Bitcoin as Asolution of Current Banking System

M.Janardhan[1], Srujana Aytha[2]
[1]AssoiateProfessor
[2]Dept of CSE
[1, 2] GPCET (affiliated to JNTUA, Anantapur), Kurnool, India

Abstract- *Bitcoin is an open-source which was invented in the year 2009.It is a cryptocurrency. It is one and only decentralized digital currency till now, as it works without the help of a bank or single manager. The system is peer-to-peer and transactions will be taken between persons directly without help of any middle person. These transactions are checked with the nodes by using cryptography and recorded in a public ledger called a block chain.*

Keywords- CSTR-PID-ZN-Fuzzy-MRAM-MATLAB. Bitcoin, Security, Cryptocurrency, Wallet

I. INTRODUCTION

Block Chain contains a group of blocks which stores each and every transaction. Every transaction which is valid and verified are stored in a block. Each and every block is having a unique hash code. If there is small change in the hash code., say a comma (,) or period(.) there is a large change in the hash code and hence the transaction can't be modified. Each and Every bitcoin transaction are recorded in a ledger called blockchain. The solution completes the work without any trusted middleware party: On bitcoin software,the blockchain is maintained by network of nodes which communicate each other which runs bitcoin software.

II. EXISTANCE OF BLOCK CHAIN

The problems which are being faced by the general banking system moved to the usage of blockchain.

The following are the issues of general banking system. They are

1. Transaction charges.
2. Double spending.
3. Ledger is not properly available.
4. Hacking can be done.
5. Decentralized power is not being provided.

Now,

1.I will be explaining how the blockchain overcome all the issues of the current banking system. The transaction charges for the general banking system will be very high after the minimum number of transactions for every month. Forexample, JPMorgan chase, Bank of America and Well Fargo alone earned more than $6 billion forATM and overdraft fees in 2015.But the transaction cost of the bitcoin is less when compared to the other third party people. According to the survey the bitcoin charges only one third part of the normal banks or the other third party people.

2.Double spending can be best explained by taking a general example,

Let person "A"has $500 and he is trying to pay $500 to person "B" and $400 to person "C" at the same time. This process is called double spending. The general banking system is not able to rectify the problem of double spending. But the block chain technology is designed in such a way that it will overcome the problem of double spending.

The block chain technology has a special person called minner to check whether the person "A" have that particular amount of money to transfer to other person. If the miner validates and verifies the transaction process saying that the particular person "A" has enough money to transfer to other person. As"A" requested first to transfer to person "B". Minner will only accept the transaction between "A" and "B".Later "A" requested transaction with person "C". Minner will again performs validation and verification process.

If and only if, the minner accepts the transaction, then the transaction between person "A" and person "C" is processed. As A doesn't have enough money to transfer to "C".Minner will not accept the transaction and so the transaction is not done.

This is how the block chain process overcome the double spending problem.

3.The next problem of the banking system is that the ledger is not properly available.

Blockchain system will overcome the problem by maintaining a proper ledger for each and every transaction. The ledger is also given to each and every person in the block

so that the transactions can't be changed and will be safe and secure.

Coming to the banking system, the ledger is not properly available and not being given to all the people in the transaction.So that there is the possibility of hacking in the system.

4.Current Banking system is not free from hacking whereas Blockchain technology is free from hacking. According to the survey the block chain technology is not being hacked and it can't be hacked too.

The problem facing by the general banking system is they will not be given the proper transaction details to all the people who are using that account of banks.

5.Decentralized power is not being provided for the general banking system so many number of malpractices are being done, which is completely not done in block chain technology and so it is very safe and centralized power access is given to all the people who are present in the block and even for a little modification of transaction is not possible because each and every transaction is being encrypted with a special hash code in the block.

The special encryption algorithm used by the block chain technology is MD5 algorithm and SHA 256 hashing technique.

If the person who want to perform malpractice on transactions, it is not possible with block chain technology. Because the hash code of each and every transaction of block chain is unique and not possible to modify the transaction.

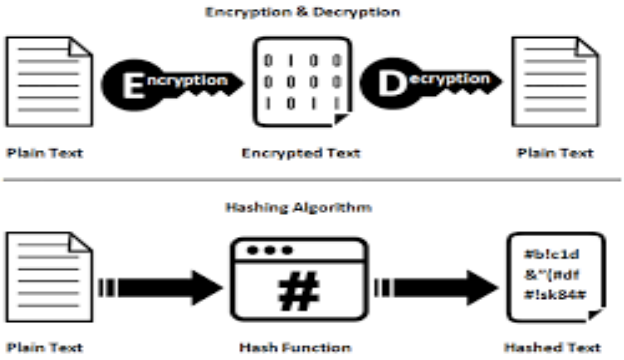

Fig 1: Hashing Technique used for Block Chain

If you want to modify a transaction in block chain technology the person should get acknowledgement by the other members who are in the block which is highly impossible.

