ISSN(Online): 2320-9801
ISSN (Print) : 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 6, Issue 3, March 2018

Smart Rationing System Using Adhar Card

Reshma Arote[1], Komal Nawale[2], Monika Shinde[3], Prof. P. A. Bansode[4], Prof. V. B. Bhamare[5]

B. E, Department of Computer Engineering, SVCET, Rajuri, Pune, India[1,2,3]

Professor, Department of Computer Engineering, SVCET, Rajuri, Pune, India [4,5]

ABSTRACT: E-government is increasingly used to improve transparency in the government sector and to combat against corruption .E-government is being implemented in more areas of government administration for both the local and national levels worldwide. E-government system developed to reduce corruption. The aim of this paper is to organize and summarize existing theoretical and empirical work on corruption with a view identifying opportunities for further research. Computerization can help in modernizing the PDS. We implement a smart card in which all the details about users are provided including their "AADHAR" number which is used for user authentication. This prompted us to interface smart card reader to the microcontroller and PC hyper-terminal via USB. This system discusses strategy adapted in using ICT to control diversion and leakage in the delivery mechanism and its successful application in computerization of food grain supply chain. Here efforts from our side are done to overcome one of the corruption problem involve in ration distribution system through a kind of electrodynamics web template where distribution of ration products like kerosene, rice, wheat etc. at rural and urban areas, will be checked, monitored and controlled with filtering the problem of corruption and adulteration.

KEYWORDS: Android; Personal Distributed System (PDS); Ration Distribution System.

I. INTRODUCTION

The ration distribution system is one of the largest Govt. economic policies in India. Its main motto is to provide food grains (sugar, wheat, rice, kerosene, etc.) to the people at affordable rates. The network of the ration shop is spread all over in India to provide food security to people. This distribution of ration is controlled and monitored by Central Govt. But it has so many limitations. Most of the ration shopkeeper s to keep fake ration cards with them. Due to the fake ration cards, the dealer receives the extra ration from higher authority and he sales it into the open market. The may not provide sufficient amount of food to consumers. Most of the time people are not aware of the availability of ration in ration shop. The dealer may sales ration at higher rates than recommended rates by Government or may do wrong entries in register. In this way, in current situation we are facing problems of corruption in PDS. There is no such effective system through which Government gets acknowledgement of consumption of food grains by people.

Now, we need arise to make the system automated so that human intervention and manual work avoided and create the transparency in system. In our project we propose the concept about to replace manual work in public distribution system (rationing distribution system) by automated system which will be install at the ration shop. In this automated system we replace the convectional ration card by smart card in which all the details about users are provided including their "AADHAR" number which is used for user authentication. This prompted us to interface smart card reader (RFID Based) to the microcontroller and PC hyper-terminal via USB and UART.

Government should have control over all transaction happen at ration shop, to involve government in the process we connected the system which is at ration shop to the government database. There will be a Smart card based ration card which will be used to identify the user by machine placed at ration shop. There are two main objective of this project one is to create the transparency in public distribution system and second is to inform the people about new scheme launch by government. In urban areas, kerosene is supplied to ration card holders in the first week of every month and the ration shop keepers are taking keen steps to distribute kerosene to cardholders a minimum of three or four days a week. But strangely, in rural areas, the general public is complaining that kerosene is not supplied to them properly. They vehemently levelled charges against the ration shop keepers for delay. In an effort to make the public distribution system (PDS) more efficient, various state government in India has decided to introduce smart cards for the consumers. In the initial phase of the project, imputers or hand-held computers would be installed Special training in

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operating these imputers is being given to ration dealers in the state. In the existing system, normally the system will use man power to distribute the Ration materials like sugar, Rice, Wheat Etc. It will take more time to give the people. And also the authorized person sell individual also. In this system we will reduce labor work to distribute the Ration material like sugar, Rice, Wheat Etc. It will take less time to give the people and respective person can took any time like ATM machine. The Concept is to automate Ration Distribution System, A Govt. Of India initiative Process in which a fixed amount of ration is provided monthly to the people by the distributor. The apparatus we are designing is cost effective and can prove helpful to Government of India Ration Distribution System and to various other disciplines. In terms of feasibility it is a vast concept and an interesting task to perform and totally feasible in all aspects technical as well as other.

