

REVIEW PAPER ON VOTING SYSTEM USING BLOCK-CHAIN

¹S.sankareswari M.E, ²Pankaj Ashok Chavan, ³Shalaka Shyamsundar Dhavade, ⁴Aysha Asafali Rajpurkar

¹Assistant Professor, ²Student, ³Student, ⁴Student

^{1,2,3,4}Information Technology Engineering,

^{1,2,3,4}Finolex Academy of Management and Technology, Ratnagiri, India

Abstract: Voting system using blockchain aims at providing a facility to cast vote for critical and confidential internal corporate decisions. It has the workability to allow casting of vote from any remote location. The election is held in full confidentiality that security is maintained in such a manner that voter can vote only if he logs into the system by entering the correct username and password. Voter will get the username and secret password to cast his vote. The voter will log into the system using his unique ID, they will then give his/her vote which will be stored into block-chain. Internet voting focuses on security, privacy, and secrecy issues, as well as challenges for stakeholder involvement and observation of the process. A new approach is proposed for voting system to prevent manipulation of the votes.

Index Terms– Block-chain, E-voting, Decentralization.

I. INTRODUCTION

Voting system is the pillar of every democracy in which voters choose their leaders. Voting scheme have grown from counting votes manually in previous days with the help of electronic voting machine. This offline voting system is time consuming and less secure process. Also maximum people cannot vote because of their busy schedule, since they have to go to a particular place. The main idea behind secure online voting system is to overcome the drawbacks of offline as well as the current online voting system. Also it will reduce the paperwork, time, also, etc. Secure online voting system is the system through which any voter can vote from anywhere in country through his/her login. The main goal is to prevent manipulation of votes on online voting system using blockchain to overcome the drawbacks of existing voting systems. By using the blockchain we can make the system decentralized so we have high probability of data availability.

II. LITERATURE SURVEY

2.1) Platform-independent Secure Block-chain Based Voting System

2.1.1) Features:

In this paper they have proposed a voting system in block chain that doesn't use a centralized voting system hence all the votes are stored locally on the data nodes. It is also a platform independent system. The system is also scalable due to two optimized short linkable ring signature key accumulation algorithms. To deal with two aforementioned issues, here they proposed a practical platform-independent secure verifiable and secure voting system that can be deployed on blockchain environment using smart contracts. They used cryptographic techniques like Paillier encryption, proof-of-knowledge, homomorphic encryption [1].

2.1.2) Disadvantages:

- 1) Errors are part of all human beings; it is very unlikely for humans to be 100% efficient in data entry.
- 2) The anonymity of the voter is preserved and there is no way to link the voter to the vote casted by the voter.

2.2) E-Voting with Block chain: An E-Voting Protocol with Decentralization and Voter Privacy

2.2.1) Features:

This paper has proposed a voting system which is decentralized and provides control in the hands of the voters as much as possible. It is an e-voting system hence encourages tech-savvy youths to vote. It uses blockchain up to its potential in the e-voting system. It is independently verifiable. Here they provide to voter to change or update the vote in within the permissible voting period. It provides the reliability and security especially against Denial of Service Attacks. It has greater transparency due to open and distributed ledgers [2].

2.2.2) Disadvantages:

- 1) Blockchain has not been used up to its full potential in the current state.

2.3) Blockchain Based E-Voting Recording System Design

2.3.1) Features:

In this paper they have proposed a system which uses blockchain technology by recording the data in the database system which maintains data integrity. This protects the votes from being manipulated in the election process. They have overcome the problems that come in the traditional voting system. Here the blockchain system is used is same works as Bitcoin technology and focuses on database recording. This system is verifiable and votes cannot be manipulated [3].

2.3.2) Disadvantages:

- 1) Passwords can be viewed by internal authority.

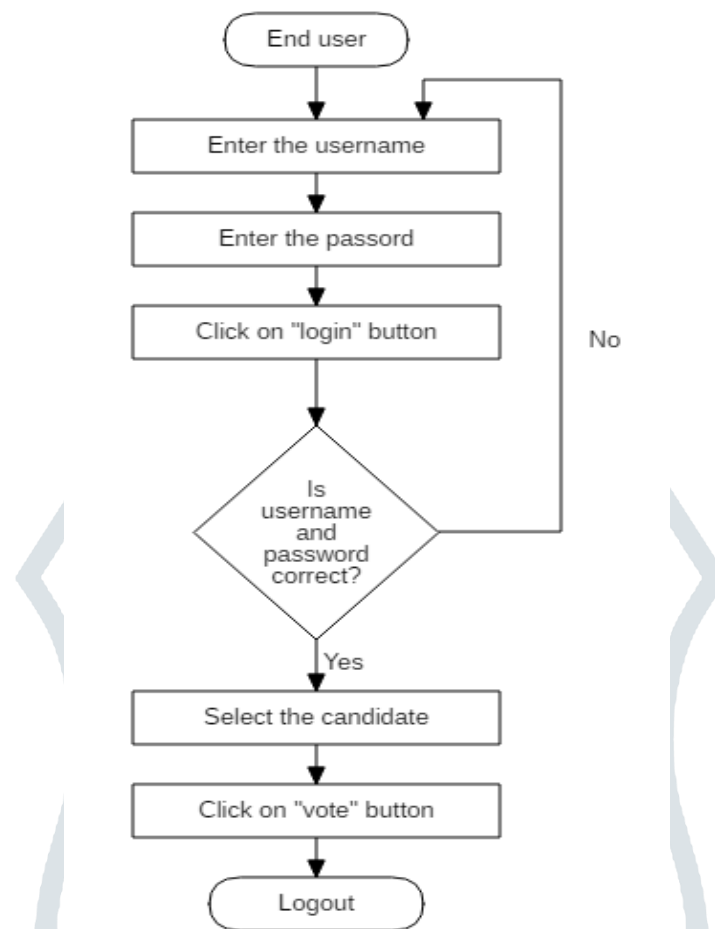
III. PROPOSED ONLINE VOTING SYSTEM

fig. 3.1: proposed system

The system that we have proposed is using block chain. In this system, there are two section, first is the registration section and the second one is the voting section. The voter makes his/her registration in the system by entering the basic information about them. During the elections, he/she will login into the system by using his/her username and password. He/she will then cast a vote to the candidate. This vote will be then stored in the block chain system. This is a decentralized system which overcomes the delimitation of the centralized system and hence protects the data from getting manipulated in the election process. The votes cannot be manipulated because we are using block chain which stores data locally on multiple nodes hence the hacker cannot access all these nodes and the votes are safe. On the day of results, he/she can view the result.

In this system there are two servers, arbitration server and the authentication server.

1) Authentication server:

On the voting day, the voters will be authenticated by the authentication server by using their data saved in private database server.

2) Arbitration server:

This server will display all the candidates and the voters will cast the vote. This server will communicate with the private block chain system.

IV. CONCLUSION

Voting plays an important role for any democratic country like India. If this proposed system is implemented, then the voter does not have to go to the voting center. This system is very useful for those peoples who are living in another country also for the peoples who are physically disabled and for the people who are busy in their schedule. Since block-chain technology is used, the votes can't be manipulated and therefore corruption can be avoided. Proposed online voting system is very effective and it will useful for voters and organization in many ways and it will reduce the cost and time.

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