PROJECT WORK

“INTERNET VOTING USING BLOCKCHAIN”

BSc(H) Computer Science

VI Semester

Submitted to:

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CERTIFICATE

This is to certify that Hitesh Harsh, Ujjawal Kumar, Avinash Gautam and Adarsh Kumar, the students of B.Sc. (H.) Computer Science, Ramanujan College, Delhi University, with Roll No. 20016570007, 20020570038, 20020570009, 20020570002 respectively have made the project titled "**Internet Voting Using Blockchain**" in their individual capacities under my supervision for the fulfillment of VI Semester practical examination.

(Dr. Nikhil Kumar Rajput)

ACKNOWLEDGEMENT

We extend our profound gratitude to our project guide Mr. Nikhil Kumar Rajput, for his interest, guidance and suggestions throughout the course of the project. We feel honored and privileged to work under him. He shared his vast pool of knowledge with us that helped us steer through all the difficulties with ease. This project would not have been possible without his guidance, and we would like to thank him for everything he has done for us.

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Preliminary Analysis:

Abstract:

E-voting refers to the process of casting and counting votes electronically, typically through the use of computers and the internet. This method of voting offers numerous benefits over traditional paper-based systems, such as increased accessibility, speed, accuracy, and cost-effectiveness. However, it also introduces new challenges, such as security risks and the potential for manipulation and fraud. Despite these concerns, e-voting is becoming increasingly popular and has been implemented in several countries around the world. Research continues to be conducted in order to further improve the technology and ensure its reliability and security.

Introduction:

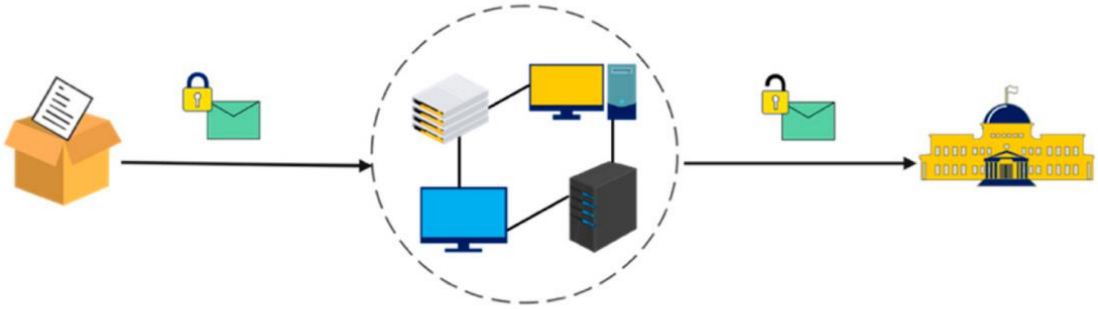
E-voting, or electronic voting, is a rapidly evolving concept that seeks to modernize the way people cast and count their votes. This technology allows voters to participate in elections electronically, typically through the use of computers and the internet. The use of e-voting has been on the rise in recent years as countries look for ways to improve the voting process, increase accessibility, and reduce the costs associated with traditional paper-based systems. While e-voting offers many benefits, it also raises concerns about security and the potential for manipulation and fraud. Despite these challenges, e-voting is being adopted by many countries as a way to streamline the voting process and enhance the democratic experience for citizens. This introduction provides an overview of the concept of e-voting and its benefits and challenges.

Blockchain-based voting machines are a novel technology that can offer a secure and transparent way for voters to cast their votes. This documentation will provide an overview of how a blockchain-based voting machine platform works, including its architecture, features, and benefits.

Traditional vs Blockchain Voting System

Let's first explore how traditional voting systems work to understand the benefits of using a blockchain voting system. Typically, elections generate large queues within the final few hours of voting. Further, this can make it difficult for disabled people to reach voting booths. Plus, many parents or shift workers may struggle to physically find a convenient time to visit a voting station.

Traditional Voting System



Blockchain Voting System

In addition, traditional voting polls involve a lot of paperwork. As a result, electoral voting periods can be highly time-consuming and not so eco-friendly. This

significantly increases overhead costs (such as labor, materials, time, etc.) and expenditure during events. Electronic voting machines were initially introduced as a solution. However, they are covert, centralized, and vulnerable to a single point of failure. Electronic voting machines are physical circuitry devices with a microchip. If someone were to tamper with the microchip, it could destroy all available data and votes. Also, voting results stored on a centralized server are susceptible to security breaches, including result tampering or data leaks.

The solution to all aforementioned challenges is to incorporate a blockchain voting system. The core design features of blockchain are perfectly apt for secure voting needs. To learn more about the technicality of blockchain on a deeper level, check out our Blockchain & Bitcoin Fundamentals course. Or expand your knowledge by reading our blog articles at Moralis Academy and Moralis, full of valuable tips and educational topics on leading blockchain projects. For example, save our “Solana vs Ethereum” or our “Rust & Solana” articles for later! No matter your experience, Moralis Academy is the best way to start your education with all things blockchain and Web3!

Detailed Analysis:

Transparency:

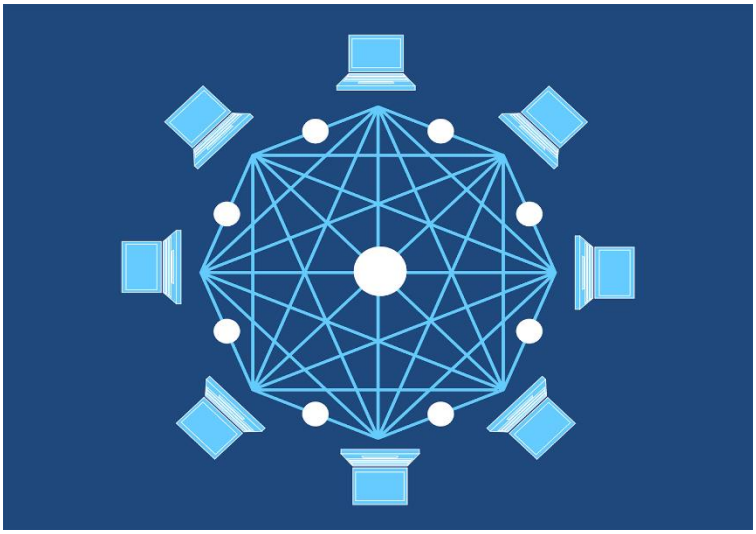
Unlike a traditional voting system with covert operations between many parties, a blockchain voting system is fully transparent. By incorporating cryptographic security and anonymity, a blockchain voting system can publicly display the number of participants an election received. In other governance-based proceedings, a blockchain voting system could create an alert when all relevant participants have voted.

Another benefit is that the resulting votes are entirely traceable and transparent. However, the type of vote an individual wallet makes can remain private and unknown. Any investigators would see a transaction ID confirming that a wallet completed a vote rather than being able to view what the user had voted. In addition, using a blockchain voting system means that results will immediately be released to the public. Conversely, legacy voting infrastructure often leaks results to exclusive parties before a mass media announcement. As such, a blockchain voting system could reduce the risk of manipulative behavior surrounding result tampering.

How Blockchain Voting Works

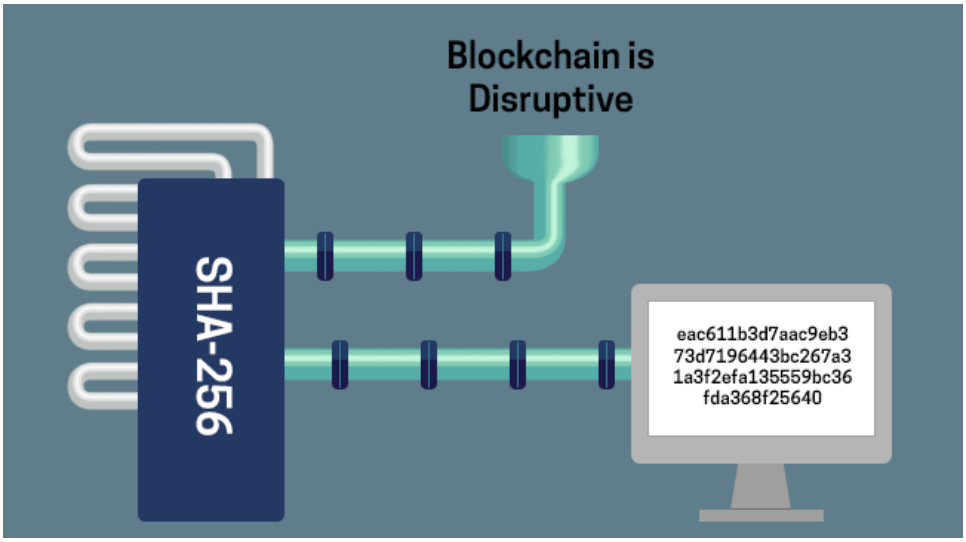
According to Washington, D.C. think tank Brookings Institution, blockchain voting, or decentralized voting, has the potential to solve several problems like combating voter fraud and ensuring every vote is counted. This would be thanks in part to the nature of blockchain technology and how it stores and transmits information.

Blockchain works to be inherently secure and ensure original information is unchangeable, providing a single-source-of-truth and acting as a tracking method for any data recorded. When applied to voting, this could mean the opportunity for unaltered votes, voting transparency, increased online accessibility and more organized voting operations.



Concept of Immutability:

A notorious feature of blockchain is its immutability of transactions. Any attempt to adjust data or movement assets across a network, successful or not, will hold an immutable record on the blockchain. Ergo, a blockchain voting system is a highly favorable alternative to pen or pencil on paper. Plus, blockchain is currently far more secure than any other database system. In the scenario of an electronic voting machine microchip being tampered with, there would be no provable way to see if a vote had taken place. On the other hand, a vote on a blockchain would remain forever – even if the device used to cast a vote is destroyed.



Legacy online voting systems using traditional database systems (i.e., PHP, SQL, etc.) are susceptible to tampering with results. Anyone could hack into the system, update, remove, or insert votes. Contrarily, once data entering the blockchain is validated, it becomes immutable as it goes through several cryptographic hashing processes, intertwining small pieces of data. In short, it would take tremendous money and energy to exploit a blockchain entry. If an attacker successfully exploits a network, there are minimal adjustments one could make. Plus, it would be publicly transparent for the network to see before tracing and tracking the actor down using block explorers.

Project Modelling:

Architecture:

The blockchain-based voting machine platform consists of three main components:

1. Voter Interface
2. Blockchain Network
3. Backend Server

Voter Interface: The voter interface is the front-end component of the platform, which is used by the voters to cast their votes. The interface can be accessed through a web application. The interface will ask the voter to give their unique key to cast their vote so it can't be repeated. Once a unique key is authenticated, the voter will be able to cast their vote securely and anonymously.

Blockchain Network: The blockchain network is the backbone of the platform, which is used to record the votes securely. The blockchain is a distributed ledger that records the votes in a tamper-proof manner. The blockchain network is decentralized, which means that it

is not controlled by a single entity, making it resistant to hacking and manipulation.

Backend Server: The backend server is responsible for managing the overall system and ensuring that it runs smoothly. The backend server includes an interface that allows the creator of the ballot to manage the election process, including creating ballots, registering voters, adding candidates, and monitoring the voting process.

Features:

The blockchain-based voting machine platform has several features that make it unique and secure. Some of the key features include:

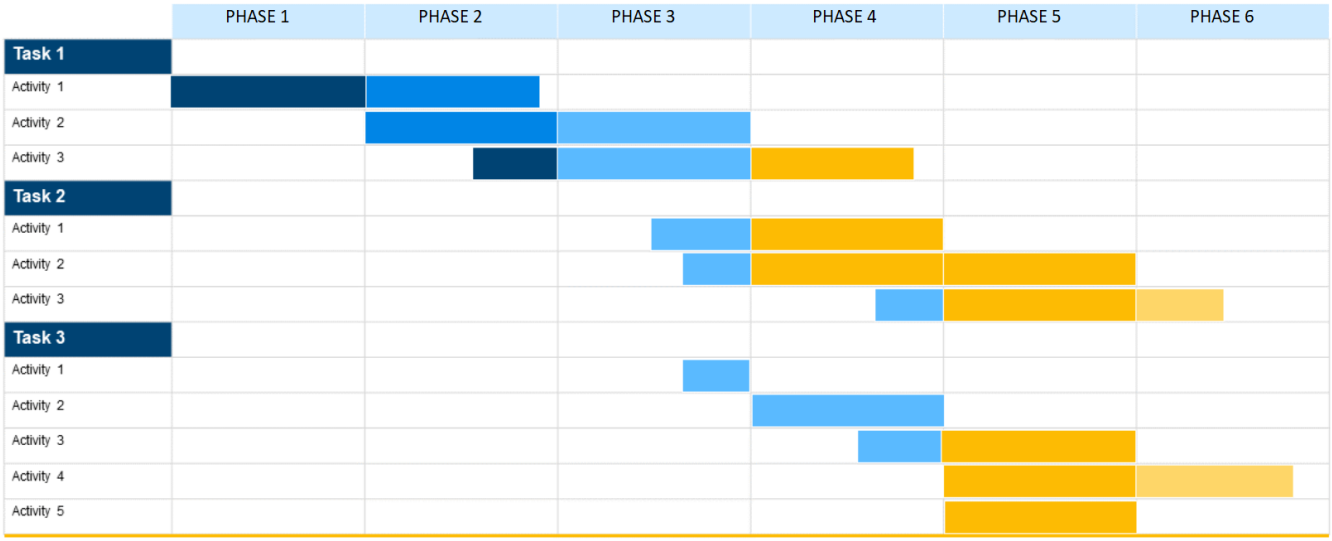
Tamper-proof: The blockchain network records all the votes in a tamper-proof manner, which means that it is impossible to alter or manipulate the votes once they are recorded.

Anonymity: The platform ensures that the voters remain anonymous while casting their votes, which is important to maintain the integrity of the voting process.

Security: The platform uses advanced encryption techniques to ensure that the votes are secure and protected from hackers and other malicious actors.

