

Aadhaar Base Voting System Using Blockchain Technology

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Abstract: In this 21st century, Should political elections be implemented using blockchain technology? Blockchain evangelists have argued that it should. This article sheds light on the potential of blockchain voting procedures and the legal constraints that need to be accommodated. The e-Voting a polling form system is one of the structures which reduces the degree of abstention and to ensure the assurance from modifying of the votes, Blockchain is a scattered and decentralized record that is used to record the trades in a profitable and certain manner. Blockchain accepts a huge part in the e-projecting a voting form system which ensures the security of votes by preventing change of data set aside in blocks using the cryptographic technique. Aadhar fuse to the e-voting system vanquishes the duplication or modifying of votes. The proposed plan gives the ensured about evoting system by using biometric nuances and VID(Virtual ID) of residents got from the Aadhar data base to settle on the Choice and moreover using the serious signature as the key for the encryption of the votes

Keywords: Block Chain, Authentication, Efficiency, Electronic polling, Malware, Security, Verifiability

INTRODUCTION

In every democracy, the security of an election is a matter of national security. The computer security field has for a decade studied the possibilities of electronic voting systems, blockchain-based electronic voting system, optimizing for the requirements and considerations identified. In the following subsection, we start by identifying the roles and component for implementing an e-voting smart contract then, we evaluate different blockchain frameworks that can be used to realize and deploy the election smart contracts, Blockchain technology is not just an object of governance and regulation; it is a mode of governance. As such, it is likely to change, perhaps revolutionize public decision-making procedures. And in theory, it has several virtues that democratic voting procedures require. These technological features operate through advanced cryptography, providing a security level equal and/or greater than any previously known database. The blockchain technology is therefore considered by many [3], including us, to be the ideal tool, to be used to create the new modern democratic voting process.

This paper evaluates the use of blockchain as a service to implement an electronic voting (e-voting) system. The paper makes the following original contributions: (i) research existing blockchain frameworks suited for constructing blockchain based e-voting system, (ii) propose a blockchain-based voting system that uses “permissioned blockchain” to enable liquid democracy. Internet-based polls involve many components including user's registration and authentication, poll setup, polling (s e-selected options chosen by the user are sent from the user's connected device across the Internet to the relevant polling authorities), tabulation, result publication, auditing, and validation. Since the Internet-based polls involve three different environments (the poll user's computing device such as a smartphone, a tablet, a desktop PC, etc., the Internet, and the polling system), a security attack on any part of the system can lead to an incorrect poll result. These three different environments and the information shared between them are vulnerable to various attacks [5], which must be prevented by the poll conducting administration or authority to provide fair, secure, accurate, and unbiased polling results. Similar to electronic voting (e-voting) systems, Internet-based polls are threatened by exactly the same security attacks, such as

1. METHODOLOGIES OF PROBLEM SOLVING

- Problem Solving Methods are concerned with efficient realization of functionality. This is an important characteristics of Problem Solving Methods and should be deal with it explicitly.
- Problem Solving Methods achieve this efficiency by making assumptions about resources provided by their context (such as domain knowledge) and by assumptions about the precise definition of the task. It is important to make these assumptions explicit as it give the reason about Problem Solving Methods.
- The process of constructing Problem Solving Methods is assumption based. During this process assumptions are added that facilitate efficient operationalization of the desired functionality.

LITERATURE SURVEY

Z.A. Usmani; Kaif Patanwala; Mukesh Panigrahi; Ajay Nair, We Proposed that The voting system is the backbone of every democracy and organization. The voting system has experienced many efficient changes in the past few decades. There are various voting techniques used such as Paper Ballot Voting System, E-Voting System also known as Electronic Voting System, Internet Voting System, SMS and Miss Calls Voting System. In this paper, we have discussed various voting system and their advantages and disadvantages. The primary goal of this paper is to make the voting system multipurpose and make it work multiplatform on any operating system.

Adrià Rodríguez-Pérez , In This System We Proposed that Can the principle of secret suffrage be ensured when voters are offered the possibility to cast their votes using internet voting? With the steady introduction of different forms of remote electronic voting since 2000, it has become apparent that internet voting fails at providing the privacy guarantees offered by traditional paper-based voting systems. Against this assumption, the current proposal suggests reviewing the traditional configuration of the principle of vote secrecy. With this in mind, the proposal will: (1) assess current accepted standards on voters' anonymity for traditional and internet-based voting systems; (2) evaluate the core elements of lawful relaxations to the principle of secret suffrage, and especially those traditionally associated to different forms of remote voting, and assess whether they can be applied to internet voting; and (3) study how current technical developments in the field of elections (and more broadly, in the field of e-governance and e-democracy) may result in further relaxations of the principle of secret suffrage in the future. Overall, the goal of the proposal is to approach the principle of secret suffrage against the specificities of internet voting and, instead of evaluating electronic voting systems using traditional standards for voters' privacy and anonymity, evaluate how specific proposals aimed at ensuring voters' secrecy in internet voting comply with the very end that the principle of secret suffrage is aimed at protecting, namely: voters' freedom.