In this automated system we replace theconvectional ration card by smart card in which all the details about users are provided includingtheir "AADHAR" number which is used for user authentication. This prompted us to interfacesmart card reader (RFID Based) to the microcontroller and PC hyper-terminal via USB ANDUART. Government should have control over all transaction happen at ration shop, to involvegovernment in the process we connected the system which is at ration shop to the governmentdatabase. There will be a Smart card based ration card which will be used to identify the user bymachine placed at ration shop. There are two main objective of this project one is to create thetransparency in public distribution system and second is to inform the people about new schemelaunch by government. In urban areas, kerosene is supplied to ration card holders in the first weekof every month and the ration shop keepers are taking keen steps to distribute kerosene tocardholders a minimum of three or four days a week. But strangely, in rural areas, the generalpublic is complaining that kerosene is not supplied to them properly. They vehemently levelledcharges against the ration shop keepers for delay. In an effort to make the public distributionsystem (PDS) more efficient, various state government in India has decided to introduce smartcards for the consumers. In the initial phase of the project, imputers or hand-held computers would be installed Special training in operating these imputers is being given to ration dealers in the state.In the existing system, normally the system will use man power to distribute the Ration materialslike sugar, Rice, Wheat Etc. It will take more time to give the people. And also the authorizedperson sell individual also.

II. PROJECT IDEA

Adhaar card consists of QR code, which is encoded with Adhaar Number. Adhaar card will be scanned using barcode scanner through Smartphone camera. Details will be automatically field on basis of QR Code. Using Ration Distribution Android Application the details will be stored and recorded as it is entered. It will be also responsible for maintaining logs and RTC. Android Application Microcontroller will be tuned using a Bluetooth module. Microcontroller will send signals to Electronic Circuit. Electronic circuit includes Motor Driver, Relay, Power Supply, Motor Driven IC. From Circuit processed signal will be given to motor for the rotation according to program requirement. Assembly consists of two gear Bevel Rack. It will make rotation according to motor movements Door Assembly Consists of door with attached rack gear. For movement as per motor, As the door gets open grains will be dispensed, according to delay.

III. LITERATURE SURVEY

3.1 Current System:

In the present Public Distribution System, paper ration card are issued to eligible families. Commodities like wheat, sugar, rice and kerosene oil etc. are being offered at subsidized prices as per the eligibility recorded in the ration card. The record of eligibility and transactions is maintained manually both in the ration cards and the register maintained in the Fair Price Shop (FPS). Food grains are transferred from Food corporation Of India (FCI) store to states and then to region levels. The following steps have been integrated to cover the complete food chain:

- State wise allocation of food grains by Central Government.
- District wise allocation of food grains by State Government.

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Vol. 6, Issue 3, March 2018

- Block wise allocation of food grains by District Administration.
- Storage of food grains in godowns.
- Off take of food grains against allocation.
- Distribution of food grains to the Fair Price Shops.
- Sale to the beneficiary.

3.2 Limitations/Challenges Of Current System

1. The most serious flaw regarding the system at present is the lack of transparency and accountability in their functioning.
2. There is a huge diversion of commodities from the PDS due to misuse and duplication of ration cards. According to some estimates around 30 per of thefood grains and other commodities allocated for poor families do not reach them.
3. A large number of families living below the poverty line have not been enrolled and therefore do not have accessed to the ration card.
4. A number of instances where benefits are being availed in the names of rightfully entitled families without their knowledge. This shadow ownership is possible due to inefficiency in ration card issuance, distribution and record keeping.

