

ELECTION USING DISTRIBUTED DATABASE

Mrs. K Subhashini Spurjeon¹, Mr. Mohit Kumar Agrawal², Ms. Swaleha Parveen³,
Mr. Jayant Nagle⁴

Department of Information Technology
E-mail: mohitkumaragrawal1590@gmail.com²

Abstract

Voting has been a major point of talk amongst the people of each and every stage who can contribute to nation's development as voting is the foundation of democracy and is one of the most important fundamental rights of citizens. Talk-talk is what being done. Every 2nd person wants voting process to be fair. E-voting is what everyone wants as it increases the chances of fairness and reduces the partiality and paid voting. Blockchain as an election database is the ultimate solution of this and is the best way to assure check of fairness in elections.

Keywords: Blockchain.

Introduction

In today's world every other person discuss on fraud voting. But have we ever thought of completely exhausting it in future? This is what the aim is. Having a technology in which votes are openly available for others to be seen. What does it mean? Are the voters are no longer hidden? Well it will be cleared further. Before proceeding with implementation, knowing the distributed system is necessary.

Distributed Database Technology – Blockchain

Distributed Database Technology, as name specifies, is a technology in which each data is distributed amongst the users itself, i.e. each and every person can see what data are being stored. It is also a type of write once and read only database.

This rose up into a new technology known as *blockchain*. Blockchain is a distributed database that maintains a continuously growing list of records, chained together. It works with hash code and Nonce.

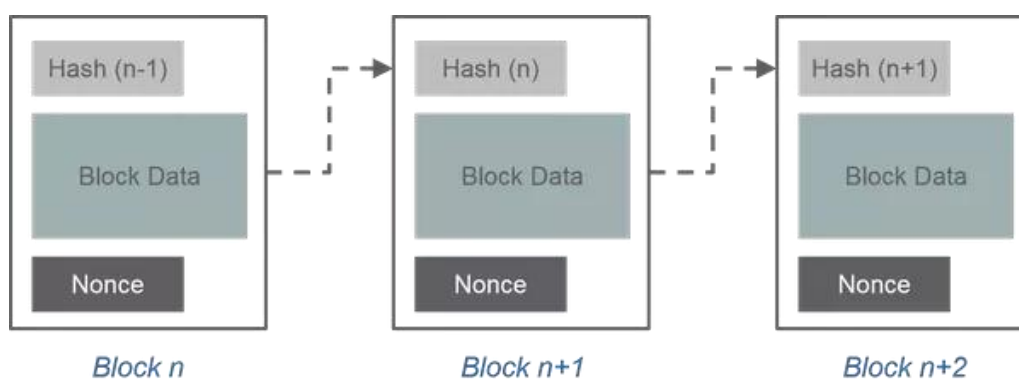


Fig 1.1 Distributed System

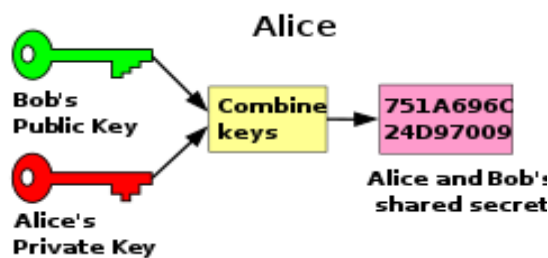
As shown, every new block is influenced by the previous block. And any transaction once written cannot be changed. So, any change in any block will result in the changed hash code that will not match with the code of other blocks. Due to which any unwanted changes are automatically caught. All new fair transactions are verified by miners and the resulted hash code is implemented in all blocks properly.

Blockchain is being implemented in Cryptocurrencies and has a very wide area to be discussed on. Sites can be preferred for it.

Blockchain in Elections

Since Blockchain is one of the most safe database. Why not implement it in voting process? The way it will work is every citizen will have an account on the basis of voting rights. Each account during elections will be credited with a point to vote. The voters will have to vote using that 1 point and the party account with max votes will ultimately be the winner of that election. And since it will be in a manner of shift of funds from one account to another it will be visible as transaction to everyone. In this manner voting can be made clear.

The raising point is privacy. If everything is publically visible then will the identity of voter also be revealed? Answer is no. How? Let's see.



In the above figure, Alice wants to send something to Bob. Their transaction will be visible to everyone but with the code that is generated using the public key of Bob and private key of Alice. In this way identity will still remain hidden but the transaction will be shown on public ledger.

Issues in Implementation (Cons)

Every implementation has its cons. There is no implementation without cons. The problem of buying of voters can still not be removed. Another problem is security. Hacking is what everyone has a fear of. Even this technology has a fear. But not that much because a transaction cannot be pushed into ledger without verification and a transaction once pushed cannot be changed.

Conclusion

Blockchain is an ultimate innovation of database management. It can be implied in all section where a large number of people are involved.

References

www.quora.com

<https://www.bizjournals.com/bizjournals/how-to/technology/2017/12/blockchain-could-revolutionize-voting-and.html>

www.google.com