

# Smart Automatic Ration Card using Webpage

R.Kurinjimalar, R.Arthy, P.Raja

**Abstract:** Ration card system is used for the distribution of essential commodities to India's below poverty line population. The use of ration card to obtain the various goods such as sugar, rice, oil, kerosene, etc from the ration shop is common. The present ration distribution framework is with lot of irregularities such as ration delivered to open market and unavailability of ration goods. There is a possibility that ration shopkeeper sales the products to consumer at higher rates than that of recommended by the government. The proposal framework replaces these irregularities and provides efficient automated rationing system. It is having a python webpage. The personal details with bank account is linked with government website. Each card has serial number to communicate with the microcontroller which shows the details completely with accounts. It has a required cost for the goods which brought by the people and also cost will be transferred automatically to government account. The mechanics assemble along with the servomotor helps to power the required quantity of products of ration goods for the person and also the consumer to get the confirmation SMS automatically through GSM. As everything happens automatically there is no chance of irregularity.

**Keywords :** Bank account, GSM, Microcontroller, Python webpage, Ration card, Servomotor.

## I. INTRODUCTION

Ration Distribution in a India is not an easy task. The important problems of this system are the eligible are unable for ration distribution system the resulting leakage of subsidies. Automated smart rationing distribution will be in the country needs and necessity of the fashion world and also the human beings. The ration goods distribution is not an easy way for each and every family to buy the products provided by the government authority for monthly by using the smart cards. Each family has a Smart card to access the ration shop for goods and also the gas connection. India, as one of the biggest populated world in major public sector which distributes and manages the essential commodities to all consumers. In India the product supplied by government with subsidy to the citizens of India based by the smart ration card. In the manual work of the distribution will be done by the electronic machine. The basic information of each and every family member data base can be enrolled in the government's

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**DR. R. KURINJIMALAR**, Associate Professor, Department Of Electronics And Communication Engineering, Smvec, Pondicherry, India, kurinji810@smvec.ac.in.

**R.ARTHY**, Department Of Electronics And Communication Engineering, Smvec, Pondicherry, India, arthirajendhiran@gmail.com.

**Dr.P.RAJA**, Professor and Head, Department Of Electronics And Communication Engineering, Smvec, Pondicherry, India, hodece@smvec.ac.in.

website. Webpage contains all information such as card holder, family members with their age, occupation, address, enrolled contact number and also bank account details for transaction of the money after the purchase of the ration goods by the consumer. This system will be created for avoiding the theft between the dealers and workers. Alerted for consumer conveyance through the smart GSM module. The digitalized process completed with smart rationing. This process will be continuously done by each and every month. During corruption the sensor will notify and alerted the corresponding authority to control the smuggling of goods. There is the eligibility to check whether the shop is available or not and to save the golden time of unavailability of products in the public distribution system.

## II. RELATED WORK

### Cashless Automated Rationing system using the GSM and RFID Technology

Public distributions have corruption and smuggling through the given products of the government. The system based on the GSM and RFID. RFID used as smart card and the consumer data base is enrolled in microcontroller. Consumer needs to read the RFID card and microcontroller compare to the government website. After complete the verification consumer needs a particular products and quantity of goods provided by the government.

### A Step towards Smart Ration Card System using RFID & IOT

Smart card system reproduces as RFID tag to validate the price shop supports the user. The consumer will be confirmed by controller which can be attached with Amazon web services site. For more defence OTP will thesaurus to consumer enrolled mobile number wants to be enrolled in the system. If the consumer considered the support of monthly allowance of ration for the consumer overviews.

### Automated Rationing System using Raspberry Pi

Ration Distribution system is issued that can be overcome the illegal issues during the distribution of the installed ration system. Due to convention of ration card into ATM card and Aadhaar number for the support of the user. It involves the automated Ration Distribution System.

### Automatic Ration Material Distribution Based on GSM and Biometric System

System proposed similar to the finger print and then confirm the consumer codes and information with amount of the personal accounts. After that purchaser wants to enroll the products via the system.

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Controller provides the products at the corresponding time information thesaurus to government and also the consumer through the GSM technology.