The following figure represents the hashing done in each and every block for the transaction in the block chain

Hashing technique using MD5 is done as follows:

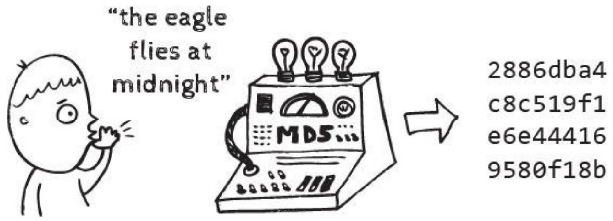

Fig 2: Hash Technique using MD5

The first block in the block chain will be given a hash code and the second block will be given the hash value of the previous block and a new hash value is also generated along with the data and all the blocks in the transaction are verified with the previous hash value along with the data and present new hash value will be generated.

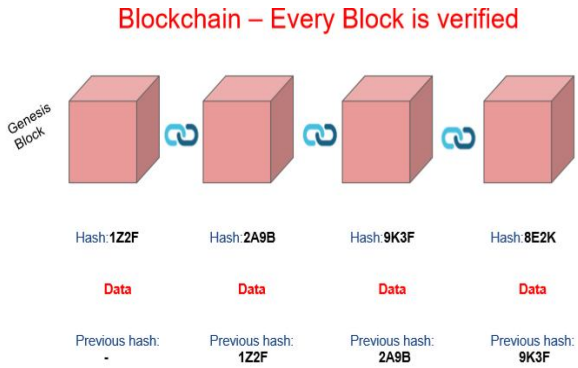

Fig 3: Blocks with hash values

III. USAGE OF BLOCK CHAIN

Bitcoin was generated as an alternative to the general banking system in order to make transaction time minimum.

- Block chain is named as distributed ledger. It uses centralized and decentralized network system and it is explained as follows.

Fig 4 : Centralized Network

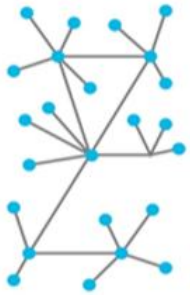

Fig 5 : Decentralized Network

The two types of networks can be understood by saying that centralized network can be explained by saying that the central control is being given to all the people in the network and the access to use all the nodes will be given.

Decentralized network can be explained by saying that it is the process of redistributing the functions, powers, peoples and things to all the people in the network.

- Block chain is also called peer-to-peer (P2P) network.

Rather than giving the central authority or control to manage the chain in the block, the network is distributed among the network.i.e., Peer to peer.

Each and every entity in the network is called a node.
All nodes are connected to each other in the network.
Node will verify if any change in the transaction should be made and will validate whether it is genuine or not.

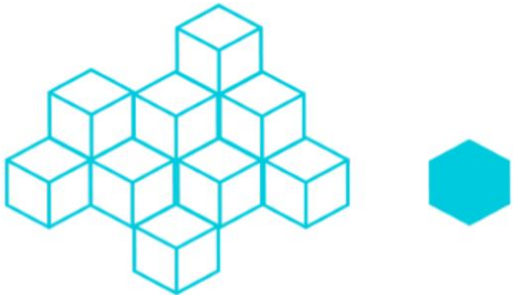

Fig 6: Node which joins a network.

IV.TRUST USING BITCOIN

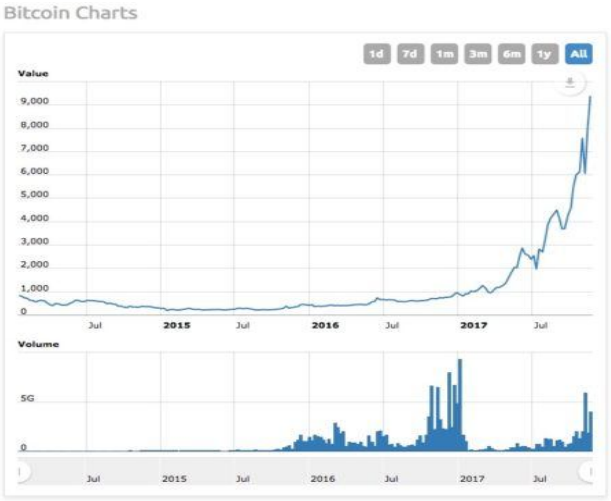

Fig 7: Success Rate of Bitcoin

Success Rate of Bitcoin is rapidly increasing because of the exchange rate in recent years.

Bitcoin is the having many opportunities to convert the world into most powerful and positive ways.

REFERENCES

[1] https://www.blockchain.com/
[2] http://trustedadvisor.com/trustmatters/can-you-trust-bitcoin
[3] https://www.theguardian.com/science/political-science/2013/jul/05/bitcoin-virtual-currency
[4] https://youtu.be/9qfxLo1rt1Q
[5] https://youtu.be/jKYhLpHJv8U
[6] https://blockgeeks.com/guides/what-is-blockchain-technology/
[7] https://www.google.co.in/search?q=why+to+use+blockchain&rlz=1C1NDCM_enIN784IN784&oq=why+to+use+blockchain&aqs=chrome..69i57.6753j0j4&sourceid=chrome&ie=UTF-8