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SMART RATION SYSTEM USING RFID

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Abstract -The apportion circulation framework is one of the biggest government strategies in India. The fundamental goals is to give food grains (wheat, rice, sugar, lamp fuel and so forth,)...The appropriation of proportion is constrained by government. The public authority issues diverse particular proportion cards like yellow apportion cards, saffron apportion cards and white proportion cards relying upon family yearly pay. Public circulation framework is one of the generally questionable issues that include malpractice. Most of the time individuals don't know about accessibility of apportion in proportion shop. The vendor may deal proportion at greater cost than suggested by the public authority, along these lines; we are dealing with issue of defilement in open dissemination framework. The proposed framework helps to control misbehaviors which are available in apportion shop by supplanting manual work with programmed framework based RFID. The apportion conveyance framework is robotized by utilizing ATMEGA328.the RFID card has special ID number. The shopper filters the card on RFID peruser. Whenever purchaser is approved, the framework requests the client to choose the material and amount from material utilizing keypad. In light of the determination, suitable circuit will be enacted and client get the materials, after programmed apportioning of materials the SMS warning is shipped off the real consumer. The proposed framework would acquire straightforwardness public circulation framework and become supportive to forestall misbehavior.

***Key Words*: RFID, GSM, SMART RATION DISTRIBUTION, SMS NOTIFICATION,**

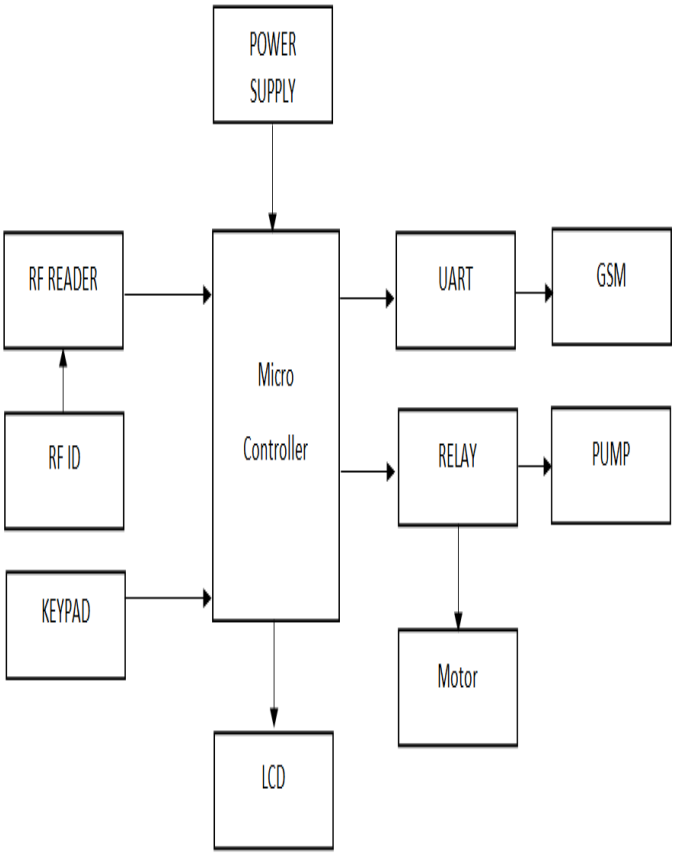
1. INTRODUCTION

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. In any case, it has such countless constraints. A large portion of the apportion retailers keep counterfeit proportion cards with them. Because of phony apportion cards, the seller gets the additional proportion from more significant position authority and he deals it out of the shadows market. The seller may not give an adequate measure of food grains to purchasers. More often than not individuals don't know about the accessibility of apportion in proportion shop. The vendor may deal proportion at higher rates than suggested by the public authority or he may foul up sections in register. Thusly, in the current circumstance we are dealing with issue of defilement in open appropriation framework.

There is no such compelling framework through which government gets affirmation of utilization of food grains by individuals. By the proposed system the malpractice involved in the public distribution system can be avoided. The proposed system increases the transparency between the public and the government. The manual power is less has the dissension of ration materials are automated.