### III. PROPOSED SYSTEM

The proposed system of the project that can be same as that of ATM Machine which is 24hours service. Nowadays people wants to save the golden time that they wants to avoid the queue for ration goods for this purpose to enquiry the products via the message by enrolled contact number if the products is efficient the people will ready to withdrawal the goods from the ration distribution system if suppose the in efficient people will moves to other work by this method they avoid more travel time and queue time. The consumer needs the goods by the public distribution system through the procedure to enter the validate serial number in the government website. That shows all the details in the webpage about the consumer based on serial number because already the information enrolled in the government ration website which communicate with the microcontroller that incorporates in embedded system. And then it shows the option to choose the language, products, kilograms and to confirm required cost for the products. It will able to withdraw the goods, if balance is efficient the system will be continuous to deduct the amount for required goods. Suppose the balance is inefficient the system displays insufficient balance the process will shut down automatically. In modern automatic ration distribution system through two container that is connected the microcontroller which dedicates the liquid submersible pumps for kerosene, and another container for materials to pour (rice, sugar, wheat.etc.,) the mechanical assemble along with the servomotor helps to provide the required amount of (rice, sugar, wheat, etc.,) for the purchaser automatically the values were controlled by the servomotor. As everything will happens mechanically and automatically without the other person involves intermediate for government and to the consumer.

### IV. BLOCK DIAGRAM OF THE PROPOSED METHOD

Block diagram that shows the microcontroller which takes place to control the weight problems and to manage the motor to provides the essential amount of the provided material by the government. For required amount of the products should be delay to open and close the flow of container.

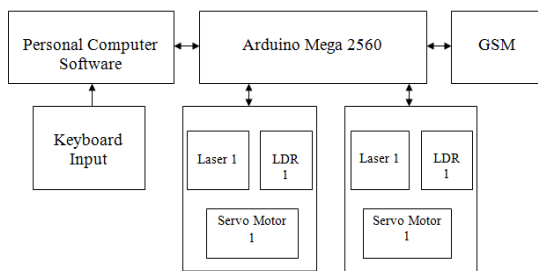


Fig 1: Block Diagram of the Proposed Method

#### Hardware

The Hardware system is splitted into Solid flow system and Liquid flow System: The solid flow system is operating with

motor the microcontroller board is fixed timing interfaced. The setup of solid flow is controlled through the laser L293D and Servomotor. The solid mechanic such as rice, wheat, sugar, etc., hold in a lasting block container which goods flows via the primary container that is fixed through the solid flow therefore goods pour into the solid action. The liquid flow system is working with sensor and Arduino Meha is connected with the submersible pumps for kerosene. It helps to pour the liquid by measuring the litres using SG90 servomotor it controls automatically by particular limit. The main part of the AC pump that works by the microcontroller board. The Arduino Meha Board is works in DC. Arduino Meha is arranged to be a charge of result ON and OFF of the pump. The qualification are succeeded by liquid sensor which compute the burst that compute the liquid flow.



Fig 2: Hardware Model

#### Open/Close Action

Open/Close action holds by Servomotor SG90 it is connected to the Arduino Meha. Action of the Servomotor is fixed to control the flow of goods for particular limit of consumer required. LDR L293D sensor is connected with flow of goods container available or not. The signals flows by the driver be a charge by the microcontroller board. Laser creates hand to make blind to open and close the flow of goods.

#### Software

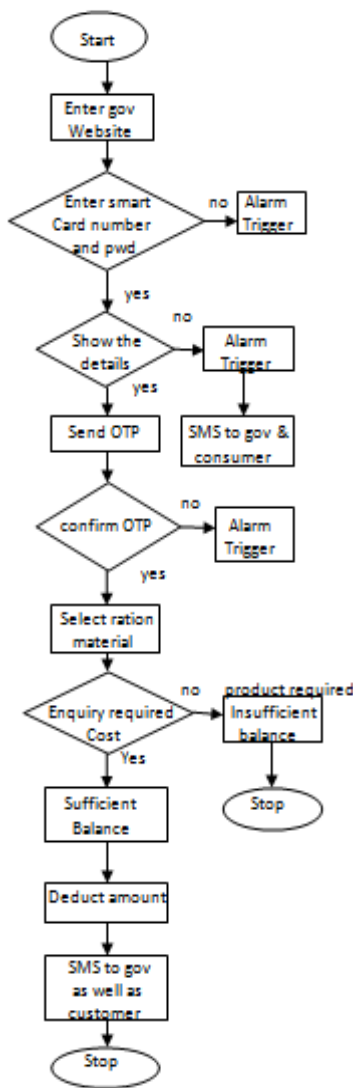
The main process of this project followed by Arduino Meha microcontroller language is used to both the Hardware and Software board. The basic Embedded language is c++ for hardware and python for software.