Accessibility: The platform can be accessed through a web application or a mobile app, which makes it accessible to a wide range of voters.

GANTT CHART



<u>Task 1:</u> Understanding of Requirements & Technologies

Activity 1: Blockchain Understanding

Activity 2: Solidity & Smart Contracts

Activity 3: Truffle Framework, Ganache, React & Web3js

<u>Task 2:</u> Creation of UI & Contracts

Activity 1: Smart Contract Local Deployment using Truffle & Ganache

Activity 2: UI Creation using ReactJS (Frontend)

Activity 3: Backend Creation using web3js & MetaMask

& contract connection & functionality.

<u>Task 3:</u> Testing, Upgradation & Deployment

Activity 1: Smart Contract Testing using Solidity

Activity 2: Smart Contract Testing using Truffle

Activity 3: Interface & Contract Functionality Testing

Activity 4: Frontend & Backend Maintenance & upgradation

Activity 5: Deployment Testing on Local Environment
& Testnet like Goerli / Sepolia

BASIC REQUIREMENTS:

Hardware Requirement:

- Computer (preferred i3 or above CPU)
- Internet connection
- Memory

Software Requirement:

- MetaMask
- Ganache
- Truffle
- VS code

VS Code, short for Visual Studio Code, is a lightweight, open-source code editor that is widely used in software development. It has several features that make it particularly useful for blockchain development, including code highlighting, debugging, and integrated terminal support.

Ganache is a personal blockchain for Ethereum development, which allows developers to test and deploy smart contracts locally. It provides a user interface for

managing accounts and transactions and can be used to test various scenarios and edge cases.

Truffle is a popular development framework for Ethereum-based smart contracts, which includes a suite of tools for building, testing, and deploying smart contracts. It provides a number of pre-built contracts and libraries, as well as support for popular testing frameworks such as Mocha and Chai.

MetaMask is a browser extension and wallet that allows users to interact with the Ethereum blockchain and decentralized applications (dApps). It provides a simple and secure way for users to manage their Ethereum accounts, including sending and receiving Ether and interacting with smart contracts.

Application:

It is a good platform to get consensus quickly on any subject or matter. Just create a ballot, select people and start voting.

Working:

In this project our motive is to conduct a voting system on blockchain where any person can host a voting process with the intended persons.

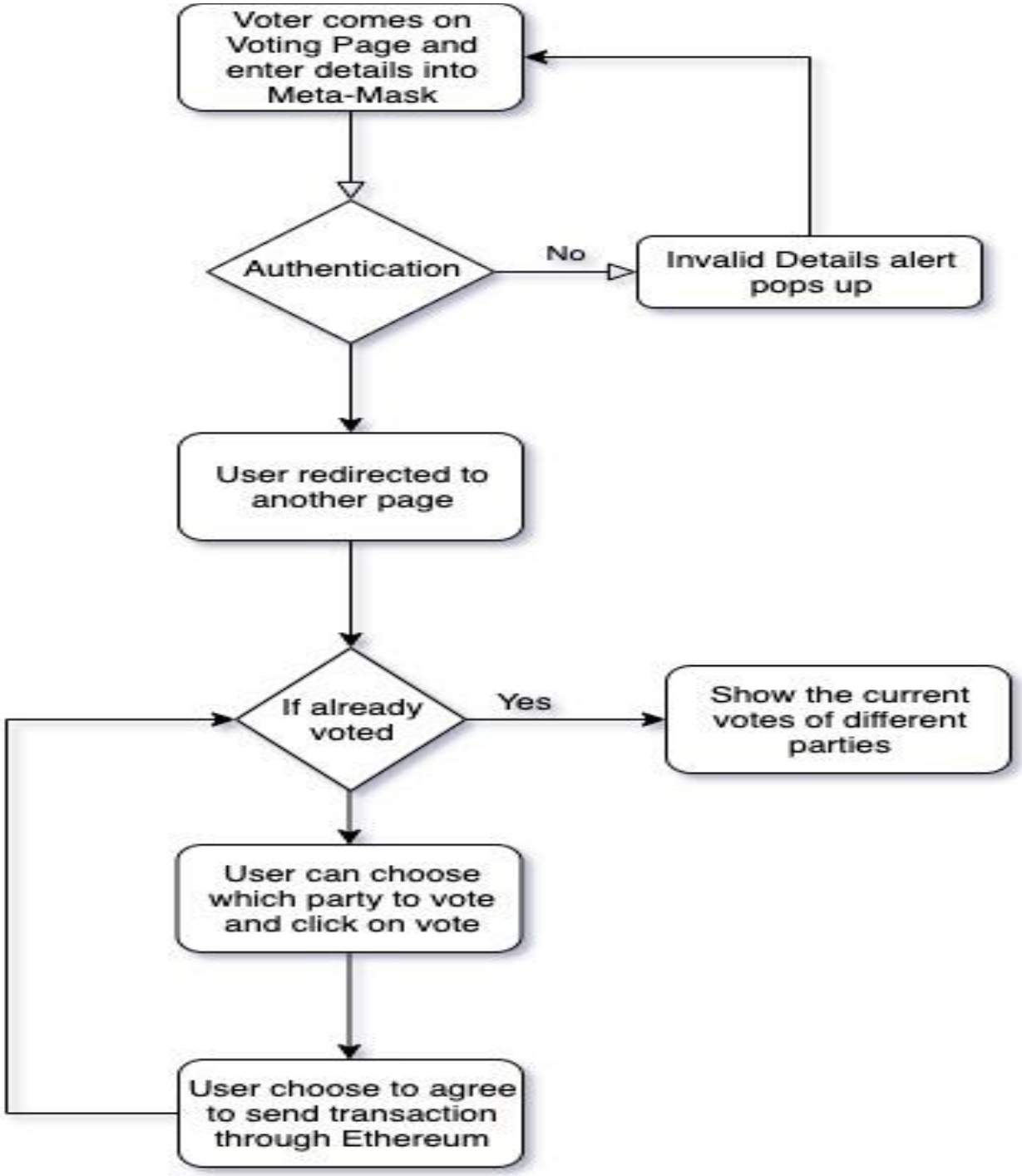
Here we need all blockchain wallet addresses of voters to register them in the voting process via the host then voters can vote through the host link after the host starts the process.

The voter can log on to the voting website, then he must log in with the Chrome Extension of MetaMask to connect with the local blockchain. Once the user is connected, the page is refreshed, and the user can see the current ballot. Below that is the option to get the ballot information & select the candidate to vote, the voter selects the candidate, a MetaMask pop-up comes up which tells the Ethereum transaction that must be made, once the user clicks on Vote, the vote is given to the selected candidate provided that the voter hasn't voted before. If the user has already voted and attempts to vote again, an alert will occur, and vote will not be accounted.

A local blockchain is deployed using Ganache and MetaMask is set up to connect with it. Truffle framework

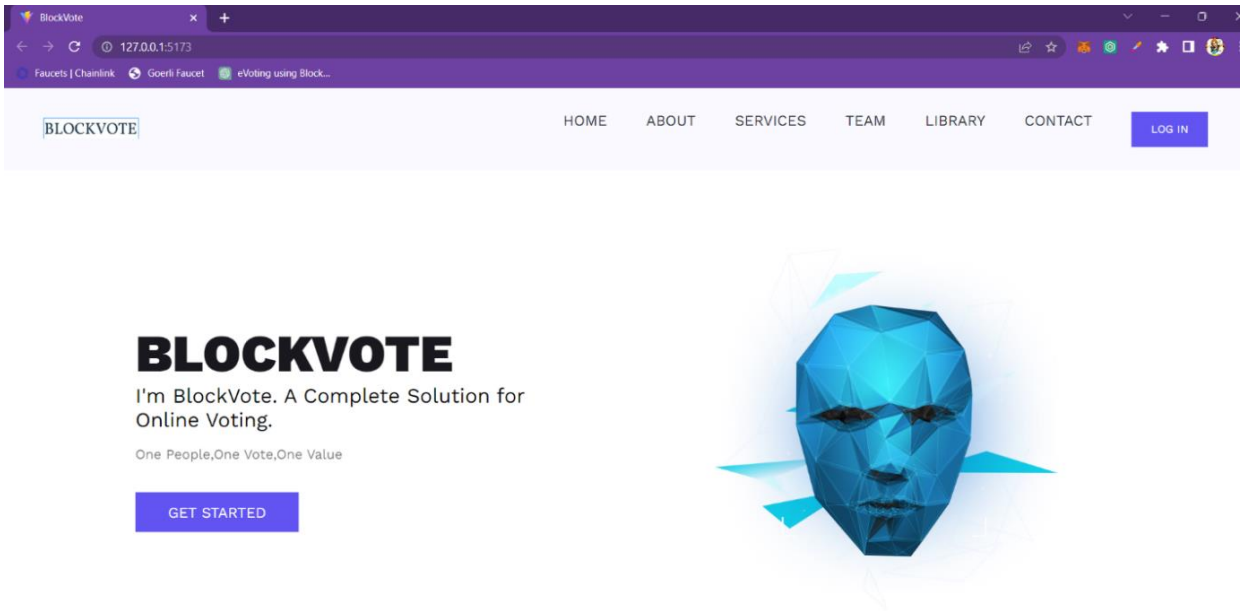
allows to migrate the smart contracts created on solidity to the local blockchain. When the user clicks to vote, MetaMask allows to move Ether from one account to another. Every user is given a unique ID that is Ethereum Address, and a private key and exact amount of Ether is distributed to all the voters' accounts. Once the user votes, the Ether is transferred from the voter's account to the ballot's account, and all the transactions goes through the blocks, all the transactions will be visible to everyone once we launch the project. This will give voters complete transparency. Mining is performed by all the other nodes but here, we have given Ganache the power to auto-mine on behalf of other nodes.

The flowchart below explains the voter side of the process.

