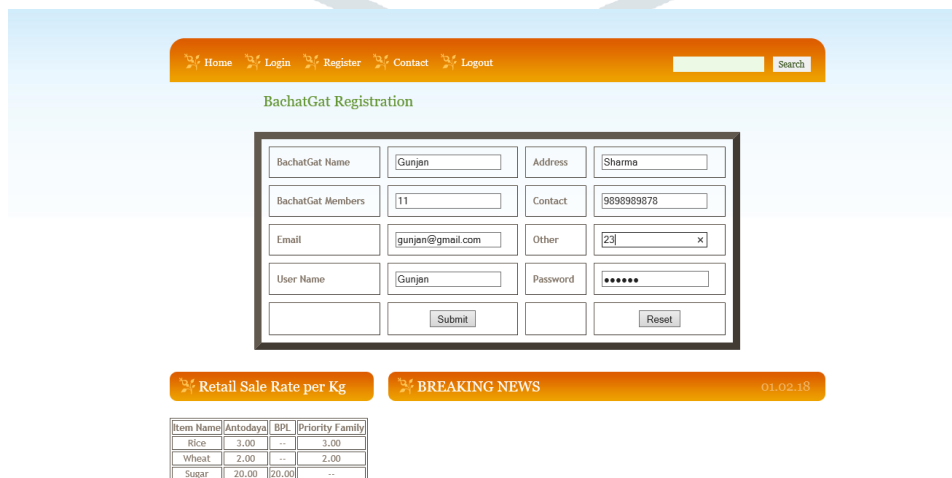


Figure. 7: BachatGat Registration

## 6.Shopkeeper Registration:

Item Name	Antodaya	BPL	Priority Family
Rice	3.00	--	3.00
Wheat	2.00	--	2.00
Sugar	20.00	20.00	--

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Figure. 8: Shopkeeper Registration:

**VI.CONCLUSION**

This proposed system will help to 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 becomes easy for higher authority to cross check the data at any point. So implementing this will be really helpful to targeted poor people.

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