#### GSM module

The GSM module can be used for security purpose during the verification of OTP, smuggling of goods. It is interfaced with microcontroller for sending the SMS to card holder similar to the government authority. The module consists of verify the number enrolled by the card holder with original database.

### V. FLOW DIAGRAM OF PROPOSED SYSTEM

Flow design of proposed method that shows to following procedure to collect the goods from the ration distribution.



**Fig 3: Flow design of proposed system**

After visiting into the government website it suggest to enter the smart card number for verification of personal details. If suppose the information is not verified alarm will trigger for alertness. Similarly, SMS will send automatically to corresponding authority and to consumer. If it is verified successfully OTP has received by enrolled contact number of consumer. Step to select the required ration material. Simultaneously, sufficient balance has to be verified automatically. If the balance is insufficient further steps has to be stopped. After verified the balance is sufficient the amount is deducted successfully. Similarly, the message was received by consumer as well as the government authority. This procedure is want to be done by the consumer.

## VI. EXPERIMENTAL RESULT

Government that overcomes Smart Card with serial number. It can be provided by each and every family of Smart card holder. The ration trader will get all the item from corresponding taluk thesaurus of identical to make a record by taluk server as well as the ration shop. The customer purchase structure cause message by taluk, trader is obtainable in shop to gather it.

### Step1:

The customer will need to login the Smart card number and password. Whereas to select the language which we comfortable to proceed further process.

### Step2:

The customer must need to enter the 12 digit account number to deduct the amount for the goods which received by the customer.

### Step3:

Select the goods with maximum quantity of corresponding items which they need by the customer.

### Step4:

After the selection of goods to overview all the details about the item with required quantity, appropriate prices for all the purchase with cost of the items and also available balance enquiry.

Items	Qty(g)	Price(Rs)
Rice	200	10.00
Wheat	100	6.00
Sugar	100	4.00
		20.00
Balance		3651.90

Therefore, the experimental result should be easy to proceed and to prevent the goods from the robbery pursuit occupation.

## VII. CONCLUSION & FUTURE WORK

The main advantage is to modified the electronic device as vending machine follows the created webpage to proceed with smart card number and password for goods through smart automated manner which saves the time of employee and smuggling of goods during distribution system of goods. It is not only for an employee also the customer to avoid the travel time and queue time occurred at purchase of goods. Additional development of the whole system by including the recognition same as Voice and face identification that can be guarantee with hundred percentage. And Also they can create a web based solution to produce a large quantity distribution system, but these are further features may be develop the general value of dispersal structure. But yet strong proceed towards the large quantity distribution system.

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## AUTHORS PROFILE



**Dr.R.Kurinjimalar**, received B.E degree in Electronics and Communication Engineering from Bharathidasan University, Trichy, Tamilnadu, India in 1997 and her M.E degree in Communication Engineering from Vinayaga Mission University, Salem, India in 2007. She has Twenty one years of teaching experience. She is currently working as Associate Professor in the Department of Electronics

and Communication Engineering at Sri Manakula Vinayagar Engineering College affiliated to Pondicherry University, Pondicherry, India. She has published more than 25 papers in International Journals and proceedings of IEEE International Conferences. Her research interests include mobile satellite networks and wireless communication. She is the Life Member of ISTE.



**R.ARTHY**, Pursuing M.Tech at Sri Manakula Vinayagar Engineering College affiliated to Pondicherry University, Pondicherry. She Completed her Bachelor Of Engineering at Anna University, Chennai.



**Dr. P. Raja**, is working as Professor in the Department of Electronics and Communication Engineering, Sri Manakula Vinayagar Engineering College. He received Bachelor of Engineering from Madras University, Master of Technology from IIT Madras and Doctor of Philosophy from Pondicherry University. He has two decades of teaching experience. His research

are VLSI and Wireless Communication.