INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.488

VoteFrame-Voting System Framework Using Blockchain Technology

Abhay Prataprao Pande[1], Rohit Anil Agarwal [2], Mahesh Venunath Deshmukh[3,] Prof.Yogendra Patil[4]

Student, Department of Computer Engineering, JSPM's Bhivarabai Sawant Institute of Technology & Research, Pune, India[1,2,3]

Associate Professor & Guide, Department of Computer Engineering, JSPM's Bhivarabai Sawant Institute of Technology & Research, Pune, India[4]

ABSTRACT: Elections and voting are the fundamental instruments of a democratic based framework. There have been different endeavors to make present day elections more adaptable by utilizing advanced advances. The fundamental attributes of free and reasonable elections are recalcitrance, immutable, straightforwardness, and the protection of the elaborate entertainers. This relates to a couple of the numerous highlights of blockchain-like decentralized possession, the permanence of chain, secrecy what's more, disseminated record. This work-in-progress paper endeavors to do a similar investigation of different blockchain advances underdevelopment and propose a 'Blockchain-based Electronic Voting System framework' arrangement by gauging these advances dependent on the requirement for the proposed arrangement. The principle point of this paper is to introduce a powerful blockchain-based election system that not exclusively will be dependable yet in addition adaptable as indicated by present needs.

KEYWORDS*: E-Voting, Blockchain, Ethereum,Voteframe.

I. INTRODUCTION

Majority rule casting a ballot is an essential and genuine occasion in any country. The most widely recognized manner by which a national vote is through a paper-based framework, however, is it not an opportunity to carry casting a ballot into the 21st century of present-day innovation? Advanced democratic is the utilization of electronic gadgets, like democratic machines or a web program, to project votes. These are in some cases alluded to as e-casting a ballot when casting a ballot utilizing a machine in a surveying station, and I-casting a ballot when utilizing an internet browser. Security of computerized casting a ballot is consistently the greatest concern when considering carrying out an advanced democratic framework. With such fantastic choices in question, there can be no uncertainty about the framework's capacity to get information and shield against possible assaults.

One way the security issues can be conceivably addressed is through the innovation of blockchain. Blockchain innovation begins from the basic structural plan of the digital currency bitcoin. It is a type of a conveyed information base where records appear as exchanges, a square is an assortment of these exchanges. With the utilization of blockchain, a protected and powerful framework for 4 computerized voting can be conceived. This report diagrams our concept of how blockchain innovation could be utilized to execute a protected advanced democratic framework.

II. MOTIVATION

E-casting a ballot is a productive and savvy path for directing a democratic method, which has the attribute of being generous information and continuous and mentioning high security. In any case, worries about the security of the Internet and the protection of correspondence have been developed. Secrecy required by e-casting a ballot can't meet by encryption alone. For instance, a vote ought not to be recognizable back to the elector in e-casting a ballot. E-casting a ballot utilizes PCs, cell phones, and the web to achieve the entire vote method, which is an exploration field of cryptography with the nuts and bolts of encryption and mark calculations. The most effective method to plan a safer and reasonable e-casting ballot framework has become a famous theme in the space of industry and data security. To improve the simplicity and obscurity of e-casting a ballot, we present a structure of blockchain to fabricate a new e-voting system framework for different causes.

III. PROBLEM DEFINITION

Our objective is to design a Blockchain-enabled Voting System Framework that helps solve digital voting issues and increase ease of access to digital voting systems.

IV. PROJECT SCOPE

In the 21st century, the archaic strategies for voting stress us, thus, building a straightforward web application isn't ideal for this reason because the votes can be changed, the voting rules can be changed and the trust of the voters is lost. Hence we are changing the voting process. An e-voting Voting System Framework using Block-chain System isn't just secure from defilement, yet additionally gives solid protection from hacking and different cybercrimes. It very well may be worked inside the given time and budget. The most significant factor of this application is that not even the software engineers can modify the votes once put together by voters. It is not difficult to sign into, doable and simple to utilize, straightforward, discernible – the central issues of the predominant voting frameworks.

V. USER CLASSES & CHARACTERISTICS

- Voter: The voter is an end-user of our system. The voter can cast the vote & can see the results.
- Admin: Admin is the authorized person from the election commission or who is responsible to take voting. Admin can update his profile & submit the report.
- Candidate: The candidate is an election candidate who is actively participated election. The candidate can submit nominations & can cancel nominations. The Candidate can see the results.
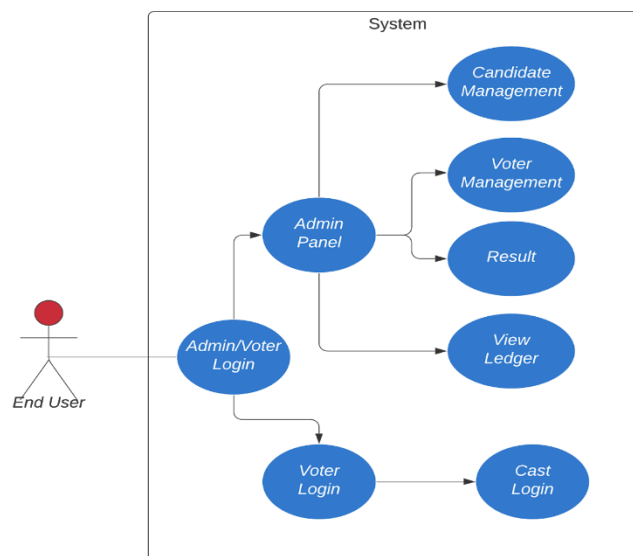

Fig 1: Use case Diagram

VI. FUNCTIONAL REQUIREMENTS

- Manage Candidates: This System will deal with the candidates participating in elections.
- Tally Votes: This System use case manages the last count computation.
- Equality: All votes are viewed as equivalent. The democratic cycle is accordingly coordinated in a manner that gets:
    - Qualification: Only qualified citizens can cast a ballot.
    - Un-reusability: Each qualified elector can cast a ballot just a single time.
    - Un-variability/Integrity: No one can copy his or somebody else's vote, or change another person's vote.
    - Evidence: The elector or his agents ought to have the probability to confirm that his vote is determined in the last count.