5. Many FPS are opened Many FPS are opened only for a few days and people are denied their rights.

IV. PROBLEM STATEMENT

To implement smart ration card system to create transparency in operations so that every citizen can very easily know what is happening and what is supposed to happen and providing food grains and other essential items to vulnerable sections of the society at reasonable prices and avoid corruption.

V. GOALS AND OBJECTIVES

1. Create transparency in operations so that every citizen can very easily know what is happening and what is supposed to happen.
2. Providing food grains and other essential items to vulnerable sections of the society at reasonable prices.
3. To put an indirect check on the open market prices of various items .
4. To put an indirect check on the open market prices of various items
5. To attempt socialization in the matter of distribution of essential commodities

VI. PROPOSED SYSTEM

Adhaar card consists of QR code, which is encoded with Adhaar Number. Adhaar card will bescanned using barcode scanner through Smartphone camera. Details will be automatically field on basis of QR Code. Using Ration Distribution Android Application the details will be stored and recorded as it is entered. It will be also responsible for maintaining logs and RTC. It will also store a valid mobile number and send SMS to that number. Android Application & Microcontroller will be tuned using a Bluetooth module. Microcontroller will send signals to Electronic Circuit [8]. Electronic circuit includes Motor Driver, Relay, Power Supply, Driven IC, Supporting LCD Screen etc. From Circuit processed signal will be given to motor for the rotation according to program requirement.\Gear Assembly consists of two gear Bevel & Rack. It will make rotation according to motor movements Door Assembly Consists of door with attached rack gear. For movement as per motor, As the door gets open grains will be dispensed, according to delay.

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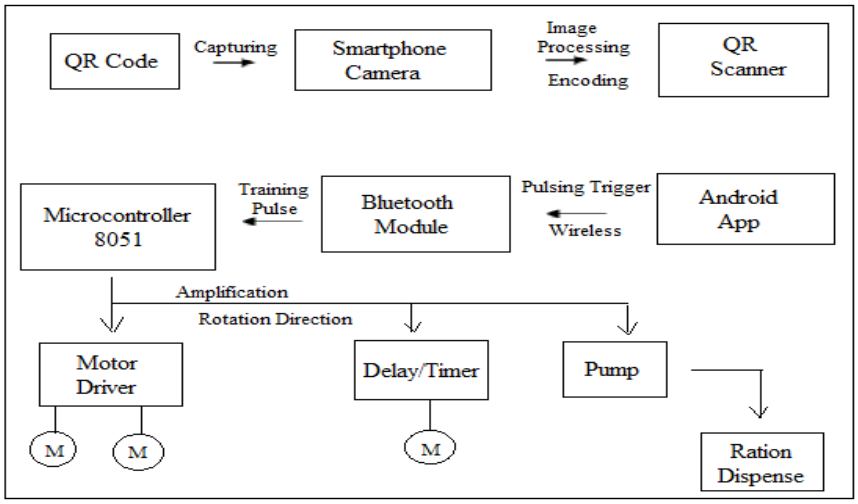

Figure 1. Basic Block Diagram

VII. DEVELOPMENT ENVIRNMENT

The proposed system requires Eclipse that is an open source software development environment. Eclipse consists of an Extensible plugin system and an IDE. The Android project has been developed in the Helios version of Eclipse, as it has plugins that are mainly used for Android.

7.1 Android SDK: Integrated Development Environment (IDE) is used in Android development in order to make it more straight forward and quick. It has been recommended for the developers because of its simplicity in working. Android is basically a multitasking platform. To give an example, the application has one application for navigation, another application for games, and another messaging. These applications can work simultaneously because of this multitasking ability of the Android platform.

7.1.1 ADT Plugin: ADT (Android Development Tools) is a plugin developed by Google. Its main purpose is for developing Android mobile applications in Eclipse. It makes it easy and convenient for all the Android developers working in Eclipse environment to quickly create Android projects and debug the programs whenever needed.
Text editor should not be used in the development of large applications having a large amount of code as the text editor cannot highlight wrong spellings.

