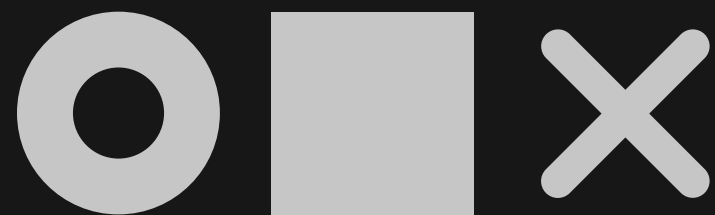


Secure and Trustless Online Voting Platform with Blockchain Technology

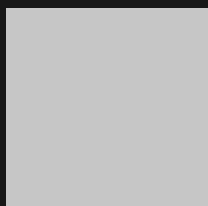
By Hashir Ahmed KB, CED-VB10

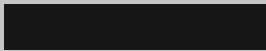
Why a Blockchain-Based Voting System?



The current voting systems around the world are fraught with issues such as voter fraud, lack of transparency, and high costs. These issues have led to a decrease in trust in the election process, resulting in reduced voter turnout and a negative impact on democracy. A blockchain-based voting system has the potential to solve these problems and provide a secure, transparent, and cost-effective solution for the election process.

How Our Decentralized Voting System Solves the Problem?



- 
- Utilizes Ethereum blockchain technology for a tamper-proof ledger of votes
 - Smart contracts automate counting and verification for a decentralized, trustless voting process
 - Provides a fast, efficient, and low-cost alternative to traditional voting systems
 - Ensures privacy and security of voters' information
 - Resistant to tampering and fraud, while also providing a high degree of transparency and accountability
 - Improves integrity and trustworthiness of elections, increasing public trust in the democratic process
 - Revolutionizes voting in various contexts beyond our project, such as corporate, academic, and community initiatives

WHY ETHEREUM?

Ethereum's smart contract functionality enables the creation of a trustless, decentralized application for secure and transparent voting.

Smart contracts automate complex processes without the need for intermediaries or centralized control, ensuring fair and accurate vote counting.

Ethereum's large developer community and robust infrastructure make it the best choice for building complex decentralized applications.

Ethereum offers faster transaction processing times and lower transaction fees compared to other blockchain platforms, making it a more efficient choice for voting systems.

Overall, the Ethereum blockchain provides an ideal foundation for building a secure, transparent, and efficient voting system that can help address the challenges and limitations of traditional voting systems.



Application Workflow

Admin:



Initialize the setup

The account which deploys the smart contract gets the admin privileges

Add Voters, Candidates

The admin account can add the name of candidates to the list, and also the addresses of the voters.

View real time results

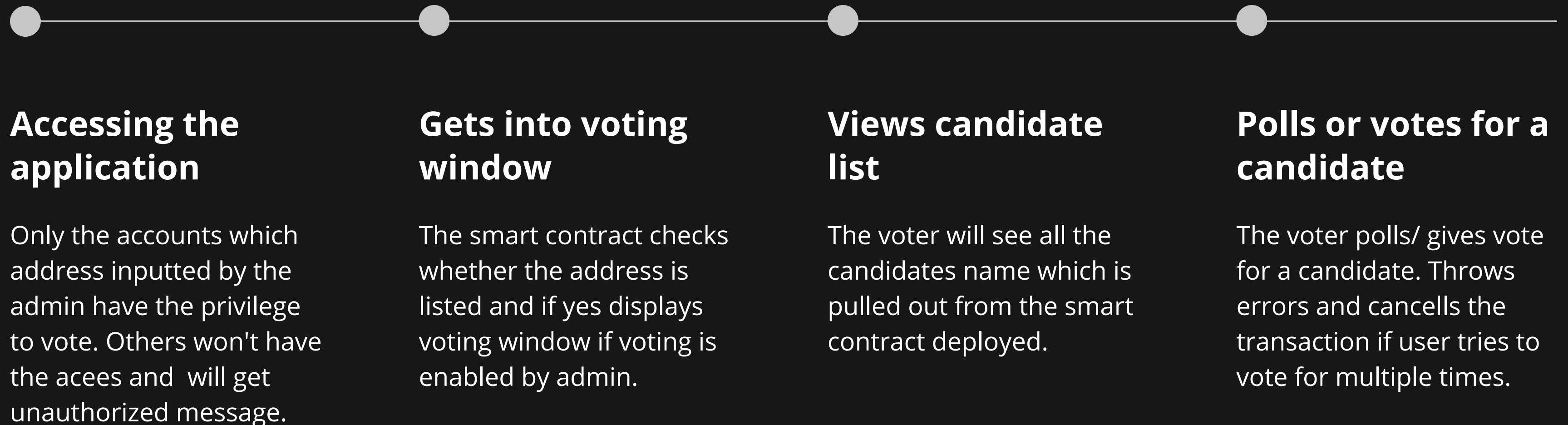
The admin can see the real time status of the votes for each candidate.

