

# Smart Electronic Voting Machine using Biometric and Aadhar Verification with Blockchain

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## Abstract

A blockchain enabled online-voting system is being proposed in this paper. Blockchain technologies deliver an endless variety of applications that benefit from distributed economies. Blockchain evangelists have argued that it should. This article throws some light on the capabilities of the voting system, on instagram, and of the legal constraints that have to be considered. The electronic voting and poll-based system, it is one of the following forms: 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. The proposed model is an android application that has enhanced security features which includes both authentication and authorization. Aadhar fuse to the evoting 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

**Key Words:** *BlockChain , Authentication , Efficiency , Electronic polling , Malware , Security , voting system.*

## INTRODUCTION

Election has a very major role in democracy because it is deciding factor of the future of a country but the major concern is that society doesn't trust the election system. the security of an election is a matter of national security. 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 vote can be casted from any geographical area for voters allotted constituency. Blockchain also helps to preserve voters anonymity while still being open to public inspection. 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. The proposed voting system uses more stable, tamperproof blockchain (unchanged from voting modifications either by the voter or by any other third party) and cost-effective. We would also extend the constraints on structure, engineering, design and implementation on our society of the voting mechanism, 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

Online Voting system For India Based on AADHAR ID- Himanshu Agrawal,G,N.Pandey in the year 2013

A high security password is cheacked in the main database before voting is allowed. The voter will be able to confirm if the vote is transferred to the correct candidate or party. A person from his or her allocated constituency may also vote.The tallying of the votes can be done manually,thus saving the data.

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.

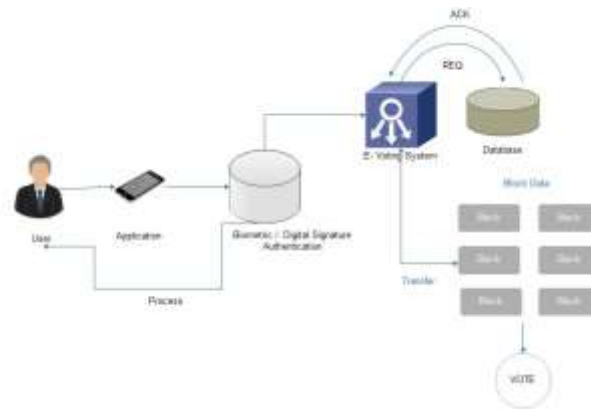
Trustworthy Electronic Voting Using Adjusted Blockchain Technology-Basit Shahzad Raju ,Jon Crowcroft in the year 2019.

These paper suggest a system that makes use of appropriate hashing methods to ensure data security.This paper introduces the concept of block-creation and block sealing. The implementation of a block sealing principle helps to make the blockchain flexible to meet polling requirements.

## 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 gives the made sure about evoting 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

The concept of incorporating online voting system to make the public election process cheaper,quicker and easier is a compelling one in modern society. 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,thus mounting the security measures of the current scheme and offering new accessibility.

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