RFID CARD:

BLOCK DIAGRAM:

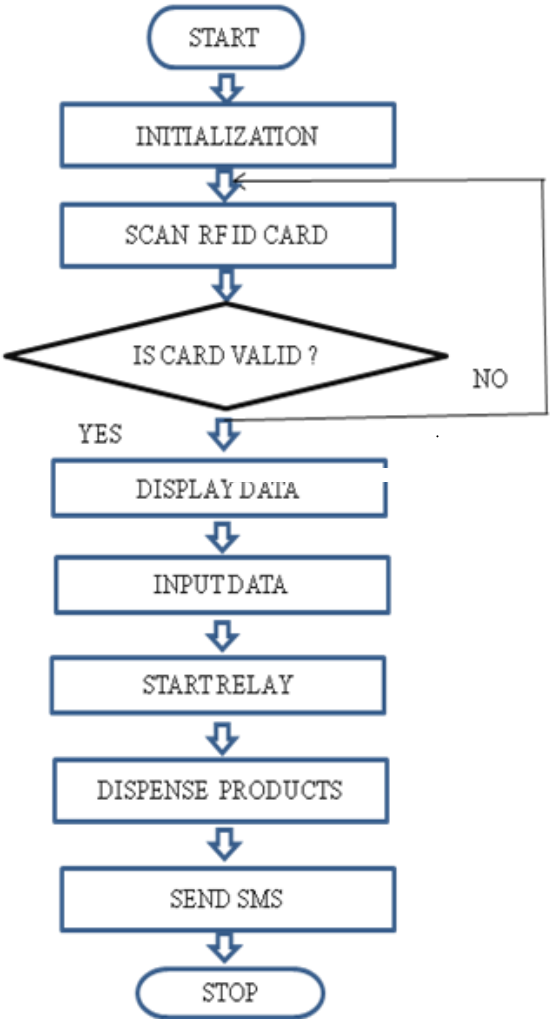


PROPOSED SYSTEM:

The savvy proportion framework is principally founded on GSM and RFID age used to circulate or distribute the fluid or stable material that is utilized for Ration materials dissemination in apportion stores. At first everyone might be given a RFID or brilliant Card, instead of a proportion card. On the off chance that the customer needs to get any proportion material, the purchaser needs to show the apportion RFID card to the RFID peruser bundle, the peruser that is coordinated with the mission pack will comprehend the RFID numbers show with the guide of the buyer. This recognized RFID number could be given to a microcontroller, which contrasted the information range and the data set. The particular RFID scope of the purchaser may be customized in the regulator, for example, shopper details& rundown of proportion materials, and so on,

All together that the regulator will capture the insights coming from RFID by contrasting and the information base. As the administering methodology goes on simultaneously in the regulator will transport an order to GSM Modem, to send the text based substance SMS to the buyer about the proportion thing, she or he purchased. Prior to starting the technique the amount of the item to be disseminated must be aligned each in turn then the best regulator will apportion the correct amount of proportion object settled on.

FLOW CHART:



COMPONENTS USED:

- ATMEL 328P MICROCONTROLLER
- 2 x 16 LCD
- 2 CHANNEL RELAY
- 12V DC MOTOR
- 12V PUMP
- GSM MODULE
- RFID READER
- 1 x 5 KEYPAD

System Architecture:

A. ARM7 microcontroller this is fundamental module through which all information and yield handling will occur. ARM Processor is a universally useful 32-bit processor. It offers elite and low force utilization.

B. GSM module: This module is utilized for sending SMS to the client about conveyed proportion. Worldwide System for Mobile (GSM) is a second era cell standard created to provide food voice administrations and information conveyance utilizing computerized regulation.

