



Repository

<https://github.com/Varlight/Blue>

Demo Video

<https://www.loom.com/share/f91e1a4719384edd9fe85a8804189014?sid=4ec0eb15-320c-48c4-8c69-5b4c42cce64>

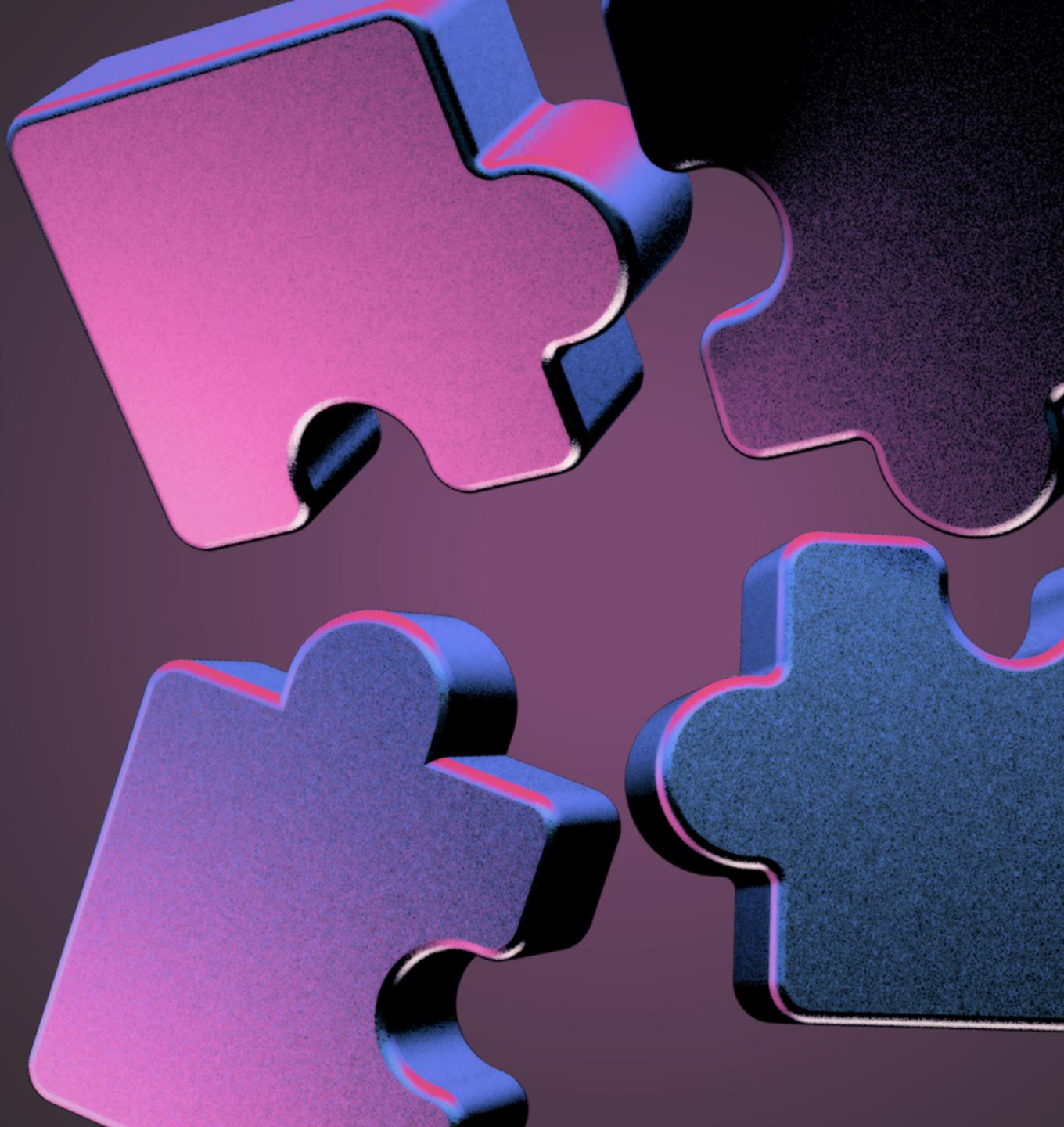


New Age Democracy:  
Transparent Blockchain-  
Powered Voting for All

# Blue VOTING



New Age Democracy:  
Transparent Blockchain-  
Powered Voting for All



# **Blue: Pioneering Digital Democracy through Blockchain Voting**

**SECURE**

**TRANSPARENT**

**INSTANTANEOUS**

**Blue for the  
future**

# Objective

To develop a secure, transparent, and efficient voting system using blockchain technology. This system should ensure voter anonymity, prevent electoral fraud and enable real-time vote tallying.