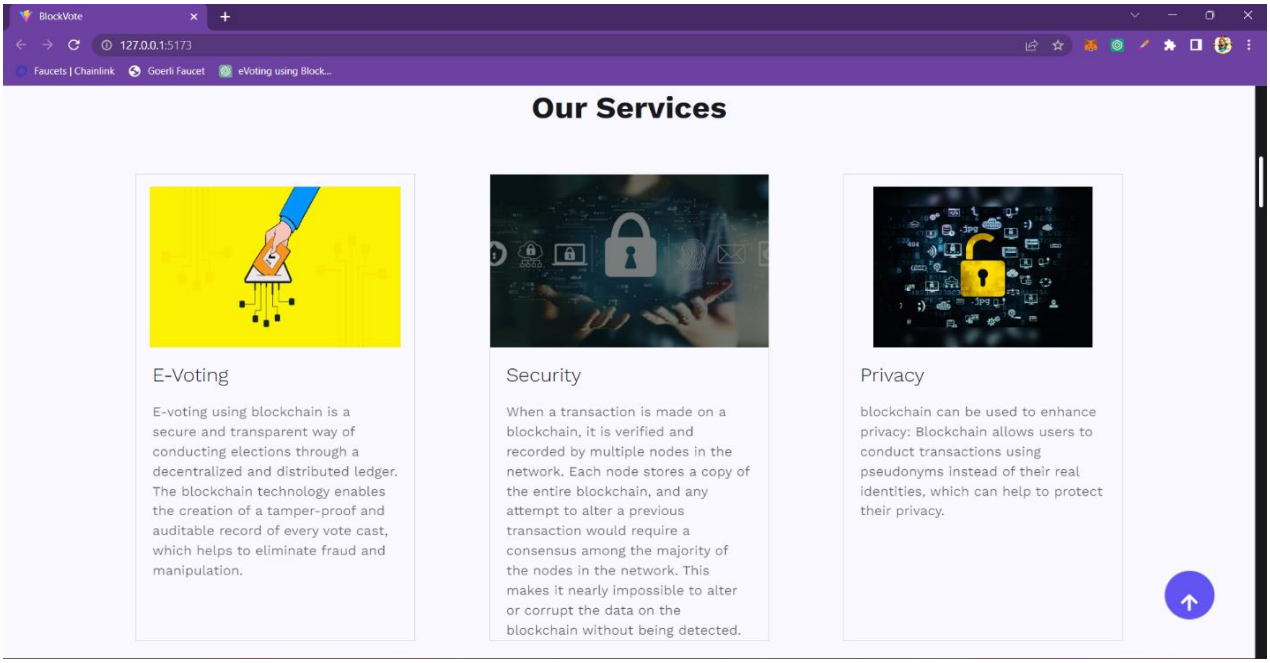


DEMO RUN OF THE PROJECT

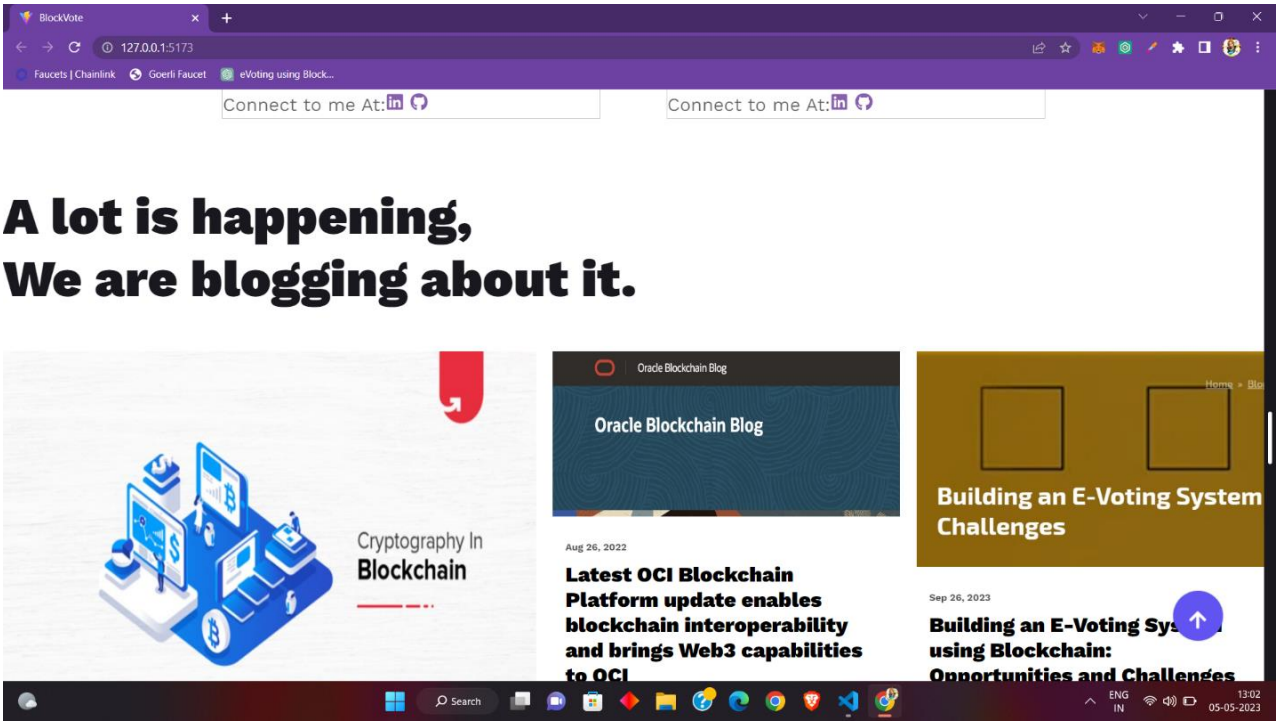
Homepage



Services



Blogs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Connect to me At:
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A lot is happening,
We are blogging about it.
Cryptography In Blockchain
Oracle Blockchain Blog
Oracle Blockchain Blog
Aug 26, 2022
Latest OCI Blockchain Platform update enables blockchain interoperability and brings Web3 capabilities to OCI
Building an E-Voting System Challenges
Sep 26, 2023
Building an E-Voting Sys using Blockchain: Opportunities and Challenges
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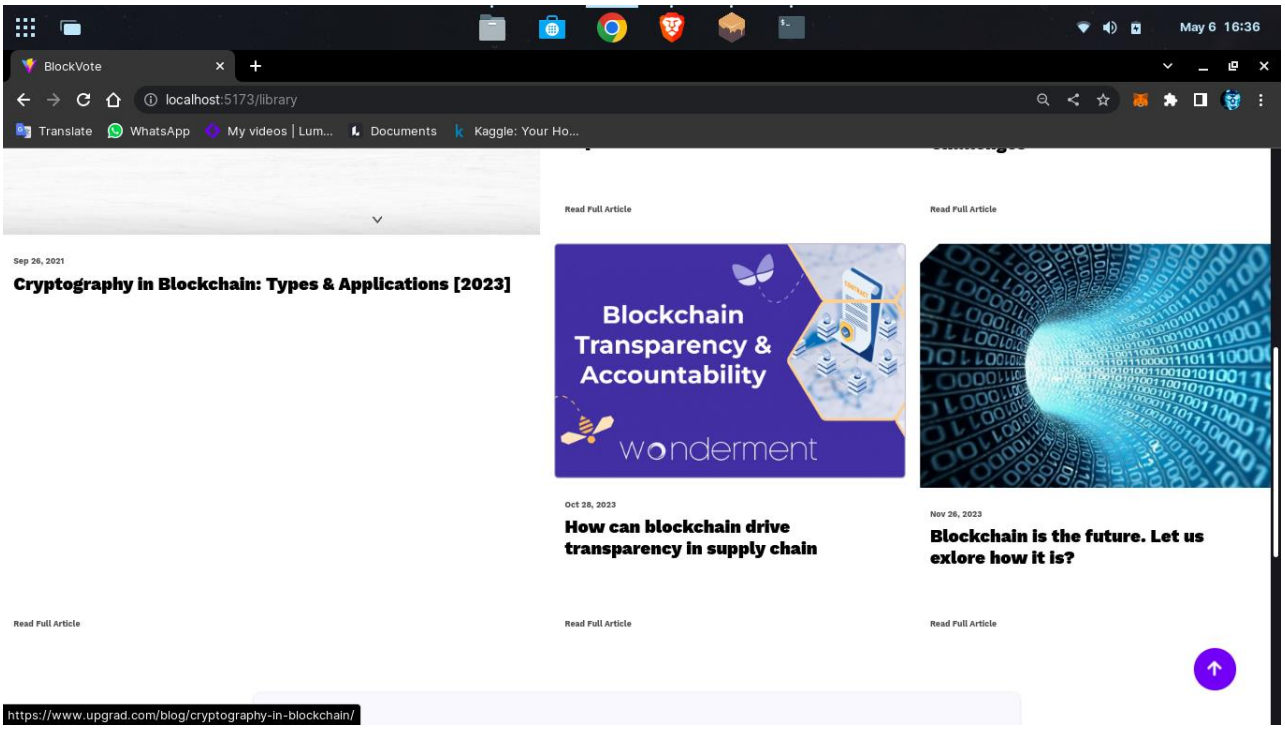
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BlockVote
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Documents
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Cryptography in Blockchain: Types & Applications [2023]
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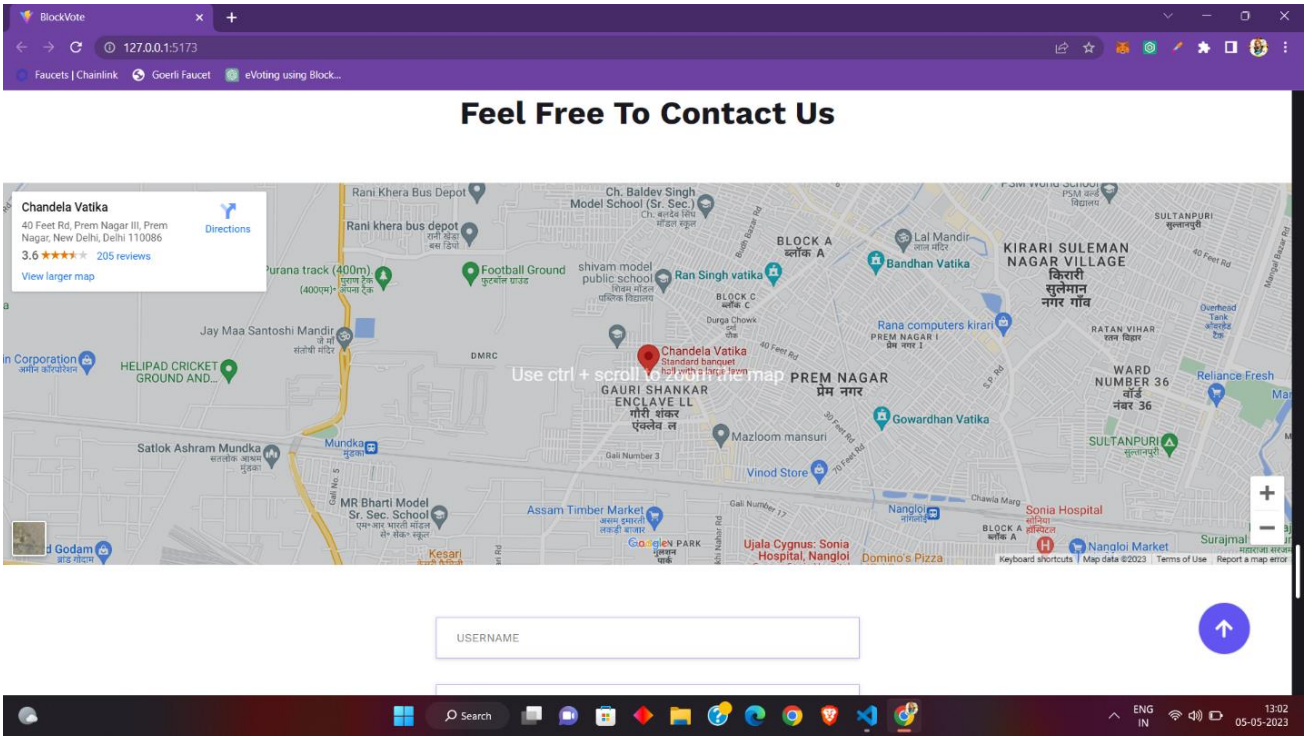
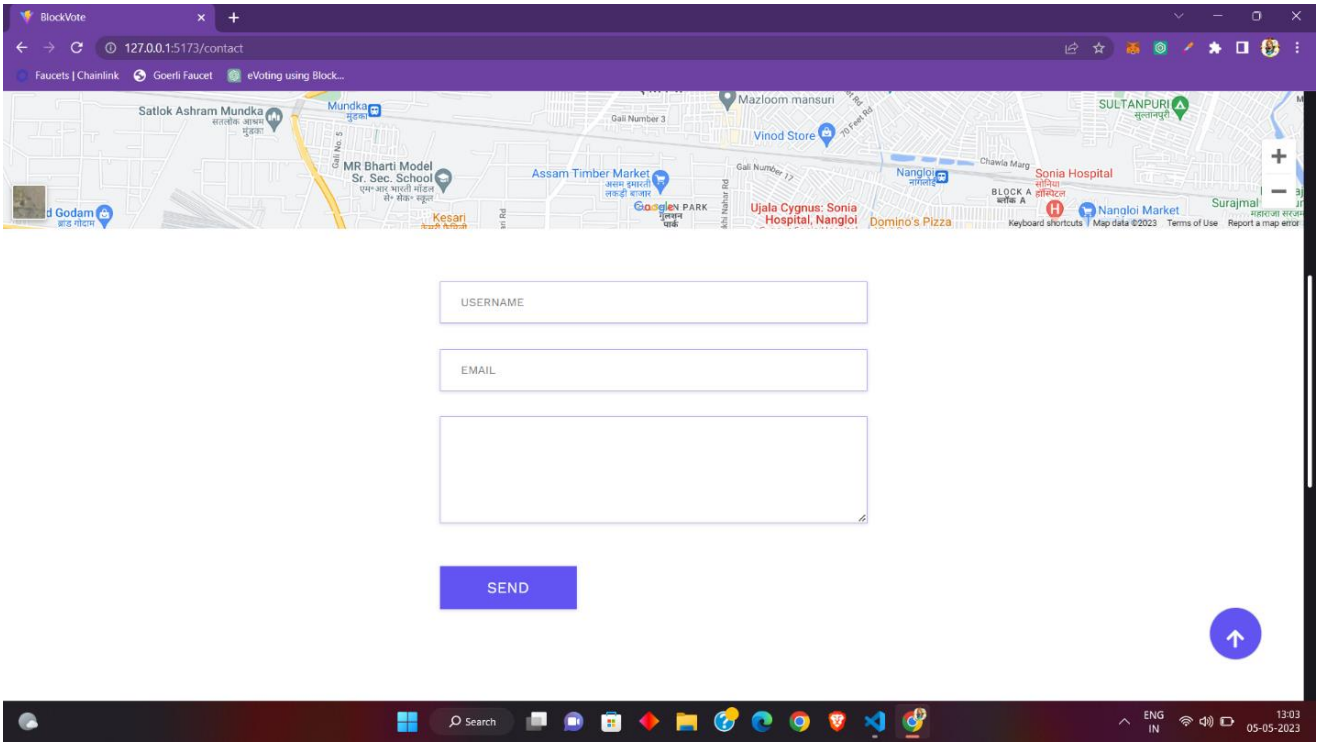
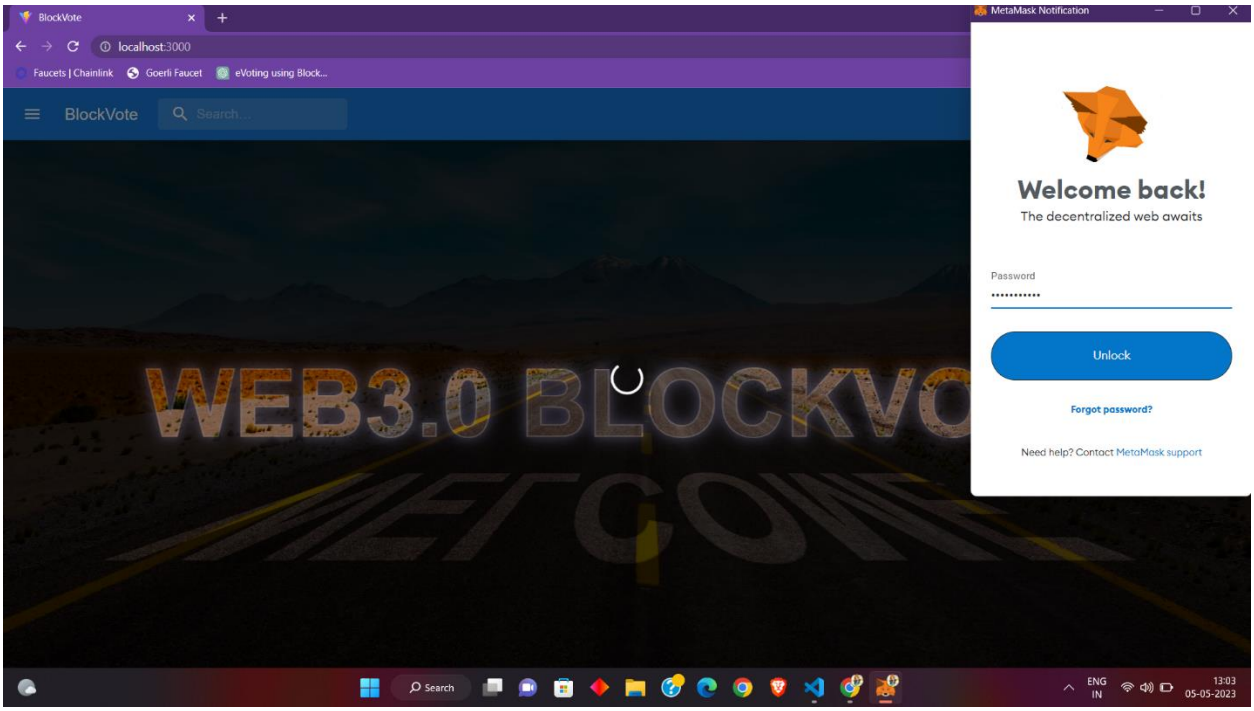
Contact Page



