

Implementation of Block Chain Technology in Public Distribution System

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Abstract:- As we know that there is a System to distribute the food grains and the necessary items to the poor or non-affording families by the Indian government. But there are various frauds and black marketing happens while distributing the goods among the poor customers by the fair price shop owners. Customer has no access to the data records of the stocks that has been accounted in the fair price shop. We are creating a portal which will give access to each customer to check the records of stock which is coming to the shops by government and how much is left. The storing of the data will be based on the block chain technology, this was only used in the transaction of the bitcoins and other cryptocurrencies. We want to implement that in this system to increase the transparency between the user and the government.

Keywords:- Block Chain, Frauds, Transparency, Transactions, Cryptocurrencies, Hash, Timestamp, Data Hash.

I. INTRODUCTION

Block chain is one of the most secured and the non hackable technology in the world. This was only implemented on the cryptocurrencies till now and that has a good impact on the world in the field of the security and transparency. It helps every person who is involved in the chain to access the data records of each transactions happening in the chain. The generated blocks cannot be modified by anyone in the system only they are created when the transaction is made. Each block has the unique characteristics like hash, timestamp, data hash.

In the public distribution system, from many decades we observed that there is no such transparency between the government and the customer regarding the transaction of the goods. It was established for the sake of the people who cannot afford the pricings of the quality goods. This subsidized scheme was launched in year 1994. There are many frauds regarding the stocks availability, bogus ration card is made by the fair price shop owners to earn the extra income by the harming the customers.

Generally, the orthodox procedure is that we have to go to the shop and show our ration cards and take the goods and

the shop owner makes entry and we have to leave. If he says that there is no stock, we cannot do anything regarding it. To avoid this kind of problems we are developing the portal to give rights to each and every customer to get access to the records which are provided by the government. In our system each transaction of the goods will be accessible for viewing not for modifying. The main objective of our project is to decentralized the system.

A. Existing System:

As we studied the system for our reference just to know that how the government work on this type of scheme we get many ideas and the aim was to know if the system can be improved.

➤ The Existing System:

In the existing system we get to know that the central and the state government takes the responsibility to manage the public distribution. Generally, the storage department, the transportation department and the allocation departments are controlled by the central government authorities. The allocation is done in bulk amount to each state. The state government is responsible for the allocation of the food to the many registered fair price shops. And then the owners are responsible to distribute that among the customers who are below poverty line. This is to be done in the fair way as expected by the government people.

➤ Limitation:

In this existing system we get to know that there is no record shown to the customers regarding the availability of the goods. The fair price owners also sell the goods to private shop keepers to earn an extra money from it. And also the customer doesn't know the exact quantity that had been allocated for their regions. There is no transparency regarding the data so the problems arise. Nowadays aadhar based allocation is going on but it is not transparent transactions. It only resolves the issue of bogus ration cards.

Here, we introduce a portal to connect each individual in the network with the system to increase the usage and to decrease the frauds happening in the system. The block chain technology will help the system to increase the security and each of the transaction information will be stored in the new block.

II. PROPOSED SYSTEM

We are creating a portal which will be accessed by the every individual in the network. The information of each transaction of the will be stored in the block of the chain. Each block will be identified on the basis of the hash value in the chain. When any of the transaction information will be put into the system the new block will be generated. The block will take the information from the previous block. On every transaction by the same individual the block will be added if the information in the block is unique which is to be referenced by the previous block. Each individual can access the block data to view that the information in the block is correct or not. The individual will be access the block in the read only manner and cannot modify the existing block. When the new transaction is initiated the we have to make sure that we have to enter the correct information regarding the transaction. Our system will also generate the hash value using the SHA 256 algorithm for hash generation. There will be no such categorization in the portal that some individual will be admin and other will be the users. There will be the only one criteria that if you are doing the valid transaction then the block will be added to the chain and that will be accessed by the every individual in the network. The blocks will contain the information related by whom the transaction was initiated or done and for whom it is done. As the values inserted in the block will be dependent on the previous block the transaction will be checked depending on the previous values.

If the differentiation done in the portal that will be only the (A) User Side and (B) Server Side.

A. USER SIDE:

The user side will be the portal on which the individual will be entering the information related to the transactions. There will be the simple technique to get into the viewing chain. We will provide the login to the every individual in the network. When the valid transaction will be submitted then only the work of the server side will begin.