## Enhanced Security and Transparency

- Existing blockchain voting systems often face security vulnerabilities and concerns about transparency due to centralized components or potential points of manipulation
- This project addresses these issues by implementing a decentralized blockchain framework that records each vote as a tamper-proof transaction. The use of smart contracts automates the voting process, ensuring transparency and integrity while minimizing the risk of fraud or manipulation.

## Robust Voter Anonymity and Verification?

- Many existing blockchain voting systems struggle to balance voter anonymity with the need for verification and eligibility checks.
- This project incorporates mechanisms to verify voter eligibility without compromising anonymity, safeguarding the privacy of individual voters while maintaining the integrity of the electoral process.

## Real-Time Vote Tallying and Efficiency

- The voting system developed in this project enables instantaneous and transparent counting of votes as they are cast, ensuring the immediacy and credibility of election results. This real-time tallying enhances efficiency and instills confidence in the electoral process.

# Features

01

## Secure Voting Mechanism

Records each vote as a tamper-proof transaction on the blockchain.

02

## Voter Anonymity

Separates voter identity for confidentiality using zero-knowledge protocol

03

## Real-Time Vote Tallying

Provides immediate insights into voting trends and outcomes.

04

## Smart Contracts for Automation

Automates vote casting, counting, and rule enforcement.

05

## User-Friendly Interface

Offers a sleek and intuitive interface for all voters.

06

## Fraud Prevention Mechanisms

Verifies identities and prevents double voting.

07

## Scalability and Customization

Scales seamlessly and offers customizable features.

08

## Robust Security Measures

Utilizes advanced cryptography to secure voter data.

# Blue

Privacy is ensured  
Cannot be traced back



Private



Secure

Tamper-Proof  
Continuous Monitoring

## BLOCKCHAIN VOTING

Time Saving  
Cost Efficient  
Less Resource intensive  
Live Counting and results