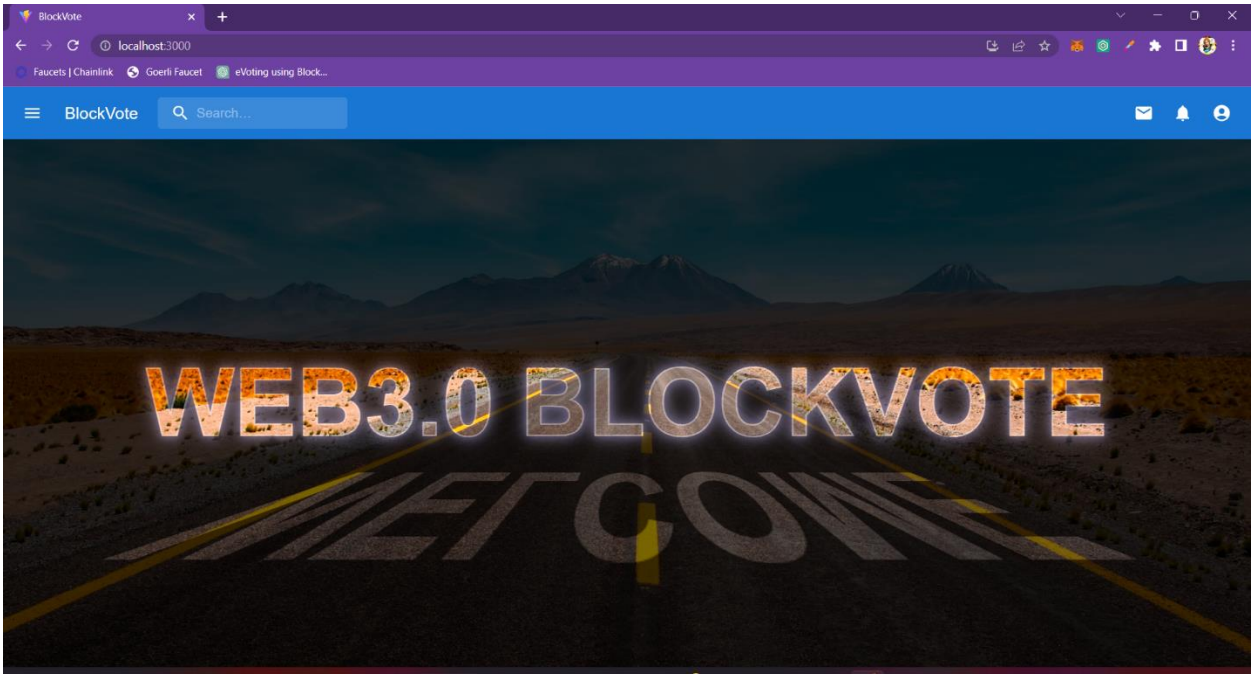


Login Page

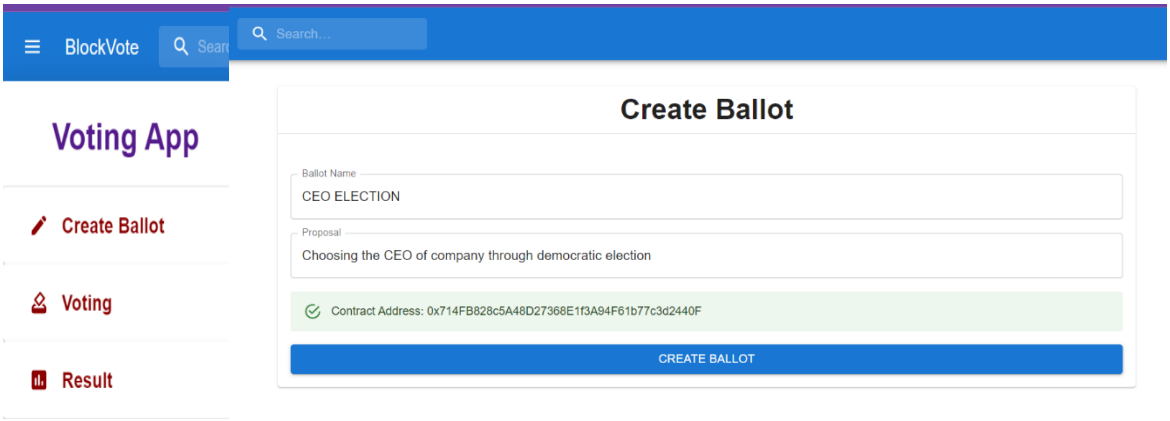
Meta mask login dialog box appear when click on login button



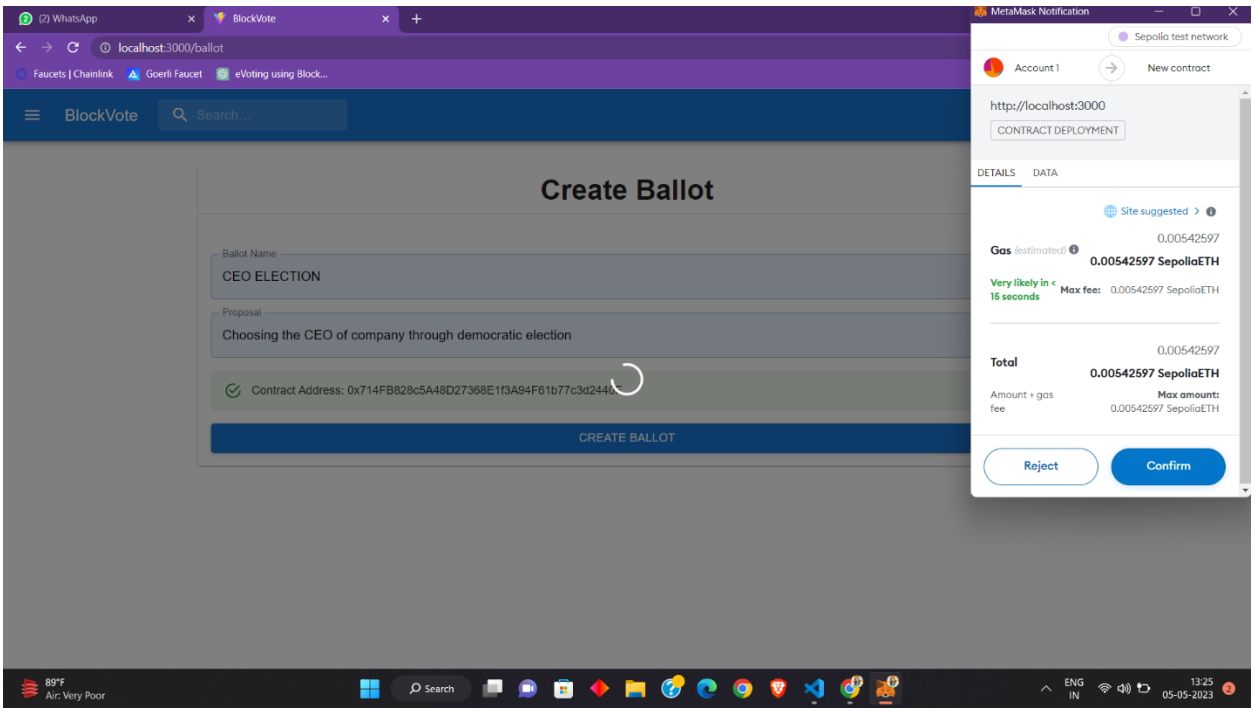
Login Successful



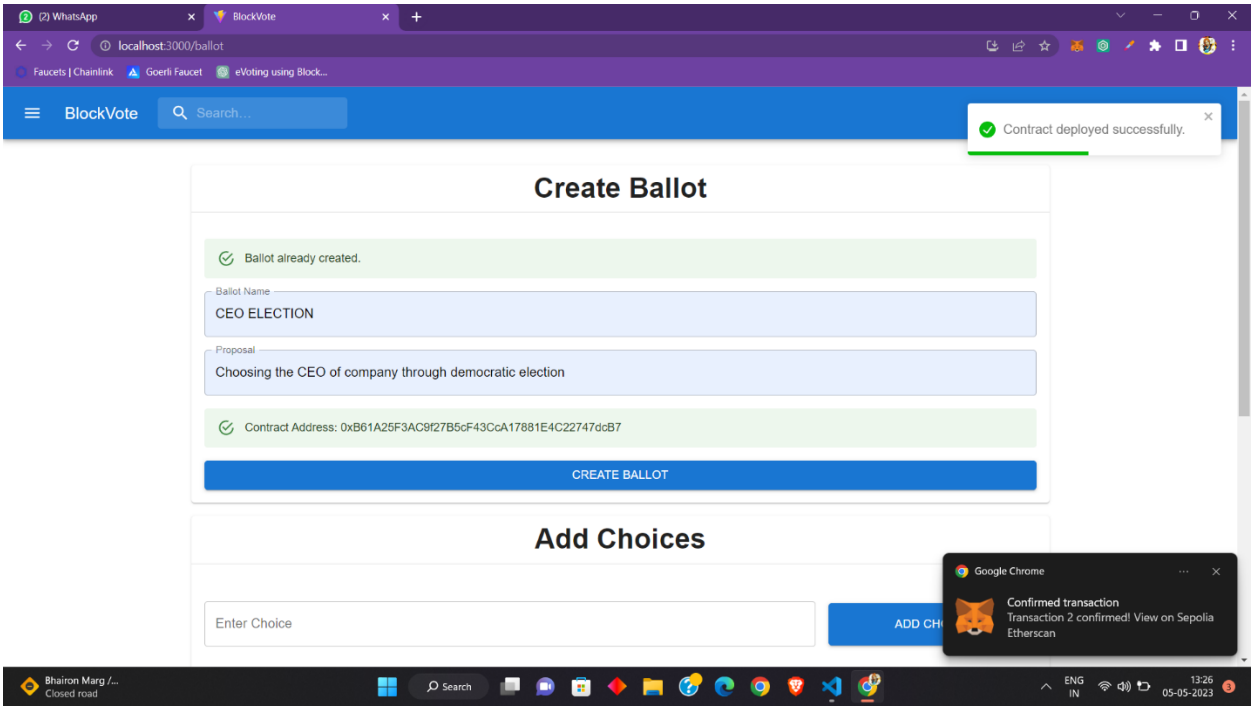
Create Ballot for voting Process



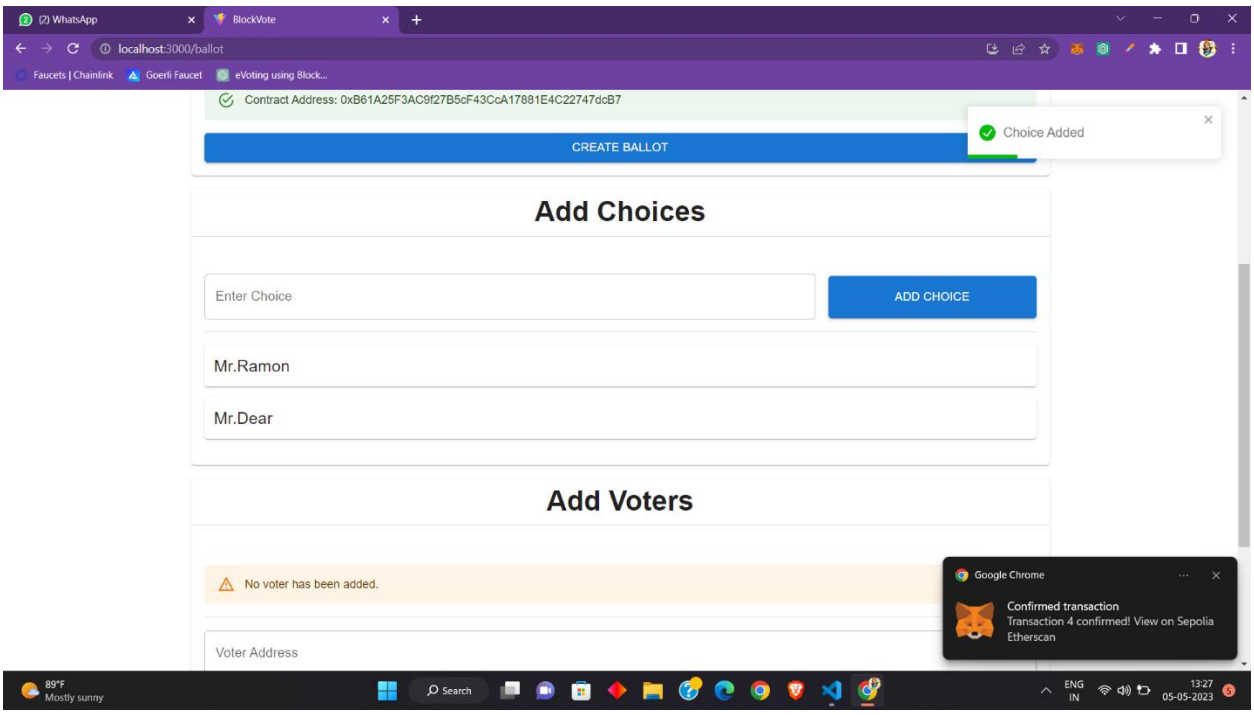
When Pressed Create Ballot Meta mask dialog box appear to confirm the transaction



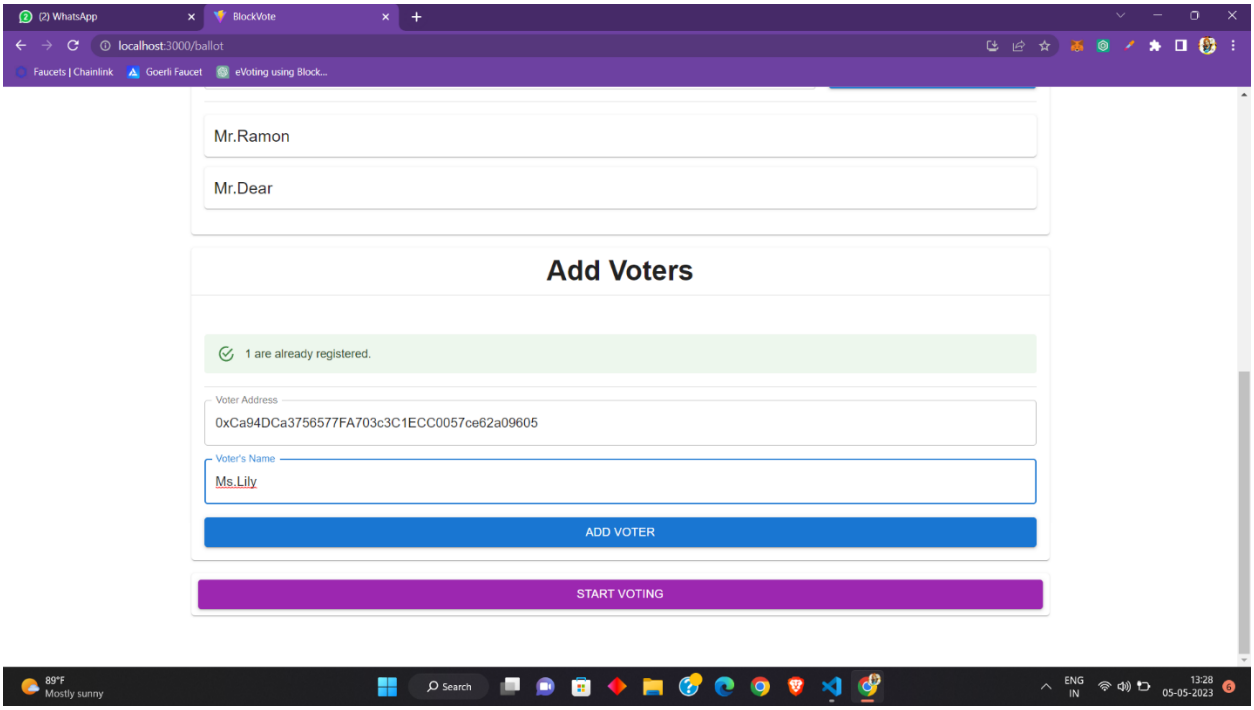
Message After Ballot Creation

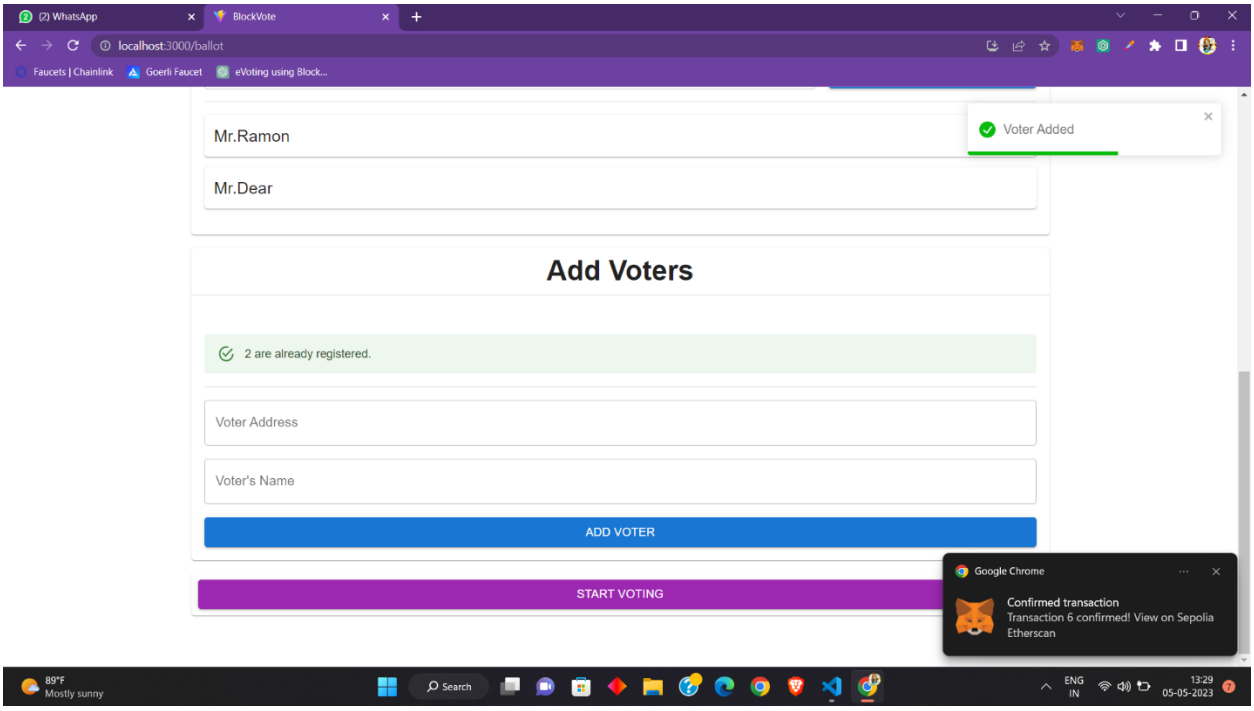


Adding Choices

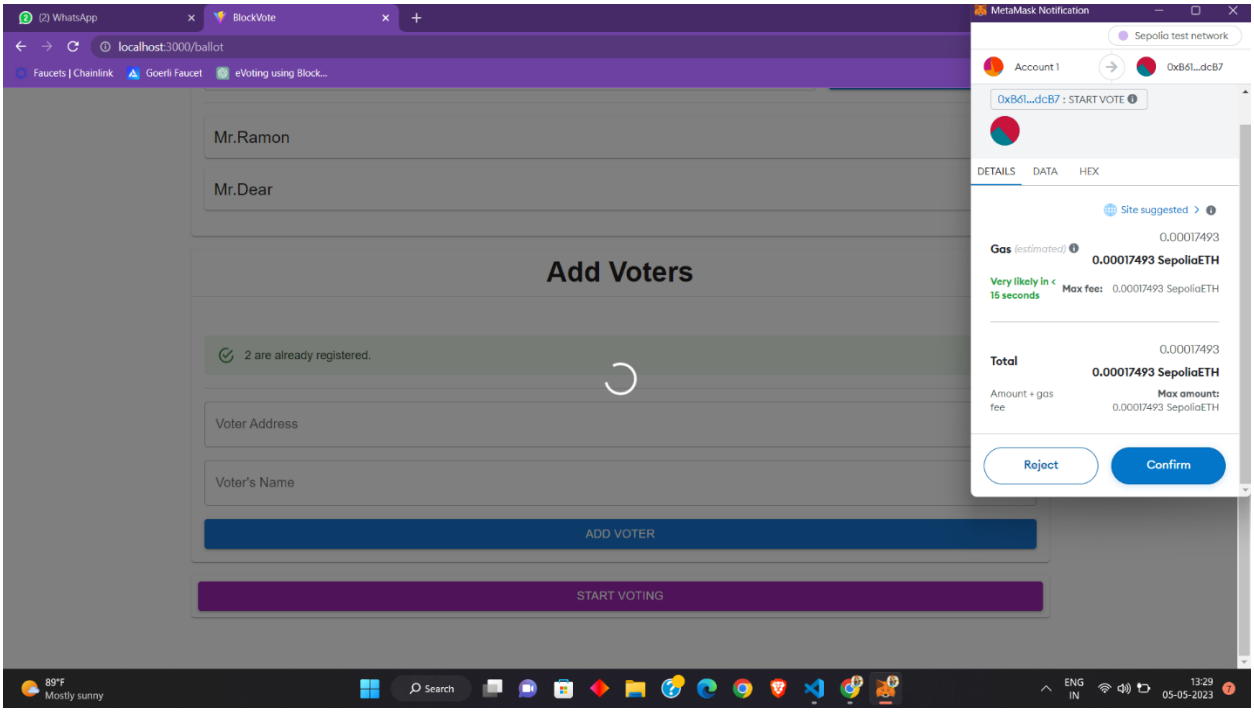


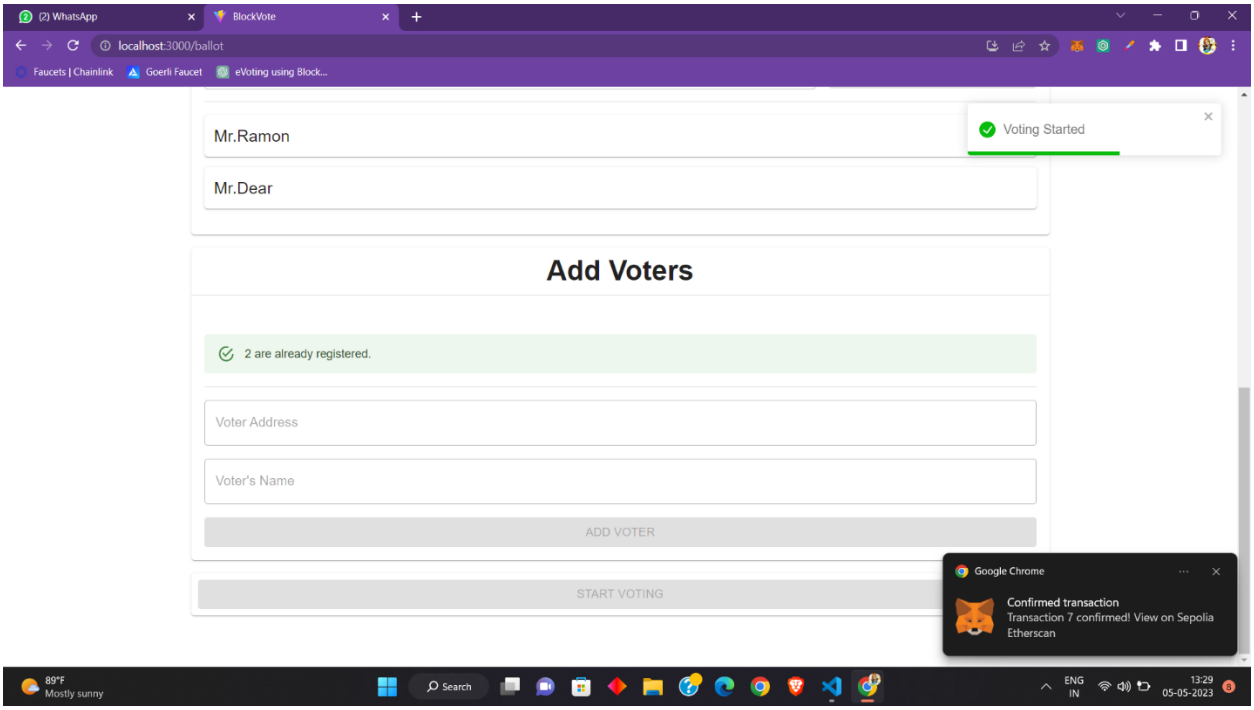
Adding Voter



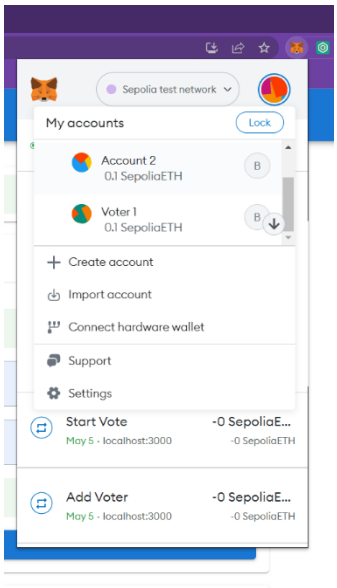


Start Voting

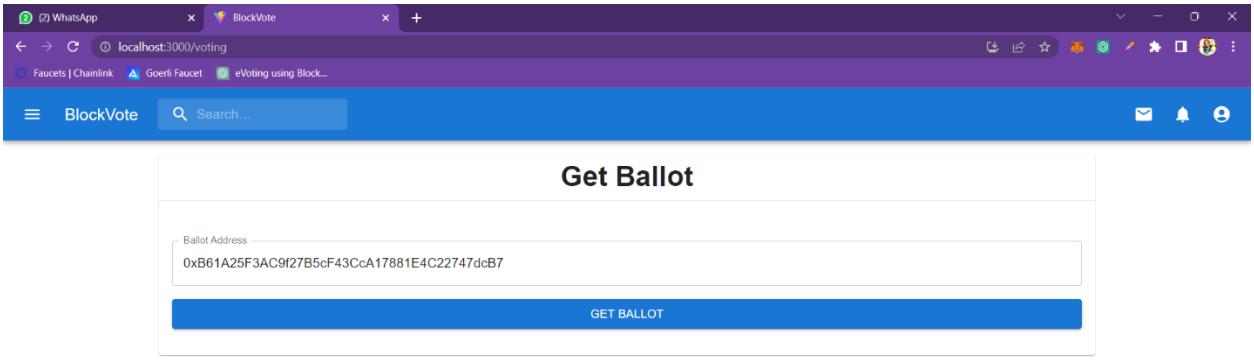




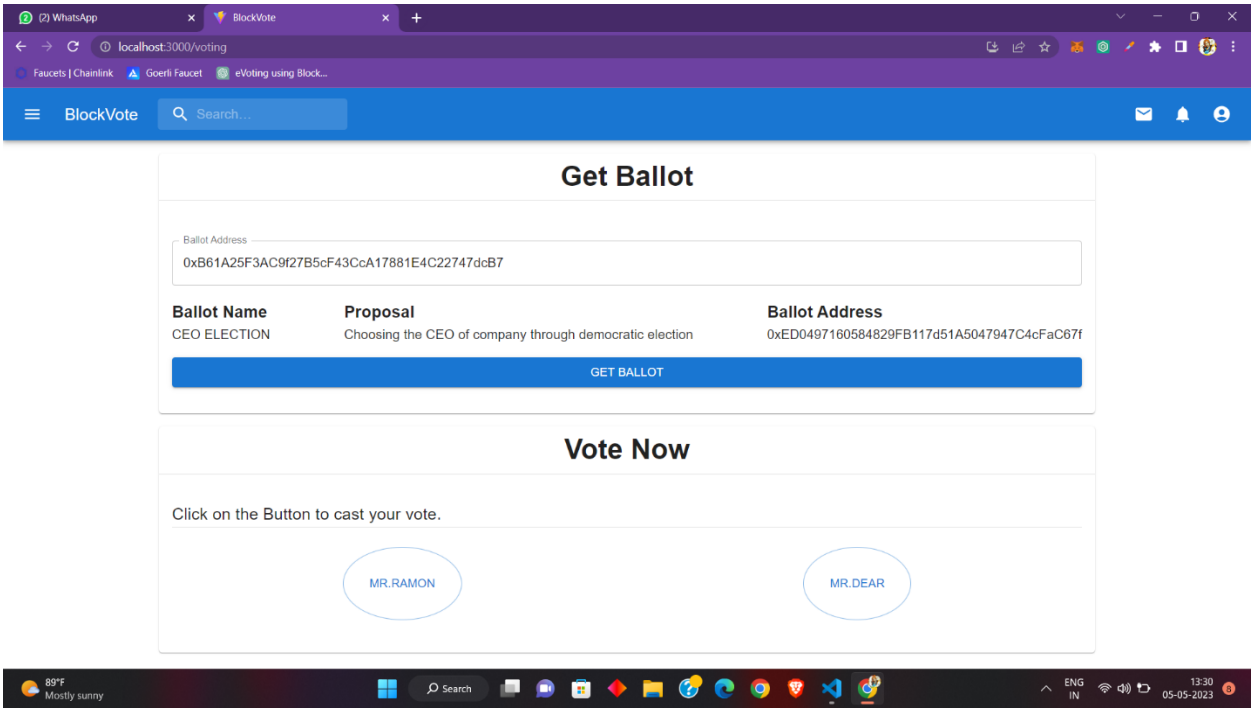
Switching To voter Account to cast the vote through meta mask



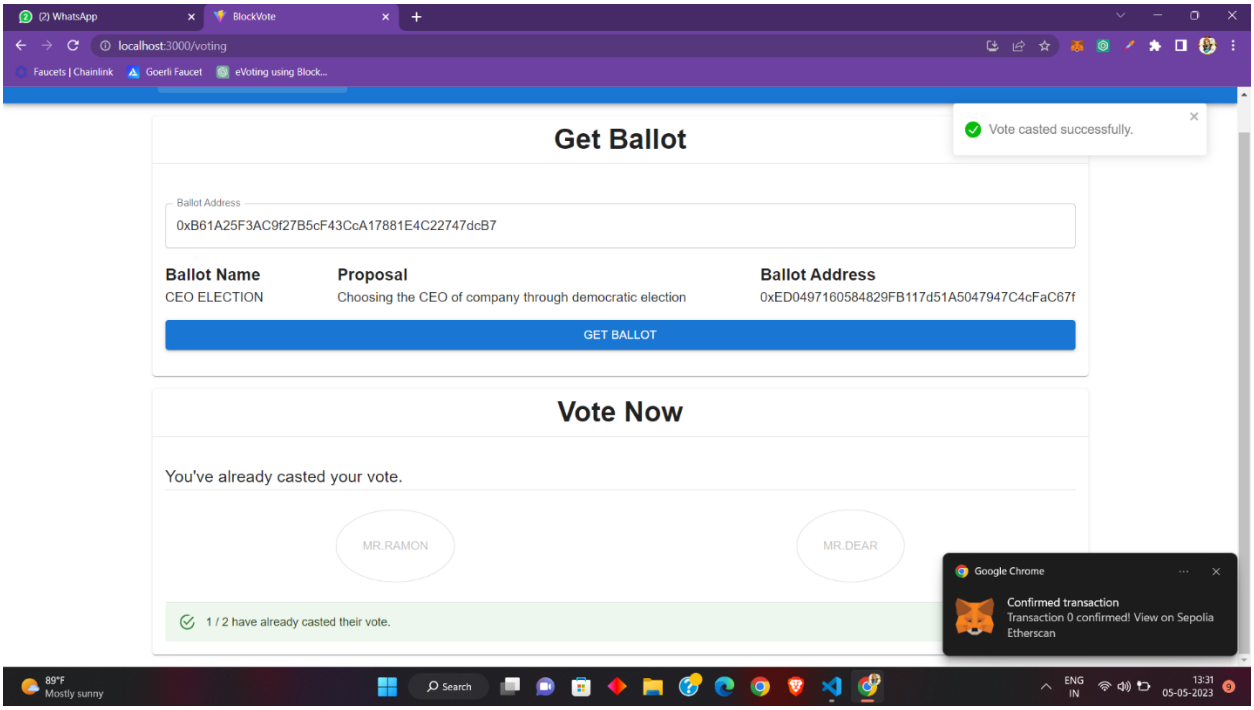
Voter1



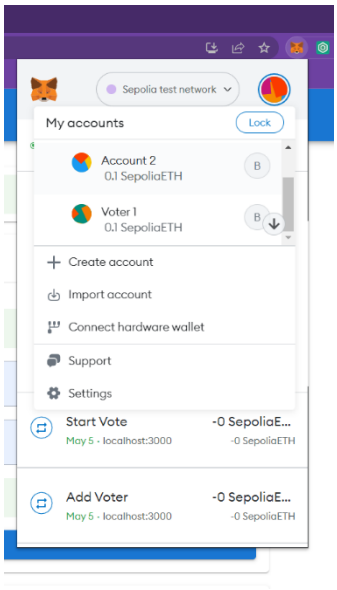
Voting Window Appears After getting ballot

