



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 6, June 2023

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.423

9940 572 462

6381 907 438

ijirset@gmail.com

www.ijirset.com

Advanced E-Rationing System

Ankita B. Yadwad¹, Anuja S. Shinde², Sarojani S. Kshirsagar³, Arun K. Reke⁴, G M Kosgikar⁵

U.G. Student, Department of Electronics & Telecom Engineering, Brahmdevdada Mane College, Belati,
Solapur, India¹²³⁴

Associate Professor, Department of Electronics & Telecommunication Engineering, Brahmdevdada Mane Institute of
Technology, Belati, Solapur, India⁵

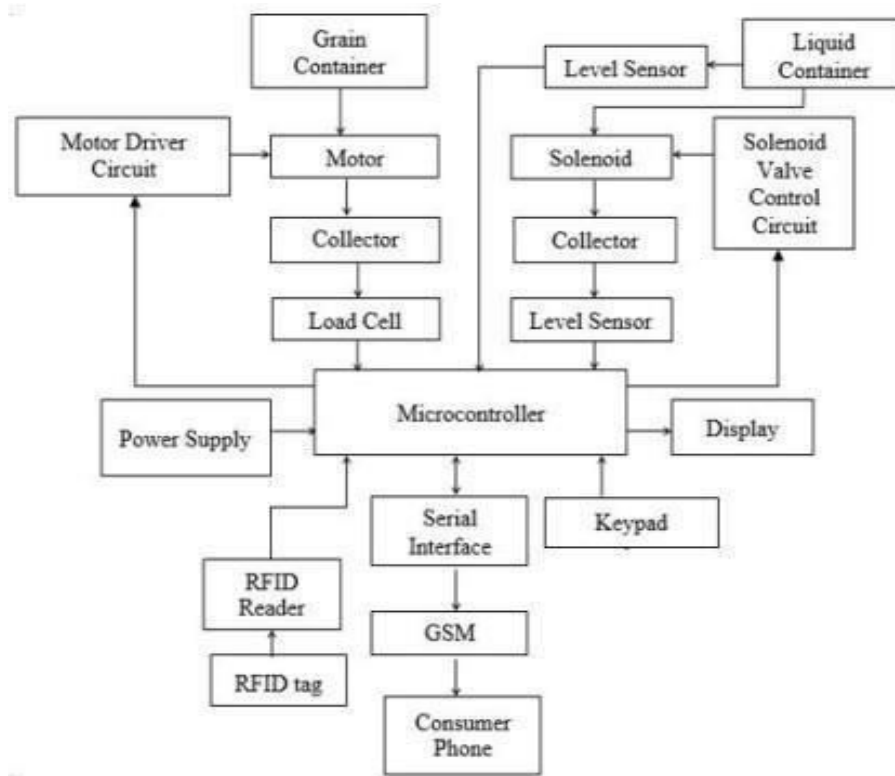
ABSTRACT: Now a day ration card is very essential for every home and used for various field . Huge amount of Govt. money get wasted due to corruption in the traditional Ration Distribution System. The main motto of the designed this system is the automation of ration shop to provide transparency All the people having a ration card to buy the various materials (sugar, rice, kerosene, etc) from the ration shop. But in this system having some draw backs, first one is weight of the material may be incorrect due to human mistakes and secondly, the ration shop owner improperly uses consumer materials (Sugar, Rice, ,Kerosene, etc) without previously knowledge of ration card holders. In this paper, proposed an Automatic Ration Materials Distribution Based on GSM (Global System for Mobile) and RFID (Radio Frequency Identification) technology preferably of ration card. Customer needs to scan tag to RFID reader, then microcontroller check the customer identity no. and all details in the smart card. After successful verification, customer needs to enter type of material as well as quantity of material using keypad after receiving materials to customer , the microcontroller send the information to government office and customer through GSM technology. Efforts are put together from our side to avoid corruption and to have better management of public distribution system

KEYWORDS: Relay, Accurate measuring system, GSM verification method, DC Motor, MQTT etc.