- o   Accessibility: Voters ought to have undiscriminating admittance to the casting a ballot framework.
- Freedom: Everybody is allowed to decide in favour of the Party he/she thinks about additional suitable. The democratic cycle is along these lines coordinated in a manner that guarantees:
  - o   Uncoercibility.
  - o   The ability for - deliberately - non-legitimate votes.
- Directness: Electors select straightforwardly their agents, implying that:
  - o   No mediators are engaged with the democratic interaction (for example no individual can be approved to decide in favour of someone else).
  - o   Every single polling form is straightforwardly recorded and tallied.
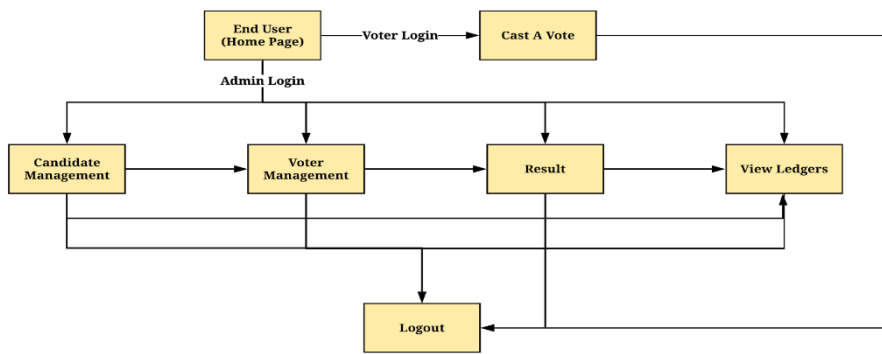
VII.   SYSTEM ARCHITECTURE

Fig 1: System Architecture

Above Diagram will show an abstract view of System. System has three actors (as above discussed). If user is a voter then he cast the vote and logout his vote will processed by blockchain system and stored into the database. If user is an admin he can manage different parts of system such as Candidate management, Voter Management, Display Result, Ledgers. Candidate can register himself and apply for the elections.

VIII.   ADVANTAGES

- Exact outcomes and speed in vote tally.
- Low expense of arrangement on the grounds that just web association cost is needed to vote across all the accessible e-casting a ballot stages
- Enhanced security as casting a ballot occur over secure correspondence channels
- Accessibility from any edge of the world just by having a web association
- Fraud counteraction because of less human intercession in this way keeping away from the misrepresentation that might actually occur at the surveying stations

IX. LIMITATIONS

- In many non-industrial nations web access isn't accessible to everybody, model: In provincial regions low pay laborers couldn't manage the cost of web likewise numerous individuals don't have the foggiest idea how to utilize and get to the web
- E-voting machines use programming to enrol the vote and it is worked by an organization, overall population don't have the foggiest idea how a product functions that may prompt false outcomes being created, merchants could likewise be paid off and consequently they could change the product to work in support of themselves
- In the web voting citizen needs to login by giving their own and ID subtleties, which will bring about "Elector Anonymity" issue
- There are circumstances when machine don't create precise outcomes because of some errors,malfunctions,along with the chance of hacking.

X. APPLICATIONS

- E-Voting System Framework can be used in multiple ways. We can use it as a polling system.

- These framework can be include in voting on :
    - Rules & Regulations (By Laws , Policy Decision)
    - Selections (e.g. award show nomination)
    - Employee preferences (e.g. workplace scheduling)
- Can be Used in any kind of election, it would be most feasible & effective option in situation such as electing
    - Organizational leaders
    - Staff

XI. CONCLUSION

The idea of adapting e- Voting System framework using Blockchain to make the public electoral process cheaper, faster and easier, is a compelling one in modern society. Making the electoral process cheap and quick, normalizes it in the eyes of the voters, removes a certain power barrier between the voter and the elected official and puts a certain amount of pressure on the elected official. It also opens the door for a more direct form of democracy, allowing voters to express their will on individual bills and propositions.

REFERENCES

[1]. Abhishek Kaudare,MilanHazra,AnuragShelar,ManojSabnis "Implementing Electronic Voting System With Blockchain Technology" 2020 International Conference for Emerging Technology (INCET) Belgaum, India. Jun 5-7, 2020

[2]. ChinnapongAngsuchotmetee,PisalSetthawong,SapjarernUdomviriyalanon "BlockVOTE : An Architecture of a Blockchain-based Electronic Voting System" UNIVERSITY OF BIRMINGHAM.

[3]. Abhishek SubhashYadav,YashVandeshUrade,AshishUttamraoThombare,Abhijeet Anil Patil "E-Voting using Blockchain Technology" International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181 Vol. 9 Issue 07, July-2020.

INTERNATIONAL JOURNAL
OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING