

Abstract

In centralized environments, the results of voting events have always been questionable and perceived differently by voters. Most existing E-Voting systems are based on centralized servers where the voters must trust the organizing authority for the integrity of the results. In this paper i propose a novel approach for a decentralized trustless voting platform that relies on Blockchain technology to solve the trust issues. The main features of this system include ensuring data integrity and transparency, and enforcing one vote per national identification number for every poll with ensured privacy. To accomplish this, the Ethereum Virtual Machine (EVM) is used as the Blockchain runtime environment, on which transparent, consistent and deterministic smart contracts will be deployed by organizers for each voting event to run the voting rules. Users are authenticated through their NID and Birth certificate serial number. Results showed that the system is feasible and may offer a step towards ideal environments for such experience.

Poster Outline – Poster Layout

- The content will be flow from up to bottom and left to right. And it will cover
- Problem statement
 - Solution
 - Vision & Mission
 - Service
 - Technology and Architecture
 - Cost Analysis

Problem Statement

Performing some field research, we can conclude some following problems

- Voters cannot provide vote to their desired candidate.
- Vote is not count properly
- Fake vote is massively conducted
- Cost of election is massive (corruption excluded)
- Lack of Safety for the voters
- Takes a long time to perform the whole procedure
- Vote damages.

Etc.

Solution

The solution is to make the system digitalized and secure. Both of the criteria could be provid by Etheureum. So our solution have a centralized database which contains voters data and other information and the voting transaction is handled by the ethereum blockchain.

Vision & Mission

"Keep Democracy Alive & Decentralized"

Our vision is to create a system that is very easy to use for every level of user and also decentralized.

Voting is first and the most important right of a citizen. Because of massive population and the cost is very high to arrange an election, so it is not possible for a government to arrange an election for every matter in a state. So, we cannot practice democracy in proper

way. So, our mission is

- Reducing the cost of election.
- Make the election so reliable that every aspect of citizen can participate.
- Keep voting practice available in every aspect of our daily life. No matter how little or big it is.

Services

Our service is to the end users are

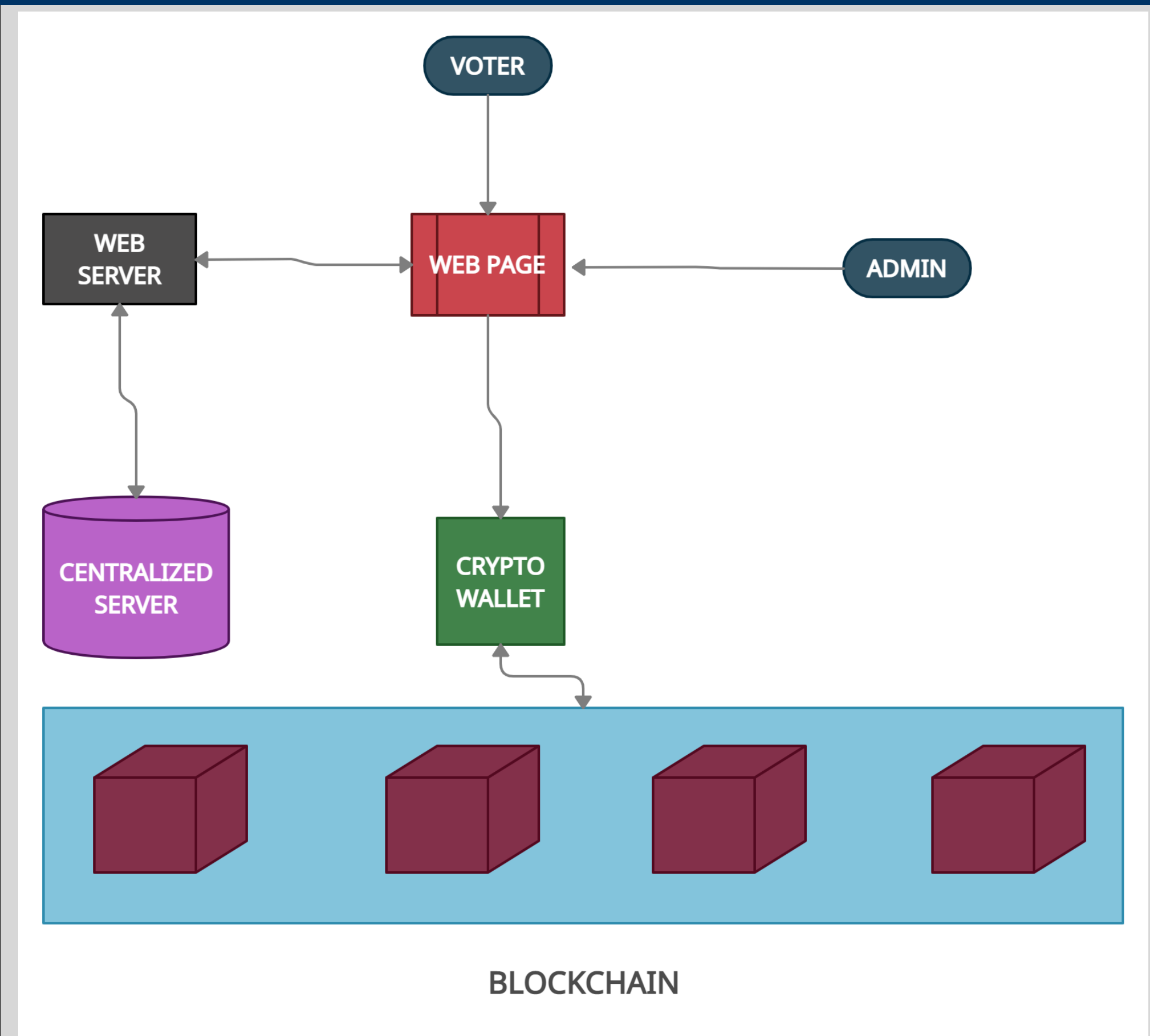
- Maintain anonymous/privacy
- Very easy interface
- Not very time consuming
- Live vote update
- Less technical problem
- Lightweight app
- Cross platform app

This are the basic services that every voter require.

Technology

- The tools that is used in this dapp are
- ☐ Front-End : HTML, CSS, JavaScript
 - ☐ Front-End Frameworks : Sublime, Bootstrap, jQuery
 - ☐ Back-End : JavaScript, PHP, Solidity
 - ☐ Back-End Frameworks : Node.js, Xampp, Remix, Express.js
 - ☐ Blockchain : Ethereum
 - ☐ Blockchain Interaction Frameworks : web3.js, metamax, ganache

Architecture



Cost Analysis

Fixed cost = (Gas Price * Number of voters) + (Gas Price of Deployment of Smart-contract)+ (Gas Price of Destroying the Smart-contract)

Variable cost depends on the following

- Salaries of Engineers for creating the architecture and product
- Salaries of Developers for maintenance of the whole system
- Web hosting price
- Gas price
- Server/cloud price