Convinient



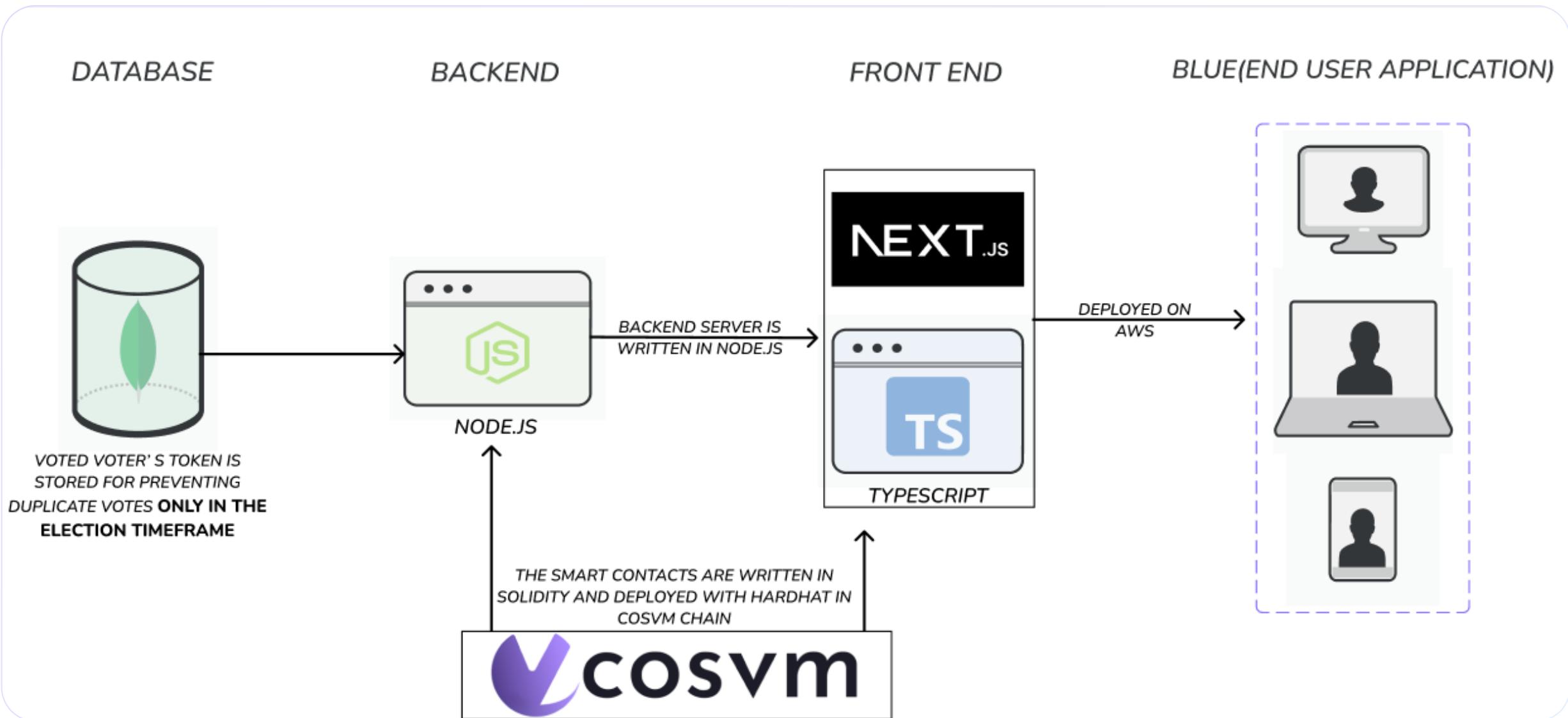
Scalable

Can be implemented for large electoral processes

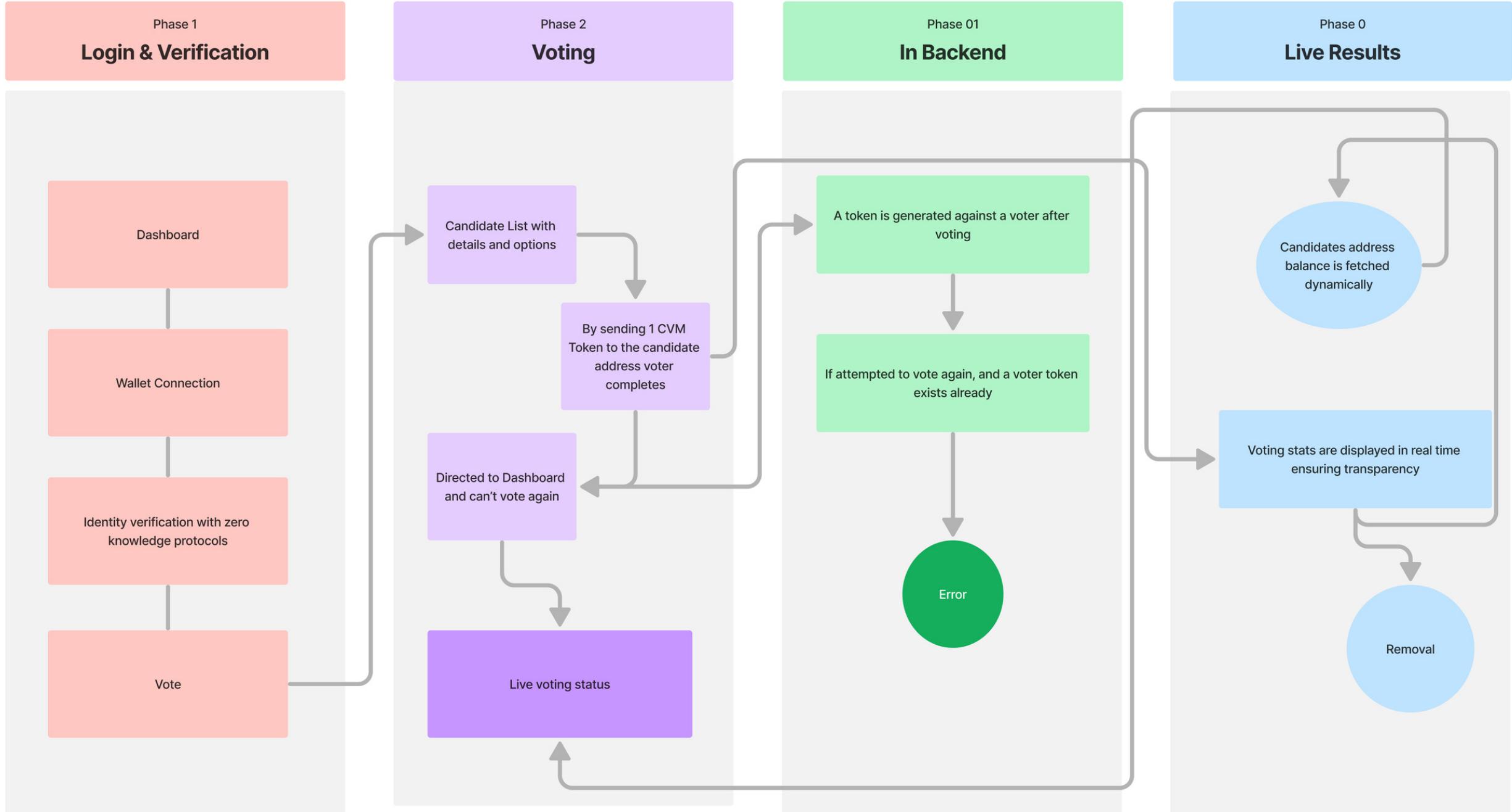
Powered by **CosVM**



# SYSTEM ARCHITECTURE



# User Workflow





## Encryption

Blue leverages advanced encryption techniques to secure sensitive data and ensure the confidentiality of voter information.

## Authentication

Robust authentication mechanisms are in place to verify user identities and safeguard against unauthorized access, enhancing the integrity and trustworthiness of the voting process.

## Tamper Detection

We prioritize the detection of tampering attempts within our system, employing sophisticated mechanisms to identify and respond to potential security breaches, thus reinforcing the reliability and transparency of the voting experience.

# Blue User Interface



## Intuitive Design

Our voting app boasts an intuitive user interface, making it easy for voters to navigate and cast their votes without confusion or complexity.

## Accessibility Features

The voting app incorporates accessibility features, including screen reader compatibility, high contrast options, and keyboard navigation, to ensure that voters of all abilities can participate in the democratic process with ease.

## Interactive Elements

Through interactive elements such as clear voting options, progress indicators, and feedback prompts, our app engages voters and guides them through the voting process, enhancing their overall experience and confidence in the system.

# User Interface

← → ⌂

localhost:3001/?layout=Minimal

★ ⌂ ⌂ ⌂

Blue HOME VOTE EXPLORE CANDIDATES CANDIDATE DETAILS

SEARCH VOTE

LP Liberty Party

25983 Total Votes

11,032 Votes ↑ +12.5%

CN Innovation Party