Ashish Singh; Kakali Chatterjee , We proposed that In todays digital environment, the voting system move from paper based to a digital system. A digital e-voting system have many properties such as transparency, decentralization, irreversibility, and non-repudiation. The growth in digital e-voting system arises many security and transparency issues. In this paper, we used the blockchain technology in digital e-voting system to solve the security issues and fulfill the system requirements. It offers new opportunities to deploy a secure e-voting system in any organization or country. The solution is far better as compared to other solution because, it is a decentralized system, contain the results in the form of bit-coins, having different locations. We will also analyze the security of our proposed voting system, which shows our protocol is more secure as compared to other solutions.

1. DRAWBACKS OF EXISTING SYSTEM

- **Less User Friendly:** The existing system is not user friendly because the retrieval of day-to-day activities data/records is very slow and records are not maintained efficiently and effectively.
- **Lengthy time:** Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.

2. SYSTEM ARCHITECTURE

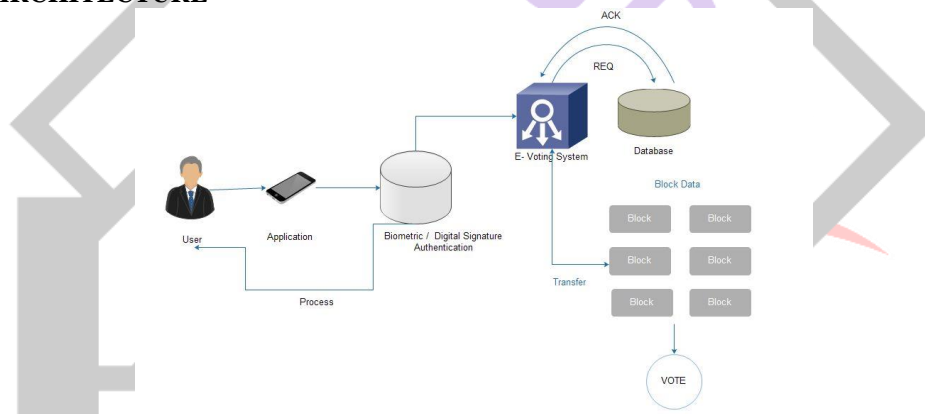


Fig -1: System Architecture Diagram

The proposed system ensures the security of the voting framework by utilizing biometric subtleties and VID (Virtual ID) of citizens acquired from the Aadhar information base to make the choice and furthermore utilizing the advanced key for the encryption of the votes inside the system. We are creating a framework for society to help to pick a best Leader.

4. CONCLUSION

Voting is one of the cycle which permits the residents to recognize themselves in the general public and furthermore it is one of the rights to pick right and humble pioneer for the general public. There are many democratic framework which are not secure, so the blockchain is utilized to guarantee security by incorporating the aadhar check utilizing VID to it, the computerized signature which is changed over from unique mark information, plays a significant function here in guaranteeing security.

REFERENCES

- [1] Roopak T M, Dr. R Sumatthi, "Electronic Voting based on Virtual ID of Aadhar using Blockchain Technology", Department of Computer Science and Engineering Siddaganga Institute of Technology 2019.
- [2] Rifa Hanifatunnisa, et al, "Blockchain Based EVoting Recording System Design", School of Electrical Engineering and Informatics 2017.
- [3] Vanessa Teague, Steve Schneider, Peter Y.A. Ryan, "End to End Verifiability in voting system from theory to practice" June 2015.

- [4] R.Murali Prasad, et al, "AADHAR based Electronic Voting Machine using Arduino", International Journal of Computer Applications, vol. 145, no. 12, July 2016.
- [5] Desna Sebastian, et al, "Aadhar Based Electronic Voting System and Providing Authentication", International Journal of Science and Engineering Research (IJOSE), no. 3, March 2015.
- [6] Navya A et al, "Electronic voting machine based on Blockchain technology and Aadhar verification". 2018 International Journal of Advance Research, Ideas and Innovations in Technology