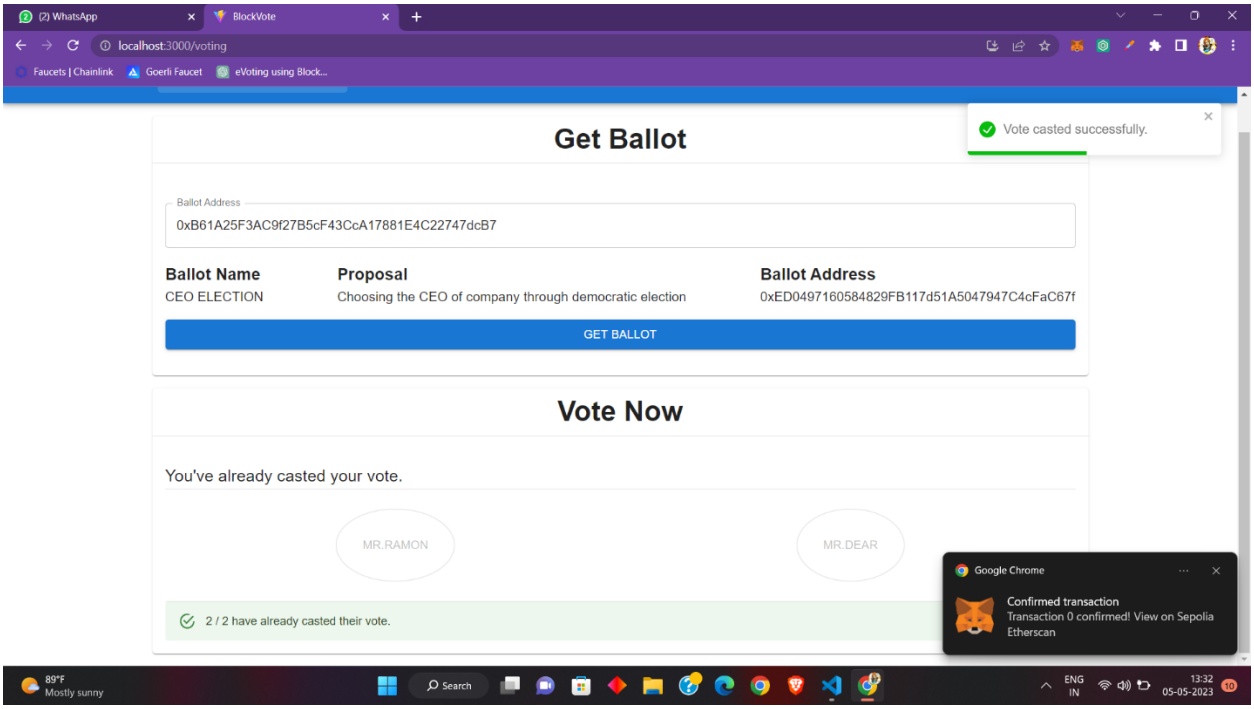


After casting the vote

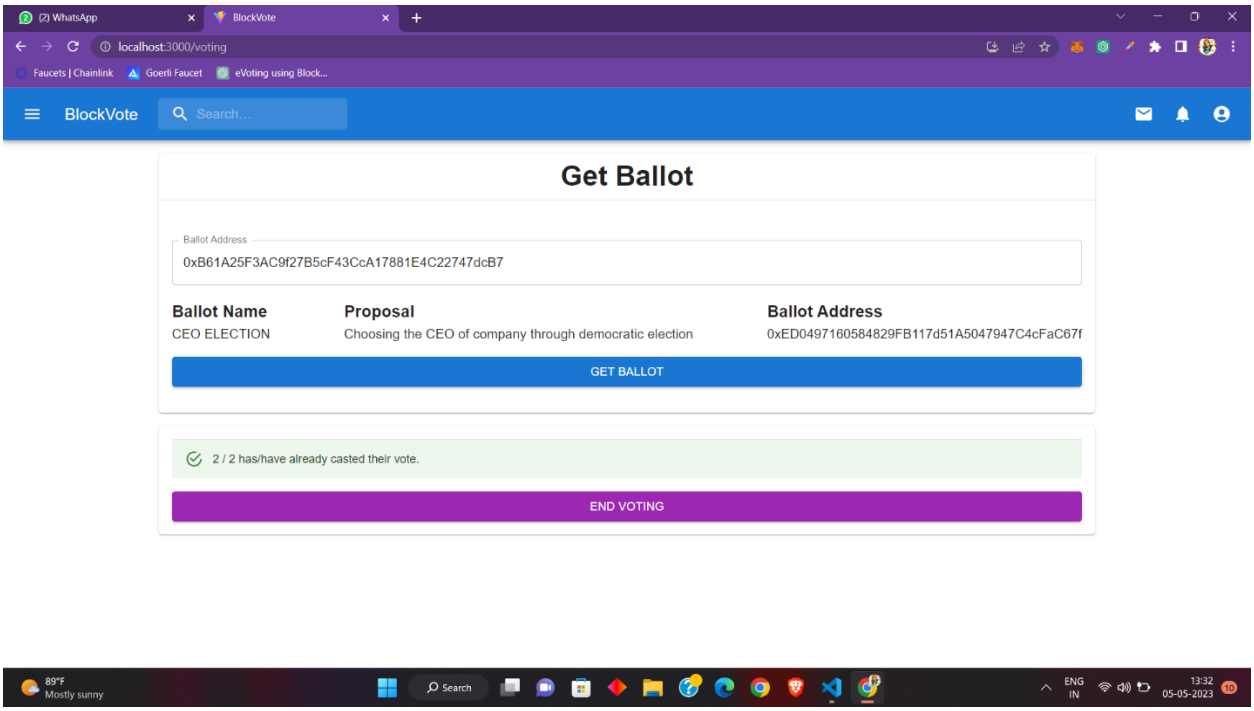


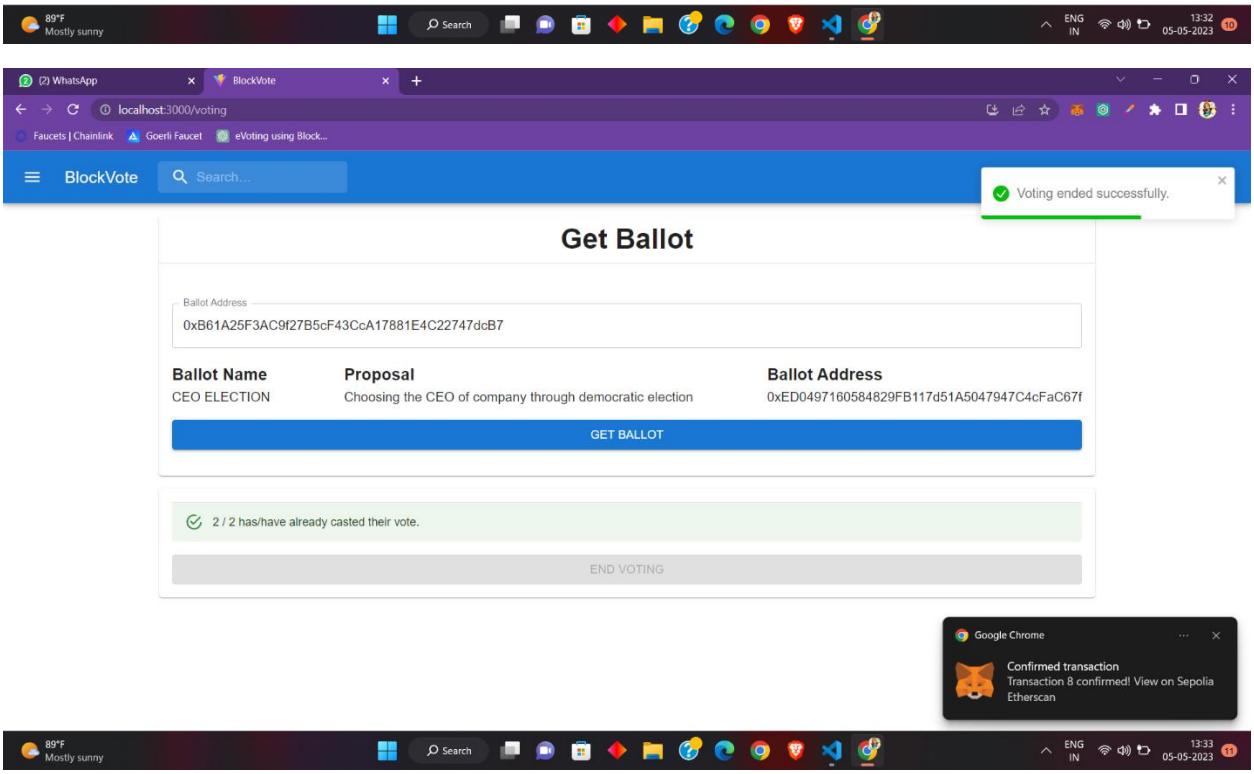
Voter2

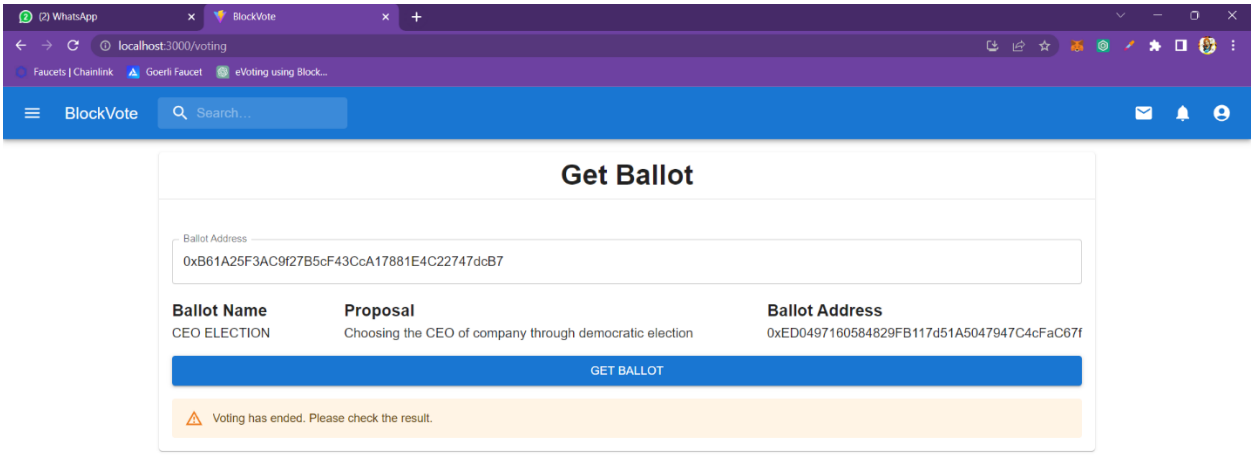

Sepolia test network
My accounts
Lock
Account 2
0.1 SepoliaETH
Voter 1
0.1 SepoliaETH
Create account
Import account
Connect hardware wallet
Support
Settings
Start Vote
May 5 · localhost:3000
-0 SepoliaE...
-0 SepoliaETH
Add Voter
May 5 · localhost:3000
-0 SepoliaE...
-0 SepoliaETH


(2) WhatsApp
BlockVote
localhost:3000/voting
Faucets | Chainlink
Goerli Faucet
eVoting using Block...
Vote casted successfully.
Get Ballot
Ballot Address
0xB61A25F3AC9f27B5cF43CcA17881E4C22747dcB7
Ballot Name
CEO ELECTION
Proposal
Choosing the CEO of company through democratic election
Ballot Address
0xED0497160584829FB117d51A5047947C4cFaC67f
GET BALLOT
Vote Now
You've already casted your vote.
MR.RAMON
MR.DEAR
2 / 2 have already casted their vote.
Google Chrome
Confirmed transaction
Transaction 0 confirmed! View on Sepolia Etherscan
89°F
Mostly sunny
Search
ENG
IN
13:32
05-05-2023

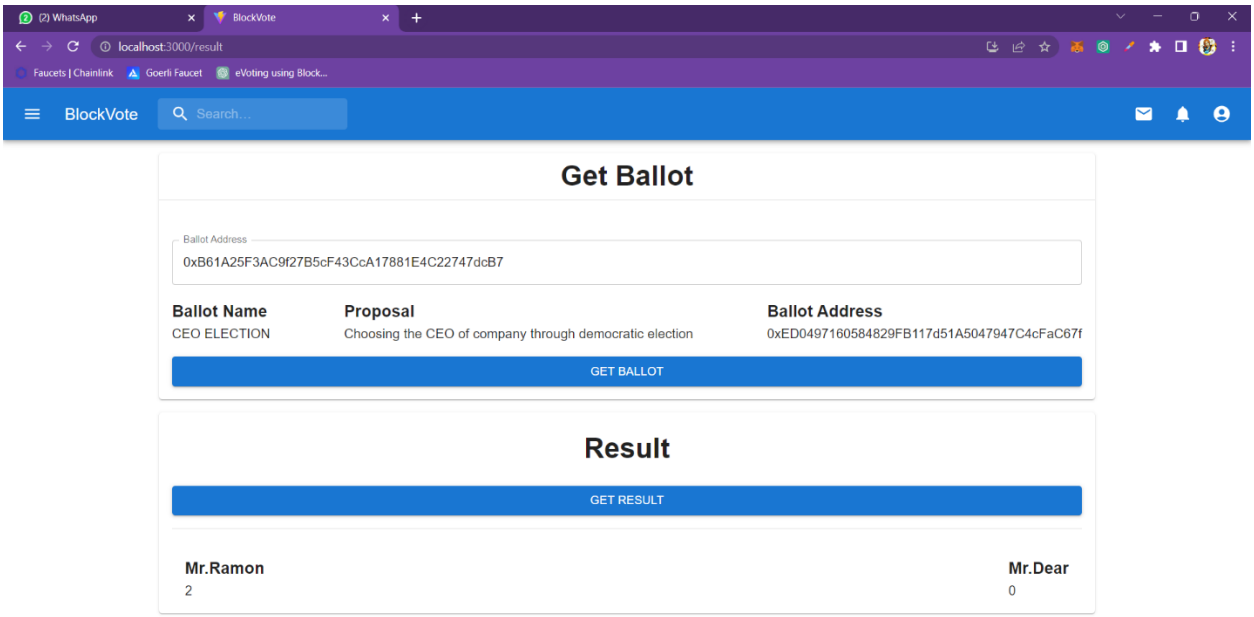
After both voters have casted their vote, Admin will end the voting Process.





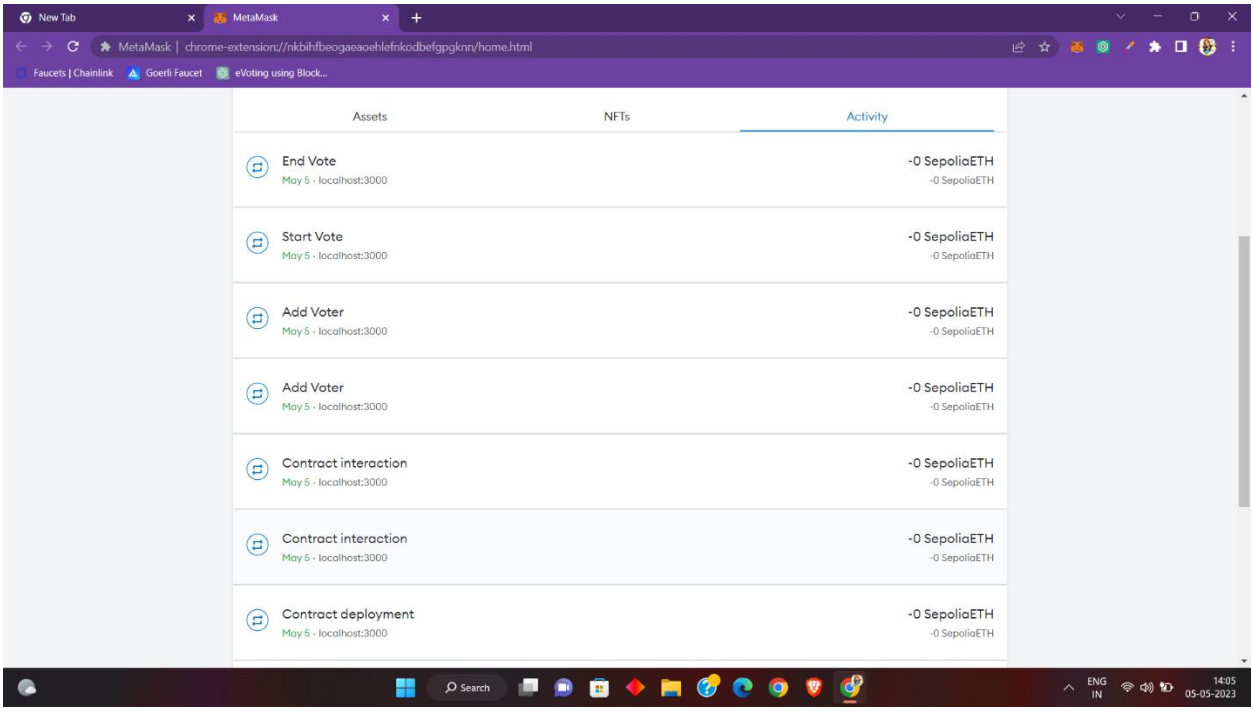


RESULT AFTER VOTING PROCESS….

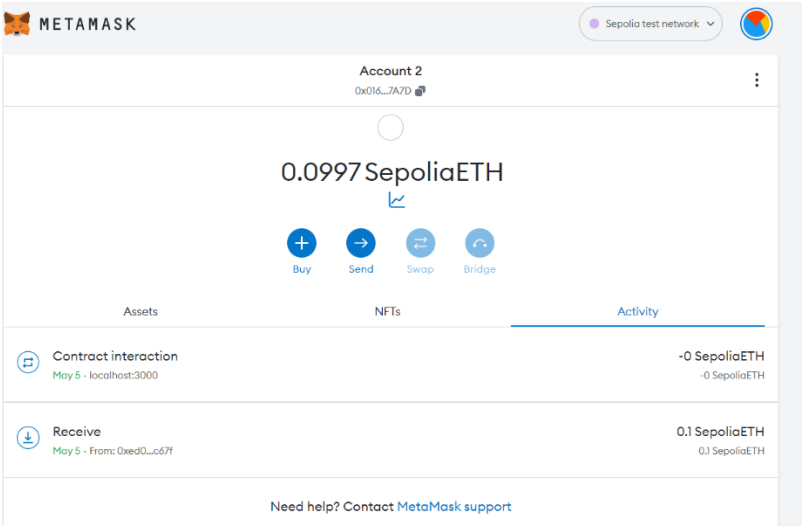


Transaction status of each account after Voting process

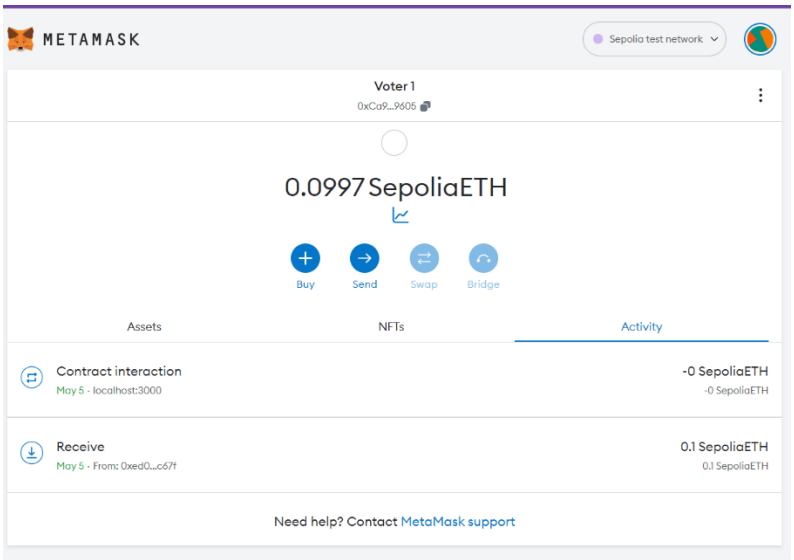
Admin



Voter1



Voter2



Testing:

Testing is an essential part of development. Testing of blockchain-based voting systems is critical to ensure that they are secure, accurate, and reliable. The following are some key areas that should be considered during the testing process:

1. Security Testing: Security testing is essential for blockchain-based voting systems. This involves testing the system for vulnerabilities, such as the potential for hacking, data tampering, and denial-of-service attacks. Penetration testing can help identify these types of vulnerabilities, while also testing the overall security of the system.

2. Performance Testing: Performance testing is important to ensure that the blockchain-based voting system can handle a large volume of transactions. Testing should be conducted to determine how the system responds to peak loads, such as during a high-profile election. Performance testing can help identify any potential bottlenecks or limitations in the system.

3. Usability Testing: Usability testing is critical to ensure that the blockchain-based voting system is user-friendly and easy to use. Testing should be conducted to ensure that the system can be easily navigated, that instructions are clear, and that users can cast their vote without difficulty. User acceptance testing can help identify any potential usability issues.

4. Compatibility Testing: Compatibility testing is important to ensure that the blockchain-based voting system can operate across multiple platforms and devices. Testing should be conducted to determine whether the system can be accessed using different web browsers, operating systems, and mobile devices.

