Smart Government Ration System

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Abstract: *Ration cards were provided to the public so that the person who is not able to buy the food can get food in low cost prize by the government. Today the problem of corruption at the Public Distribution Shop is a serious issue. The main reason behind corruption is that there is no control over this system. The system is completely run by the human beings; no automatic control is there, so all rights are directly given to the person running the shop. In this paper we are introducing an automated system that is used* **for** *controlling corruption. The system uses the Aadhar card for the authentication. With the help of character reorganization of the data stored on Aadhar card is transferred to the PC to make a data base. The interfacing of PC is done with ARM7 processor using RS232 cable.*

Keywords: Grain Quality, Aadhar card Identification, RS485 BUS, Image Processing, Weight Sensor

1. Introduction

In India the resources are finite, and desires are infinite, no one can have as much of a good as they desire. This means that the resources are scarce. This causes the need for a way to divide resources up among individuals, or rationing systems. So we are using public type Rationing System. The government and public own and share resources, and the government makes the decisions towards economic goals. Government often sets the price and allocates resources to produce the things that it thinks the country should produce.

Public distribution system i.e. rationing distribution is one of the widely controversial issues that involves corruption and illegal smuggling of goods. All these happen because every job in the ration shop involves manual work and there are no specific high-tech technologies to automate the job. Because of intervention of manual work there are lots of illegal activity occurs.

In this paper we propose the concept about to replace manual work in public distribution system (rationing distribution system) by automated system which will be installing at the ration shop .In this automated system we replace the convectional ration card by an technique using character recognition of Aadhar card.

Government should have control over all transaction happen at ration shop, to involve government in the process we can connect the system which is at ration shop to the government database via GSM module.

In this system we will remove man power to distribute the Ration materials like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. And also the authorized person cannot sell. We will have an automated rationing system.

"Here, we are designing a system where a person displays his/her Aadhar card and our system gives the Ration to that user. Thus corruption is reduced.

2. Literature Survey

2.1 IT based solution approach for PDS:

The State Government can provide the grain through PDS at the notified subsidized price or provide cash transfers of the subsidy amount to designated BPL households. It has also been recommended that when a cash transfer is made, it should be to a bank account in the name of the oldest women member of the household. A significant part of the challenges in the PDS system emanates from Bogus (ration cards belonging to fictitious families) and Shadow (genuine ration cards used by someone else) ration cards in the system. If the bogus cards can be substantially weeded out and a mechanism put in place to positively confirm and track the individual beneficiary off take on a monthly basis, the problems relating to PDS leakages, Transparency and Transportation would get resolved, as leakage would become more difficult to hide.[1]

2.2 UID & PDS System

After digitization of requisite information, enrolment of the individuals is carried out as the UID requirements. The digitized database will contain ten finger biometrics and photographs of all family members. This enrolled data would be sent to the UIDAI (Unique Identity Authority of India) for de-duplication and issuable of a UID, which will be printed on the ration card for each member of the family. Appropriate action can be taken against families that have a resident who has appeared in another ration card. Reasons for family members do are not enrolled has to be determined followed by appropriate action. The inclusion of all families in the beneficiary database is important for an effective elimination of Shadow and Bogus cards. A strategy to issue APL cards by linking it to other forms of benefits including LPG needs to be adopted to make the beneficiary database comprehensive. To support enrolment into the UID database, the central government will mandate that the UID numbers of each family member should be recorded in the ration card and the database should be made available.[2]

2.3 Web enabled ration distribution system

To overcome one of the corruption problem involve in ration distribution system through Hooper valve to control openings of ration outlet etc. no involvement of any person directly with distribution system, also whether kerosene disposition is also sensed at web site using proximity sensor through web giving a clear idea about delivery of it.[3]

2.4 Main Problems in the Conventional PDS System

- Illegal Usage
- Cannot able to get the accurate quantity of   supplies
- Over crowd
- Cannot able to get the material at any time Processing speed is slow
- Selection of households – Targeting
- Bogus card
- Hijacking of ration card
- Poor quality of supplies
- More than the prescribed rates are charged
- Ration shop do not open every day, nor do they keep regular hours. Even on the days that the shop is open, ration card holders stand in long queues.
- FPS dealer may declare "No Stock "even when sufficient stock is available.
- Due to the human operations the working hours of the ration shops are restricted; so that the user is unable to get the material at any time i.e. 24 * 7 To overcome those problems, we are going for the automation of ration shop person is physically affected, the thumb impression is not possible

3. Proposed System

In this system we will remove man power to distribute the Ration materials like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. And also the authorized person cannot sell. We will have an automated rationing system. Here, we are designing a system where a person displays his/her Aadhar card and our system gives the Ration to that user. Thus corruption is reduce.
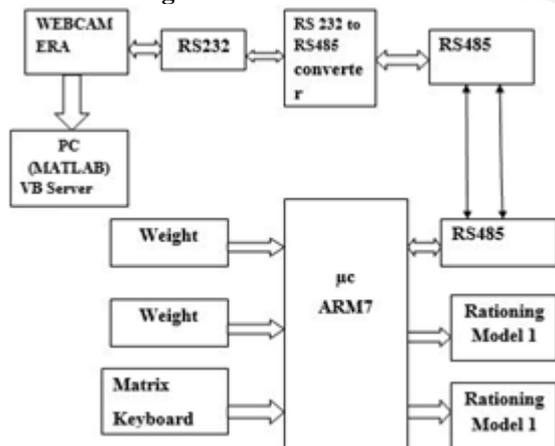
3.1 Block Diagram

Figure 3.1: Block diagram of ration system

Take picture of grain using webcam. Process on picture in MATLAB using image processing toolbox to extract color features(RGB). Compare the color with database if in acceptable range send indication to arm. Also send color information to pc server using RS485 protocol

4. Advantages

1) Increased corruption in the Govt. As well as market sector can be prevented if system becomes automated
2) Increased adulteration in consumables can be prevented
3) The problem of hoarding at Govt. Super Bazaars (PDS Stores) that gives rise to price hike can be prevented
4) Cost effective approach
5) Time saving approach

5. Result

This system is based on Adhar card authentication of customer. Here each customer is provided with Adhar cards. In traditional ration card system, customer can take his quota by showing ration card at shop at once, but in this system, by using Adhar card and password. First user is authenticated, Then system shows the balance of person. User will enter the amount of Kg he want to withdraw. System checks his account.
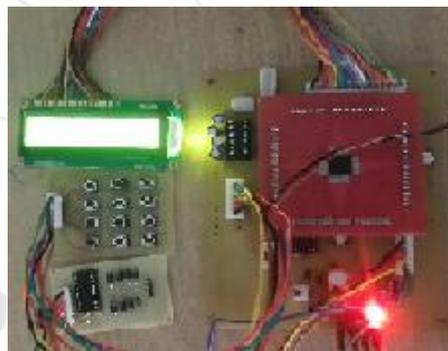

Figure5.1 ARM7 interfacing with LCD

6. Conclusion

As this system is a propose system we can see that by using such a system we can avoid corruption in ration/public

distribution system to a large extend. This system has greater scope in future. As there is no manual data stored and all information is stored in database, the higher authority can check the details as and when its necessary through the use of servers.

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