I. INTRODUCTION

Public Distribution System is one of the widely controversial issues that involve malpractice. The manual intervention in weighing of the materials leads to inaccurate measurements and/or it may happen, the ration shop owner illegally uses consumer materials without prior knowledge of ration card holders. The proposed system aids to control malpractices which are present in ration shop by replacing manual work with automatic system based on RFID and GSM. Every consumer i.e. family head provided RFID card which acts as ration card. The RFID card has unique identification number. The consumer scans the card on RFID reader which is interfaced with microcontroller kept at ration shop. Once consumer is validated by password, the system asks the consumer to select appropriate material and quantity of material through keypad. Based on material chosen by consumer, appropriate circuitry will be activated and consumer gets material. GSM interfaced with microcontroller sends information in the form of SMS to related people. The proposed RFID based automatic ration shop system would bring transparency in public distribution system and become helpful to prevent malpractices. The apportion appropriation framework is one of the biggest government's financial approaches in India. Its fundamental aphorism is to give food grains (sugar, wheat, rice, lamp oil and so forth) to individuals at moderate rates. The organization of the proportion shops is spread all over in India to give food security to individuals. This appropriation of proportion is controlled and monitored by central government, along with the state government.

II. METHODOLOGY



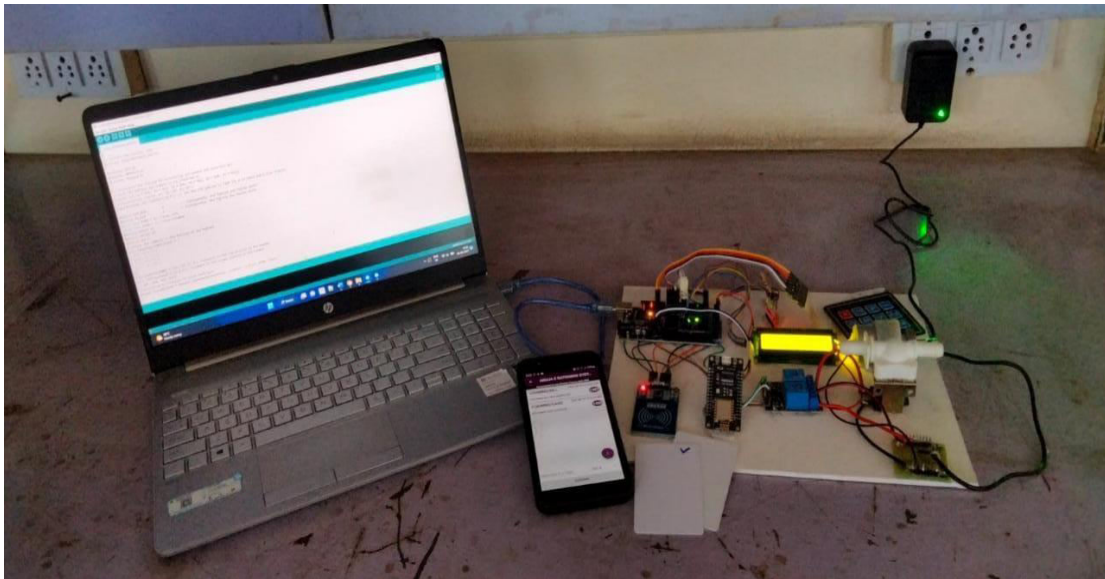
The block diagram of an Automatic Ration Materials Distribution Based on GSM and RFID Technology is shown in the Fig. This system consists of various parts such as RFID, GSM, microcontroller, motor driver, solenoid control circuits and keypad. The proposed system demonstrates distribution of solid as well as liquid consumer materials that is grains (Sugar, rice and kerosene). RFID reader, IR sensor, load cell and keypad acts as inputs to system and 16X2 LCD display is used for displaying information about ration stock and related activities which are done by customers. The microcontroller outputs are used to motor driver circuit and solenoid valve control circuit. Every customer has provided a RFID card which is enrollment by the Government authority. Customer scans that RFID card, at the time of ration distribution at ration shop then he enters his password. User ID confirmed with the database provided by the Government authority which is stored in the microcontrol. Once verification is successful, customer is demand for a select type of material and quantity necessary through press key on the keypad. Based on type of material selected, the motor or solenoid valve is activated. The load cell or level indicator is checked for appropriate After collecting correct quantity material motor or solenoid is deactivated Current stock of materials in the ration shop is displayed using LCD. After all process cash will automatically deposited from customers bank account and that cash transfer to government. GSM module will send the information in form of SMS to the customer as well as government.

