IDEATHON PROJECT

BLOCKCHAIN BASED E-VOTING SYSTEM

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ABSTRACT

Block chain Solves The Problems Of Recording Of Transections That Cannot Be altered , Deleted Or Destroyed. And Also Block chain Transections Are Secure , Private And Efficient. Block chains Are Also Known As A Distributed Ledger Technology (DLT). The Goal Of Block chain Is To Allow Digital Information To Be Recorded And Distributed, but Not Edited.

INTRODUCTION

The concept of electronic voting appeared in1981. In the block chain system the hash operation participates in the calculation of the users address and the calculation of the summary of each transaction in the system. In a block chain, the information is structured in the form of blocks.

BENEFITSOF BLOCKCHAIN TECHNOLOGY:

Time-saving: No central Authority verification needed for settlements making the process faster and cheaper.

Cost-saving: A Block chain network reduces expenses in several ways. No need for third-party verification. Participants can share assets directly. Intermediaries are reduced. Transaction efforts are minimized as every participant has a copy of shared ledger.

Tighter security: No one can temper with Block chain Data as it shared among millions of Participant. The system is safe against cybercrimes and Fraud.

DIFFERENT TYPES OF BLOCKCHAIN:

Public Block chain: Fully decentralized and Transparent-Anyone can read, send transactions & participate in the consensus process

Permissioned Block chain: Quasi decentralized where consensus is controlled by preselected set of nodes and Read permission is restricted to participate.

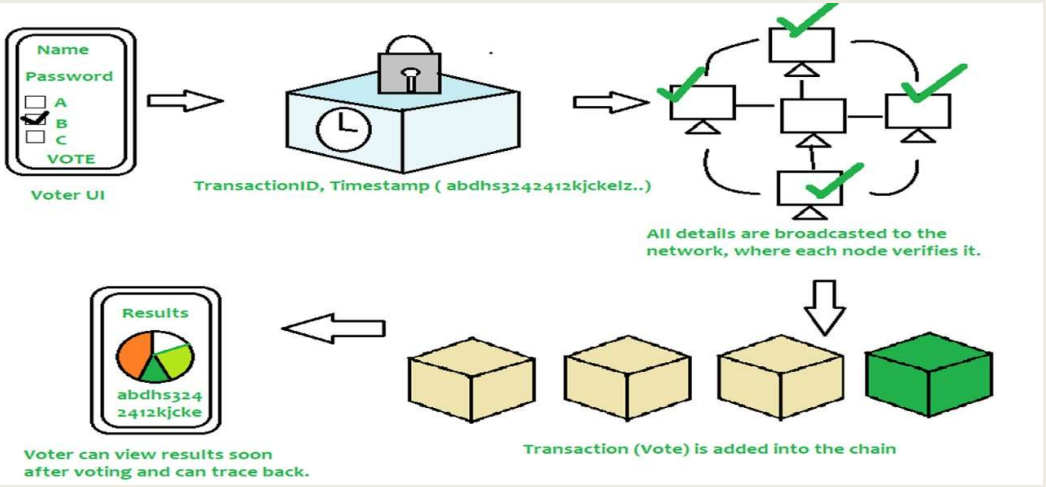
Private Block chain: Centralized–requires 'high trust' entity where Write permissions are centralized to one entity and Read to all participants.

APPLICATIONS OF BLOCKCHAIN:

- ❑ Trade finance
- ❑ E-voting system
- ❑ Crypto currencies
- ❑ Government organization
- ❑ Finance industry
- ❑ Healthcare industry

HASH FUNCTION

A Hash function is an operation that creates a unique value of a fixed length with mathematical functions of various lengths of data. It is a one-way function and the original data can-not be obtained from the summary value obtained. In the hash process, the same value is generated for the same data, but when there is the slightest change, the value created by the hash function also changes.



VOTING ALGORITHM Input:

Voter ID Output: Sliced Encrypted Ballot
(1) Begin
(2) If Voter Id in Voter List Id then//Check Voter
3) Get the voter Token, set the password
4) else not an eligible voter exit
(5) if (voter Id in registered voter list) then//check registered Voter
(6) Check Token and Password
(7) else not registered voter exit
(8) if not voted (token and password) then
(9) chose Candidate ID
(10) chipherData = HomomorphicEnc(Candidate ID)//data encryption
(11) chiperBallot = SecretShareSlicer (chipherData) //data share
(12) send chiperBallot to blockchain nodes
(13) else failed login exit
(14) END

CONCLUSION

In a block chain data can be changed only by the owner. Block chain-based e-voting system to securely store voting data, authenticate legitimate voters, and cast actual ballots. In contrast to other solutions for online voting, solutions that leverage block chain technology offer improved data security, contain convenient identity verification mechanisms, and make it easier to maintain the right balance between ballot secrecy and voting results verification.

REFERENCES

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