Start or end election/voting

Admin account only have the privilege to start or end the election.

Application Workflow

Voter:



Smart Contracts

Election

addVoter()
startElection()
voter()
endElection()

Owner Address.

State of the election.

List of candidates.

List of users who voted.

List of addresses which are voters.

Count of candidates & voters.

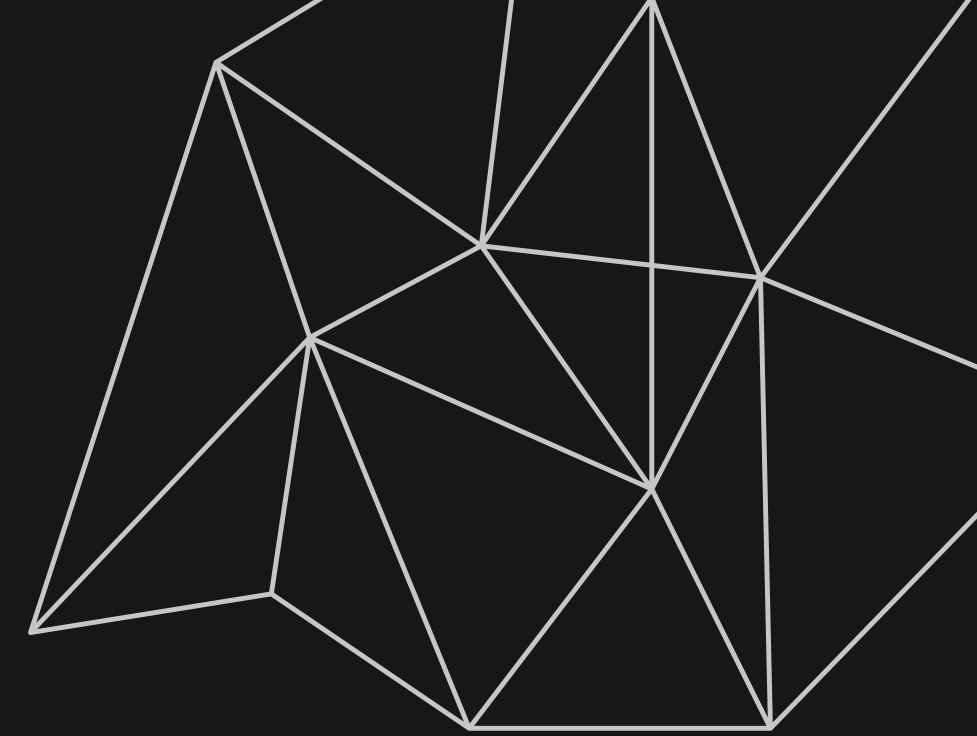
Deployment

The idea is to implement a smart contract to redeploy the new contracts for each voting session. This also stores the number voting sessions happened and the current owner of the latest deployed smart contract.

Smart Assets: smart contract and votes.

Participants: voters & the admin from blockchain network.

Future Enhancement: Decentralized Aadhar Linking



- Implement Aadhar on blockchain.
- We use the address as the Aadhar identifier.
- Automating the process of adding an Aadhar to the voters list while the creation of new Aadhar in the blockchain itself.

Final Thoughts

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OUR BLOCKCHAIN-BASED VOTING SYSTEM IS SECURE AND
TRANSPARENT, ENSURING FAIR AND ACCURATE RESULTS.

TRADITIONAL VOTING SYSTEMS HAVE LIMITATIONS THAT CAN
BE ADDRESSED WITH OUR BLOCKCHAIN-BASED SOLUTION.

OUR SYSTEM PROVIDES A DECENTRALIZED, TRUSTLESS WAY
TO CONDUCT VOTING THAT ELIMINATES THE NEED FOR
INTERMEDIARIES OR CENTRAL AUTHORITIES.

BY LEVERAGING SMART CONTRACTS ON THE ETHEREUM
BLOCKCHAIN, WE CAN AUTOMATE COMPLEX PROCESSES AND
ENSURE THE INTEGRITY OF THE VOTING PROCESS.

THE FUTURE ENHANCEMENTS WE PLAN TO MAKE WILL
FURTHER IMPROVE THE SYSTEM'S USABILITY, SECURITY, AND
ACCESSIBILITY.