17345 Total Votes

1,032 Votes ↓ -1.5%

LIBERTY PARTY

25983 Votes ↓ 25000 (2.22%)

WEEK MONTH YEAR

June 20, 2021 05:30AM

+74.8%

Compare to the previous elections, Liberty Party secured an additional 5,400 votes.

VOTE FOR 2024

COSVM USER

TOP PARTIES

Parties Number Of Votes

# User Interface - Accessibility

localhost:3001/?layout=Minimal

Blue

HOME VOTE EXPLORE CANDIDATES CANDIDATE DETAILS

LIBERTY PARTY

25983 Total Votes  
11,032 Votes ↑ +12.5%

INNOVATION PARTY

17345 Total Votes  
1,032 Votes ↓ -1.5%

COSVM USER

SETTINGS

Mode

Light Dark

Layout

Modern Minimal

Retro Classic

Direction

LTR RTL

Color

WEEK MONTH YEAR

June 7, 2021 05:30AM

TOP

The screenshot displays a political election dashboard with the following data:

- Liberty Party:** 25983 Total Votes, 11,032 Votes (↑ +12.5%)
- Innovation Party:** 17345 Total Votes, 1,032 Votes (↓ -1.5%)

The dashboard features a chart showing a green line graph over a dark background, and a bar chart below it. A sidebar on the right contains settings for Mode (Light or Dark), Layout (Modern, Minimal, Retro, Classic), Direction (LTR or RTL), and Color. The layout tab is currently selected.

# User Interface - Voting

The screenshot shows a dark-themed web application interface for a voting proposal titled "Blue".

At the top, the URL bar shows `localhost:3001/proposals?layout=Minimal`. The top right corner includes a search icon, a refresh icon, a shield icon, and a "VPN" button.

The navigation bar at the top has links for "HOME", "VOTE", "EXPLORE CANDIDATES", "CANDIDATE DETAILS", a search icon, and a "CONNECT" button.

A prominent message box in the center says "YOU HAVE 1 VOTE" with a ballot box icon, followed by the text "You need COSVM tokens to participate in governance."