B. SERVER SIDE:

This will be the most important side of this project, the all operations will be done here regarding the block generation.

The data entered by the individual in the portal will be inserted in the blocks. If it is the first transaction, then the new block of the transaction will be created and the other blocks will be dependent on the previous block value. Each block will be assigned with the unique hash value and the timestamp (i.e. the time on which it is created).each will also be given the data hash.

➤ BLOCK DIAGRAM

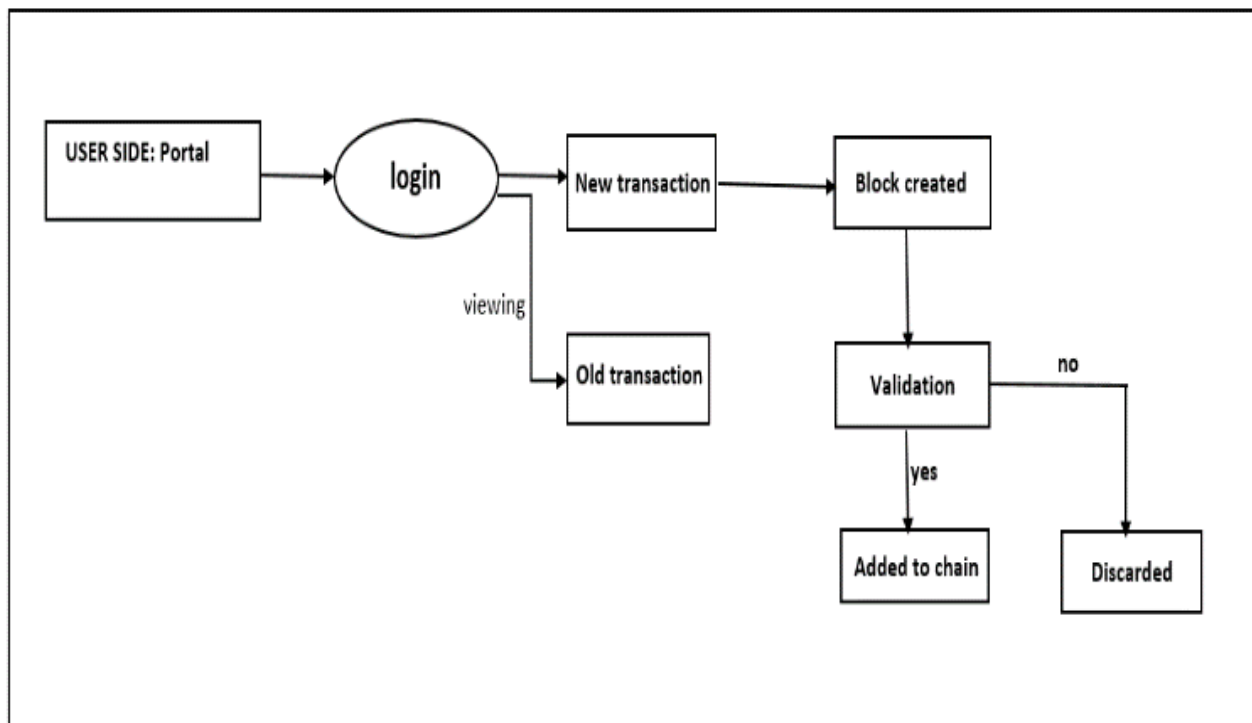


Fig 1:- Depicts the Block Diagram of the Project Outline

III. IMPLEMENTATION

This is being implemented using the following technologies:

A. *PYTHON*

B. *ORACLE*

C. *WEB TECHNOLOGIES*

A. *PYTHON*:

Python is the one of the leading technologies which is easy to implement and for developing the blocks and the chain it is easy to develop it by using python. Python also supports to the web technologies and the most useful the DJANGO framework.

B. *ORACLE*:

Oracle is the database technology used by many of the MNC's. it is the most useful and easy to implement database. As there is no barrier to use the specific database we will be using the Oracle. As this is to store the data it is also secure.

C. *WEB TECHNOLOGIES*:

We will be using the web technologies for the development of the portal. We will use HTML, CSS3, CSS5, DJANGO framework to acquire the best in class interface that will be smoother and easy to use.

IV. CONCLUSION

By using this portal it will be easy for the individual who is the beneficiary of the fair goods will be able to access the right information related to the schemes and the stocks which they are provided by the government for their region.

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