7.1.2 Android Emulator: Android emulator is a virtual mobile device which is included in every Android SDK which runs on the users computer. Android emulators are used to test Android applications, so there is no need of any physical device.
Android emulator supports Android Virtual Device (AVD) configuration, which in itself is an emulator containing specific Smartphone Operating System. Using AVD, one can easily test his applications.

7.2 Arduino UNO Board

Arduino is an open-source platform used for building electronics projects. Arduino consists of both a physical programmable circuit board (often referred to as microcontroller) and a piece of software, or IDE (Integrated Development Environment) that runs on your computer, used to write and upload computer code to the physical board. The Arduino platform has become quite popular with people just starting out with electronics, and for good reason. Unlike most previous programmable circuit boards, the Arduino does not need a separate piece of hardware (called a programmer) in order to load new code onto the board you can simply use a USB cable. Additionally, the Arduino IDE

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uses a simplified version of C++, making it easier to learn to program. Finally, Arduino provides a standard form factor that breaks out the functions of the micro-controller into a more accessible package. The Uno is one of the more popular boards in the Arduino family

7.2..1 Arduino IDE

Step 1: Download The Software: At this point, were ready to download the free software known as the IDE. The Arduino IDE is the interface where you will write the sketches that tell the board what to do.

Step 2: Arduino IDE: Once the software has been installed on your computer, go ahead and open it up. This is the Arduino IDE and is the place where all the programming will happen.

Step 3:Connect Your Arduino Uno: At this point you are ready to connect your Arduino to your computer. Plug one end of the USB cable to the Arduino Uno and then the other end of the USB to your computers USB port. Once the board is connected, you will need to go to Tools then Board then finally select Arduino Uno. Next, you have to tell the Arduino which port you are using on your computer. To select the port, go to Tools then Port then select the port that says Arduino.

VIII. RESULT

ADD PROJECT SNAPS HERE AND GIVE PROPER FIGURE NUMBER

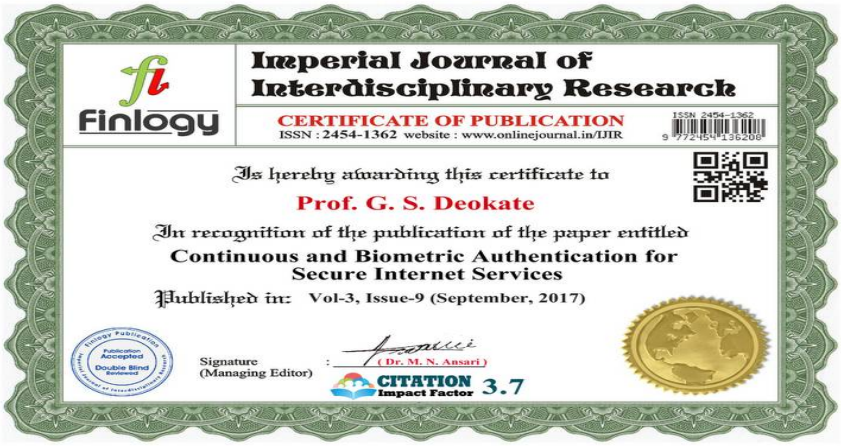

Figure 2. GUI

IX. CONCLUSION

The proposed system creates the transparency in public distribution system as the work becomes automatic. In this system, ration Materials (sugar, rice, oil, kerosene, etc) distributed through automatic mechanism without any help of humans. With the help of this system, it is possible to make public distribution system efficient and free from malpractices. After receiving the materials, controller sends the information to government office and customer through GSM technology. The proposed system has advantages like it is helpful to prevent malpractices at ration shop, maintain data properly, reduces paper work, time saving approach and cost effective.

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X. FUTURE SCOPE

1. Load cell and many more sensors can be added to improve the accuracy and reliability.
2. A local and central server can be added, which can be monitored.
3. If more stations are added the users can withdraw the goods from anywhere.
4. Hardware and software can be upgraded according to requirement.
5. If storage is big, it can serve many people.

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