1. Login Module In this module, the framework registers recipients subtleties that incorporates their name, address, unique mark, date of birth, age, contact number for sending SMS alarms, check of relatives and class of the card to which the family have a place, with all the data being transferred in the information base.
2. RFID Card Verification Module RFID being a piece of Automatic Identification and Data Capture (AIDC) innovations is viewed as quick and dependable methods for recognizing objects. RFID based Smart Card confirmation module comprises of two prime segments; they are cross examiner and transponder. The investigator (RFID Reader) is expected to communicate the signs through its receiving wire and the transponder (tag) will be initiated after it gets the signs from the cross examine.
3. Purchase Module When verified, the recipient needs to choose the rundown of ware he/she needs to buy. The framework will show the absolute amount of the wares alongside the data in regards to past exchange made by recipient. Once after he/she affirms the products, installment is done and recipients are given a receipt in type of a SMS. A

recipient is allowed to take just those sponsorships on items allotted to him/her by government as per the accessible data set stock.

4. Alert Module A SMS door API effectively sends mass messages to its clients; here in this venture it assumes a part for hinting the recipient about the new exchange made by him/her by sending him/her the message on his/her enlisted number.

III. EXPERIMENTAL RESULTS



IV. CONCLUSION

The simulation of the proposed system and liquid indicator was done using Proteus 8.0 V software. This soft does not have a built in sensor, neither are there any external libraries for the sensor. Therefore for this simulation, we tested it out by providing two virtual terminals to the microcontroller. One for the input of t connected to the Rx pin of the microcontroller and the other virtual terminal is connected to the Tx pin of the microcontroller.



|| Volume 12, Issue 6, June 2023 ||

| DOI:10.15680/IJIRSET.2023.1206046 |

REFERENCES

1. Gaikwad PriyaB.. Prof. Sangita Nikumbh , “E – Public distribution system using SMART card and GSM technology” International Conference on Intelligent Sustainable Systems(ICISS 2017) IEEEISBN:978-1-5386-1959-9
2. Mrs. Subhasini Shukla, Mr. Akash Patil, Mr. BrightsonSelvin , “A Step TowardsSmart Ration Card System Using RFID & IOT””, IEEE International Conference on Inventive Communication and Computational.
3. Prof. Shital A. Aher, Akshay D. Saindane, Suved P. Patil, Shivsagar K. Chakor ,“Smart Ration Card Using RFID and Biometrics ”, Vol-3 Issue-2 2017, IJARIE-ISSN(O)-2395- 4396,2015 Vinayak T. Shelar, Mahadev S. Patil , “RFID and GSM based Automatic Rationing System using ARDUINO UNO”, International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 4 Issue 6, June 2015.
4. Mr. A .chimgave ,prof.shaileshjadhav: E-Rationing , International Engineering Research Journal (IERJ) Volume 2 Issue 2 Page 467-469, 2016, ISSN 2395- 1621@IEEE 2016.
5. Dr. M. PallikondaRajeseakaran, D.Balaji, P.Daniel”,Automatic Smart Ration Distribution System for Prevention of Civil Supplies Hoarding In India”, 2017 International Conference on Advanced Computing and Communication Systems (ICACCS -2017), Jan. 06 – 07, 2017, Coimbatore, INDIA.



INNO SPACE
SJIF Scientific Journal Impact Factor
Impact Factor: 8.423



ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

9940 572 462 **6381 907 438** **ijirset@gmail.com**



www.ijirset.com

Scan to save the contact details