Ration Distribution Using Blockchain

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Abstract- **In this project we will describe a blockchain technology-based prototype that can be used in a small website. There are presently many fraud activities and corruption taking place in the food supply schemes present as it sometimes does not reach the poor or the other sections of the society. This project focuses on developing blockchain prototype that is used to record all the transactions/records and log all these transactions. A simple end to-end web based app of this kind of the blockchain prototype can be built that has most of the features and functionalities to carry out all kinds of the transactions between the central government, state government, the district office, ration shop/and the customers, are recorded in the system. The user of the system can view the transactions of any part of the public distribution system. The project have some features that is guaranteed to provide the most important aspect that is, the security using the concept of blockchain.**

*Keywords***: Public ration distribution, Block chain, Government.**

1. INTRODUCTION

An increasing demand in society for greater information about food reflects the need for more transparency and the lack of trust. One of the most frequently used words in India, corruption signifies a range of things. In 2005, Transparency International, and Delhi-based Centre for Media Studies, a research firm, undertook the India Corruption Study. The survey covered 4,405 respondents over 20 states. The results, published in the same year, said that Indians pay about 21,069 crore as bribes while availing one of 11 public services. The study remains the most recent and most comprehensive report on corruption in India

2. LITERATURE SURVEY

1. R Padmavathi; K.M Mohammed Azeezulla [1], This paper proposes automation in ration distribution using smart card based on Aadhar card technology. In this system, we are using a prototype model based on ATM machine. Using this technology, we can achieve secure and interactive approach for automization for ration distribution. Aadhar card contains all related information such as name, contact number, address, bank account details, biometric information and demographic data. Customer details are stored in the central data base which is provided by the government authority. In automated system, we replace the conventional ration card by smart card (RFID based), which contains unique Aadhar identification number of all the family members, card holder type APL or BPL which is used for user authentication to buy their ration. OTP and SMS will be sent to the card holder and after each transaction the government data base will be updated. An alarm is used to alert and notify the government authority during theft. After customer purchases the material amounts get deducted from the registered bank account.2. Rohan Pinto; Shibani S Shetty.

[2], Ration shops in India are used to distribute commodities such as wheat, rice, sugar etc., to the public at a lower price than the market price. In order to buy the materials from the ration shop, people have to first submit their ration card and then they will be issued the materials through weighing system with the help of man power. The current ration distribution system is a controversial issue that involves corruption and illegal

smuggling of goods. There is no technology being developed for the automation of the ration distribution, all the tasks are handoperated manually leading to irregularities in the system. In this work an attempt is made to automate theration materials distribution. A system is developed based on the GSM technology. This system is simple and uses aadhar card for customer identification instead of the ration card. In the system, ration materials like sugar, rice, and wheat are distributed through an automatic mechanism without any help from the humans. The advantages of the system are it overcomes flaws such as inaccuracy in weighing the weight of the materials due to human error, data accuracy, and unauthorized data entry

3. Anshu Prasad; Aparna Ghenge; Sonali Zende [3], In this paper, we have proposed a smart ration card using Radio frequency identification (RFID) technique, biometrics and SMS gateway to prevent the ration forgery. In this system, a RFID tag is used that carries family member details and the customer needs to show this tag at the ration shop. The user will also have to provide thumb impression on the biometric machine. If the user is found authentic then the quantity of ration to be given to customer according to the total number of family member will be displayed on the LCD display This smart ration card is free from theft and forgery as the information about the delivered ration will be sent directly to the government and customer through SMS gateway.

4. Mohit Agarwal; Manish Sharma; Bhupendra Singh [4] ,In this paper, we have developed a smart ration card using Radio Frequency Identification (RFID) technique to prevent the ration forgery as there are chances that the shopkeeper may sell the material to someone else and take the profit and put some false amount in their records. In this system, a RFID tag is used that carries the family member details and the customer needs to show this tag to the RFID reader. The microcontroller connected to the reader will checks for the user authentication. If the user is found authentic then the quantity of ration to be given to the customer according to the total number of family members will be displayed on display device. This smart ration card is free from theft as the information about the delivered ration will be send directly to the government without manual feeding using Global system for Mobile Communication (GSM) technique

3. AIM & OBJECTIVES
● To develop such a system which will be user friendly and provide more security for users data.
● Reduce the corruption occurs in ration distribution system.
● To provide a transparency between users and admin.
● Blockchain implementation to provide more security as compare to existing system.

4. MOTIVATION
The last three years have seen an explosion of interest in Blockchain Technology (BCT) with a great many companies and research institutions focusing on potential applications of this technology across a range of financial, industrial and social sectors. However, the technology has also been surrounded by a great deal of exaggeration and hype resulting in misplaced expectations and misunderstandings. BCT is still in an early stage of development, with considerable potential for real-life commercial applications. Innovation in blockchain architectures, applications and business concepts is happening at a fast pace; it is often characterized by decentralized, open source development, and it is perceived as being disruptive to traditional players in many industries.
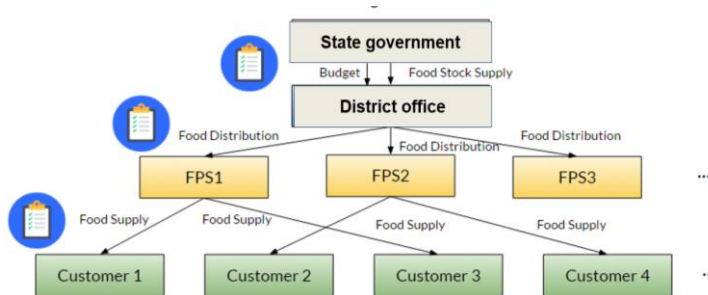
5.SYSTEM ARCHITECTURE

Fig -1: System Architecture Diagram

5.   APPLICATION
• In Government Rations shops
• In Government Schools
• Research.

6.   FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS
System Feature
1.Provide Security to data
2.Proper ration distribution to the user
3. Notification
●   Functional requirements
●   Registration
●   User Login
●   Creation of database: Users Mandatory Information
Design Constraints:
1. Database
2. Operating System
3. Web-Based Non-functional Requirements

Security:
1. User Identification
2. Login ID
3. Modification

Performance Requirement:
1. Response Time
2. Capacity
3. User Interface
4. Maintainability
5. Availability

SYSTEM REQUIREMENTS
Software and Hardware Requirements
• SOFTWARE REQUIREMENT :
• Language : Bootstrap, Java Script
• Operating system :
Windows XP/Vista/7/8/8.1
• Tools : VS Code, Xampp

• HARDWARE REQUIREMENT :
• Processor: i3,2 GHz and above
• RAM: 4 GB
• Disk: 500 GB

7. CONCLUSION AND DISCUSSION.
Hence we are going to implement a prototype web based software application for Ration card with blockchain. Thus it is possible to track the PDS supply chain and so that ration will reach the common man without any corruption.

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