Below this, a section titled "ACTIVE 4" lists four candidates:

- Rachel Wu** (Candidate Of Labour Party)  
A "Vote Now" button is visible.  
Voting ends in: 01 Days, 23 Hours, 59 Minutes, 26 Seconds.
- George Bush** (Candidate Of Liberty Party)  
Buttons for "Vote" and "Reject".  
Voting ends in: 01 Days, 23 Hours, 59 Minutes, 36 Seconds.

Each candidate card includes a "DESCRIPTION" and "VISION AND GOALS" section.

The bottom of the page contains a summary of George Bush's vision and goals.

# User Interface - Voting

The screenshot shows a web browser window with a dark theme. The address bar displays "localhost:3001/proposals?layout=Minimal". The main content area is titled "Blue" and contains a navigation bar with "HOME", "VOTE", "EXPLORE CANDIDATES", and "CANDIDATE DETAILS". A large button on the left says "YOU HAVE 1 VOTE" with a ballot box icon, and a message below it states "You need COSVM tokens to participate in governance." Below this, a section titled "ACTIVE 4" lists a candidate named "Rachel Wu" from the "Candidate Of Labour Party". Two buttons are visible: "Vote" (green) and "Reject" (red). To the right, a timer shows "VOTING ENDS IN 01 23 59 Days Hours Minu". The right side of the screen is overlaid by a "MetaMask" extension window. The extension title is "Extension: (MetaMask) - MetaMask...". It shows a transaction in progress: "SENDING CVM" with a value of "0". A warning message says "You are sending 0 CVM.". Below this, it shows "Gas (estimated)" at "0.00003181 CVM" and "Likely in < 30 seconds" with a "Max fee: 0.00003181 CVM". At the bottom of the extension window are "Reject" and "Confirm" buttons.

YOU HAVE 1 VOTE

You need COSVM tokens to participate in governance.

ACTIVE 4

Rachel Wu

Candidate Of Labour Party

Vote Reject

DESCRIPTION

VISION AND GOALS

Rachel Wu's vision and goals are focused on fostering inclusive communities, promoting sustainable development, and ensuring social equity. She aims to create environments where diversity is embraced, and all individuals have equal access to opportunities for growth and contribution. Rachel's efforts to address systemic inequalities are reflected in her grassroots initiatives and advocacy work, which prioritize amplifying the voices of marginalized groups and addressing societal disparities. She emphasizes transparency, accountability, and inclusive decision-making in governance, striving to engage constituents in the policy-making process to better reflect their needs and aspirations. Rachel's overarching goal is to promote economic growth while prioritizing environmental sustainability, aiming to ensure a legacy of prosperity for future generations. Through collaboration and innovation, she seeks to

VOTING ENDS IN  
01 23 59  
Days Hours Minu

Extension: (MetaMask) - MetaMask...  
1 of 2 requests waiting to be acknowledged

< Edit ? CosVM Network

COSVM → 0x5FbDB...80...

SENDING CVM

c 0

DETAILS HEX

⚠️ You are sending 0 CVM.

Market >

Gas (estimated) ⓘ 0.00003181 CVM  
Likely in < 30 seconds Max fee: 0.00003181 CVM

Total 0.00003181 CVM  
Amount + gas fee Max amount: 0.00003181 CVM

Reject Confirm

# User Interface - Candidate Details

Blue

HOME VOTE EXPLORE CANDIDATES CANDIDATE DETAILS



VOTE



## Rachel Wu

Joined on Jan 26, 1988

### BELONGS TO



Labour Party

### DETAILS

### DESCRIPTION

The Labour Alliance Party is a progressive political movement dedicated to championing the rights and welfare of the working class, fostering social justice, and promoting economic prosperity for all. Grounded in the principles of solidarity, equality, and opportunity, our party seeks to create a society where every individual can thrive and contribute to the common good.

### LEADER



@Rachel

Vote For 2024

# Blue Real Statistics



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# User Interface - Real Time Stats

localhost:3001/?layout=Minimal

Blue

HOME VOTE EXPLORE CANDIDATES CANDIDATE DETAILS

VOTE

LIBERTY PARTY

25983 Votes ↓ 25000 (3.94%)

WEEK MONTH YEAR

June 4, 2021 05:30AM

+74.8%

Compare to the previous elections, Liberty Party secured an additional 5,400 votes.

COSVM USER

Vote For 2024

TOP PARTIES

Parties	Number Of Votes
LP Liberty Party	1200
PC Progressive Coalition	950
UA Unity Alliance	800

2014 2015 2016 2017 2018 2019 2020 2021 2022