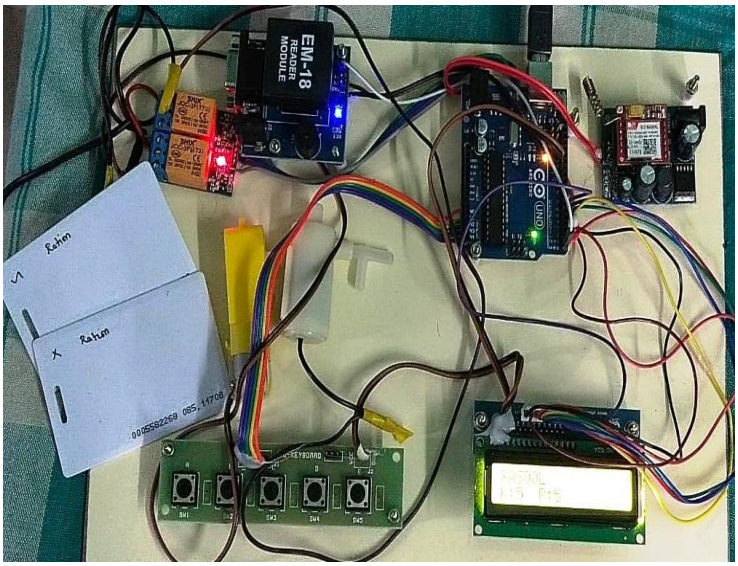
C. LCD touch panel: LCD is utilized for showing related exercises and remaining proportion stock. A LCD is a little low, cost show. It is not difficult to interface with a miniature regulator in light of an installed regulator.

D. Keyboard: It is goes about as a contribution to the framework.

E. RFID Reader: RFID Reader is utilized for perusing RFID tag and communicates the data to the microcontroller. A gadget used to speak with RFID Tag. The peruser has at least one receiving wires, which radiates radio waves and get flags back, from the RFID Tag additionally called Interrogator since it cross examines the RFID Tag.

F. RFID Tag: RFID label which is utilized demonstrations keen apportion card and when it is traded by client it shows all connected information. The RFID label houses an interesting distinguishing proof code, normally 64 pieces long. A safe, novel recognizable proof code is communicated to a peruser/receiving endless supply of the tag by a suitable radio recurrence signal. RFID labels contain two sections: Integrated circuit for putting away and handling the information and Antenna for getting and sending the sign

HARDWARE IMPLEMENTATION:



METHODOLOGY:

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 examiner.

3. Purchase Module

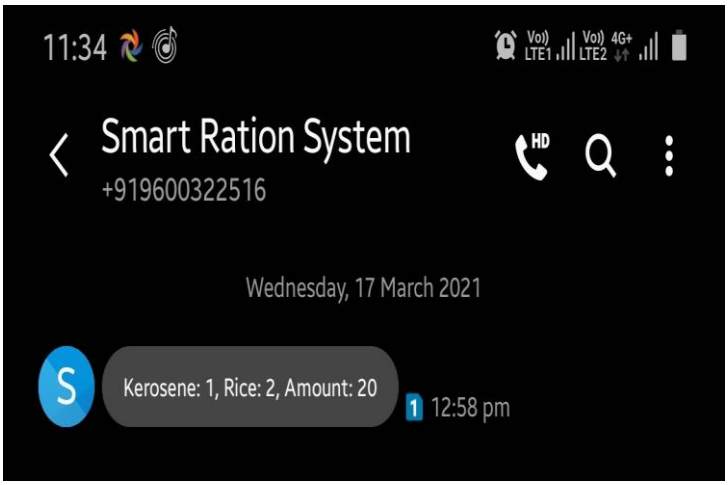
When verified, the recipient needs to choose the rundown of ware he/she needs to buy. The framework will show the absolute amount of the wares alongside the data in regards to past exchange made by recipient. Once after he/she affirms the products, installment is done and recipients are given a receipt 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.

CONCLUSION:

Utilizing this proposed current framework we can have Better administration of the proportion appropriation framework. Govt. can have aberrant beware of the accessibility of the apportion to the recipient. It is straightforward and has command over costs of certain products in the open market. Vendor won't keep counterfeit apportion cards with them. Framework assists with modernizing customary proportioning and battled basement up by and large.



FUTURE SCOPE:

1. For better understanding, an interface and website can be made available in different languages (regional languages).

2. For better authentication biometric system can be used

3. App can be developed for the beneficiaries to check the commodities available.

4. Automatic weighing system can be implemented.

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