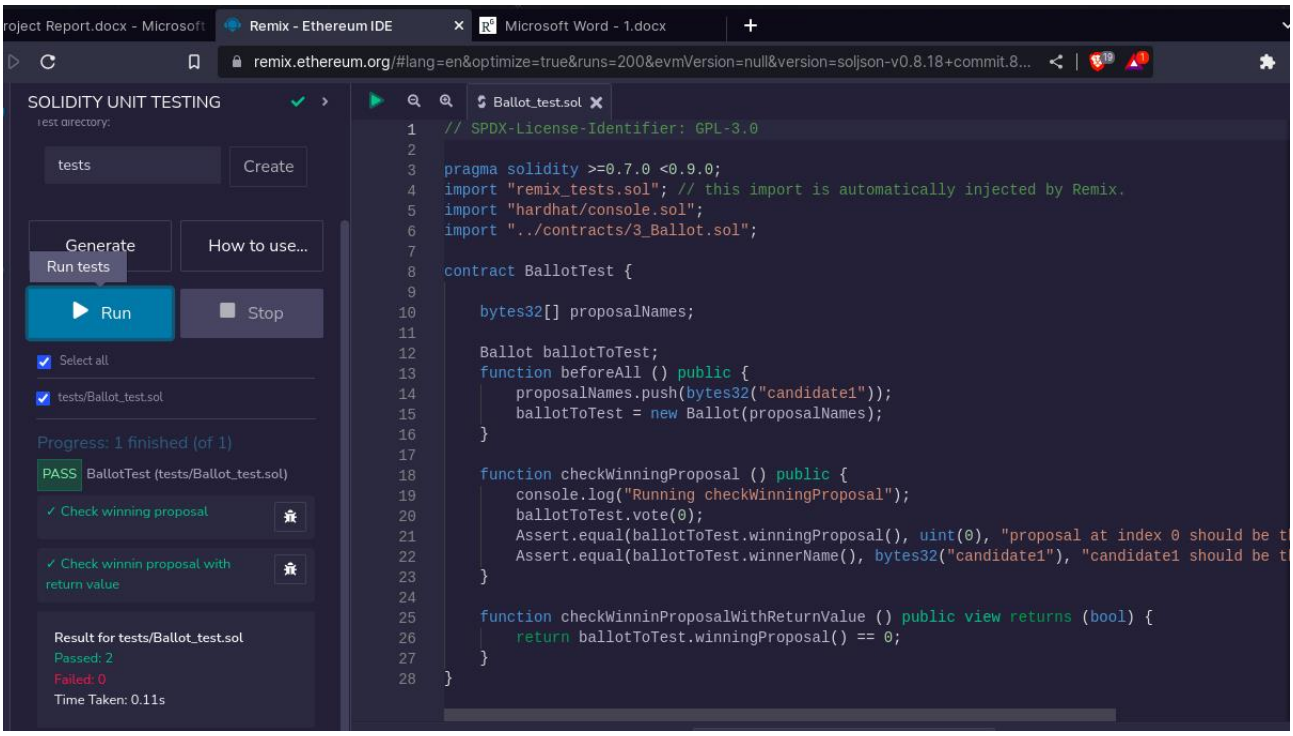
5. Data Integrity Testing: Data integrity testing is essential to ensure that the blockchain-based voting system maintains the accuracy and validity of voting data. Testing should be conducted to ensure that data is properly encrypted, that votes are counted accurately, and that data cannot be tampered with or altered.

6. Regulatory Compliance Testing: Regulatory compliance testing is important to ensure that the blockchain-based voting system complies with applicable laws and regulations. Testing should be conducted to ensure that the system adheres to election laws, privacy laws, and data protection laws.

In addition to the above testing areas, Unit testing and staging testing are important steps in the software development process that help ensure the reliability and functionality of the blockchain-based e-voting system.

Unit testing: It involves testing individual software components, such as smart contracts or functions, in isolation from the rest of the system. Smart contract testing should be conducted to ensure that the code is free from errors, that it accurately implements the intended functionality, and that it cannot be exploited or manipulated.

For the blockchain-based e-voting system, unit testing would involve testing each smart contract and function to ensure that it correctly handles input, output, and logic. This would include testing the registration and voting processes, as well as the storage and retrieval of voting data on the blockchain. Unit testing would also involve testing the integration of each component with other components to ensure that they work together correctly.

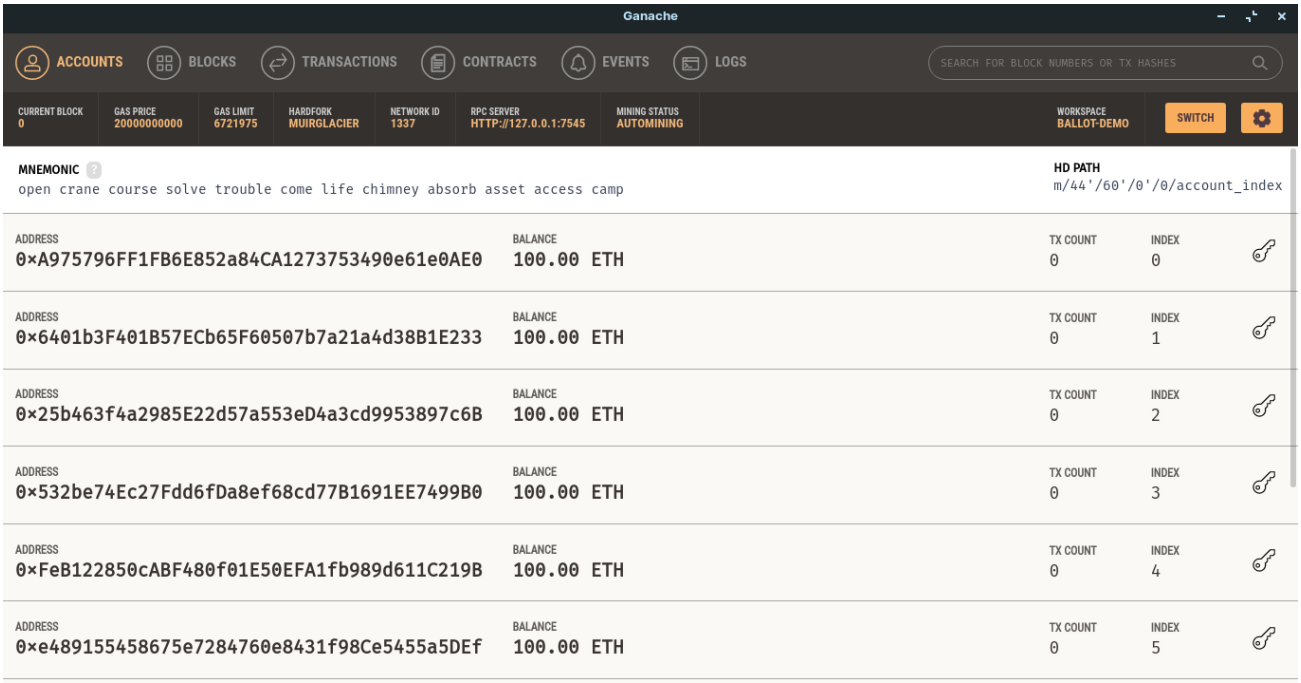


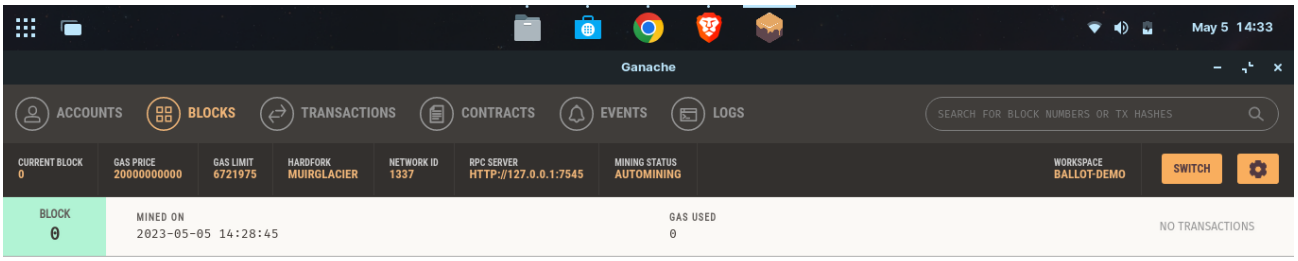
Staging testing: It involves testing the system as a whole in an environment that is similar to the production environment. This is done to identify and address any

issues that may arise when the system is deployed to a live environment. Staging testing typically involves testing the system with real data and users and may involve manual testing by a dedicated testing team.

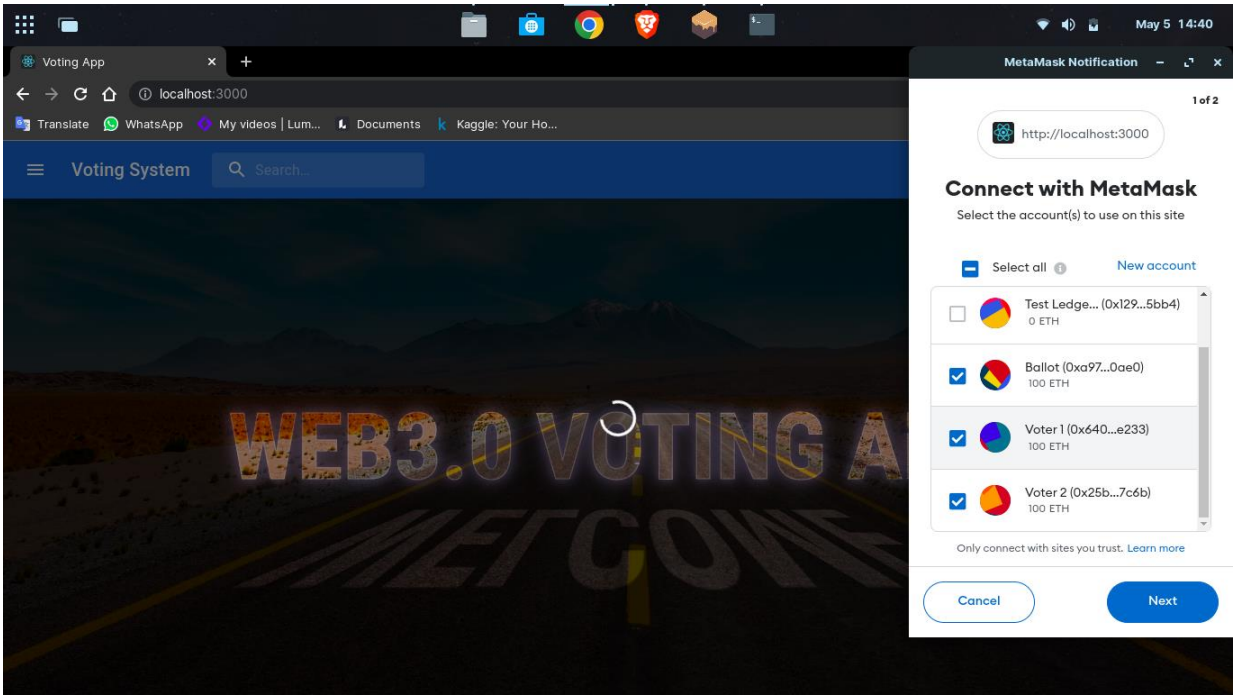
For the blockchain-based e-voting system, staging testing would involve testing the system in a simulated production environment, including the deployment of smart contracts to a live blockchain network. The system would be tested with real users and real voting data to ensure that it works correctly and can handle the expected volume of users and data. Staging testing would also involve testing the system's security measures, such as access control and encryption, to ensure that they are effective in protecting user data and preventing unauthorized access.

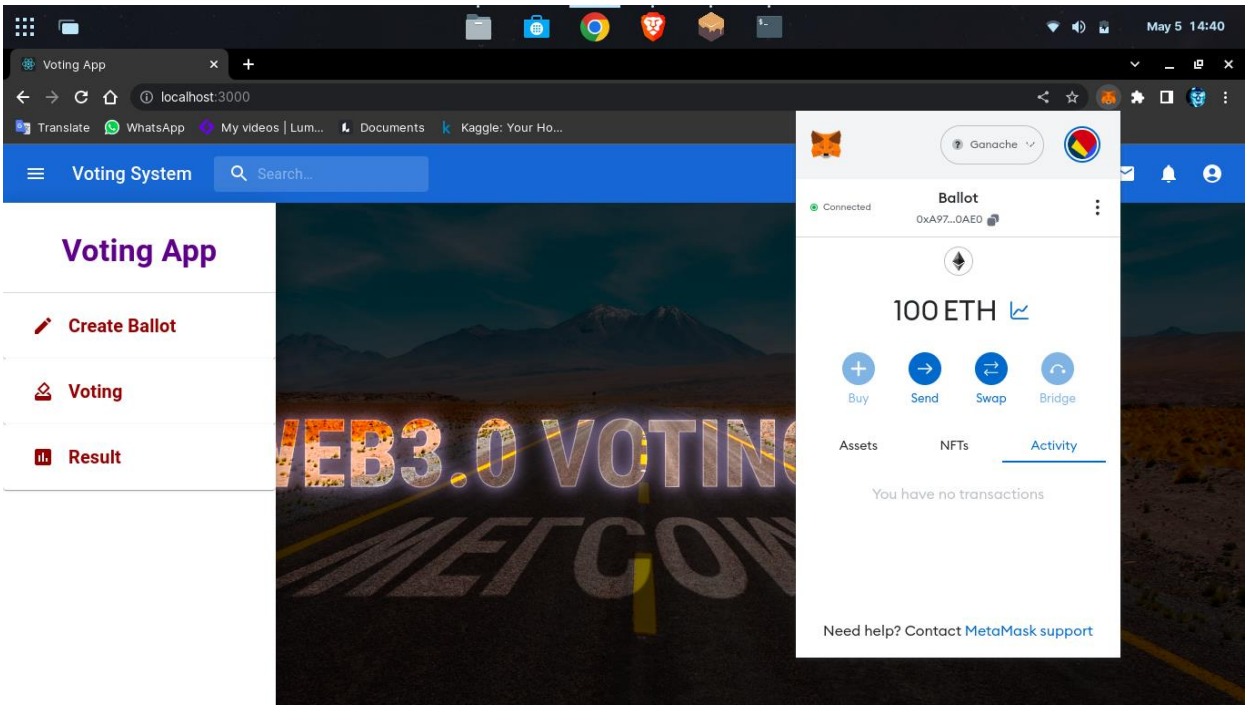
- **Ganache Before Contract Initialization**

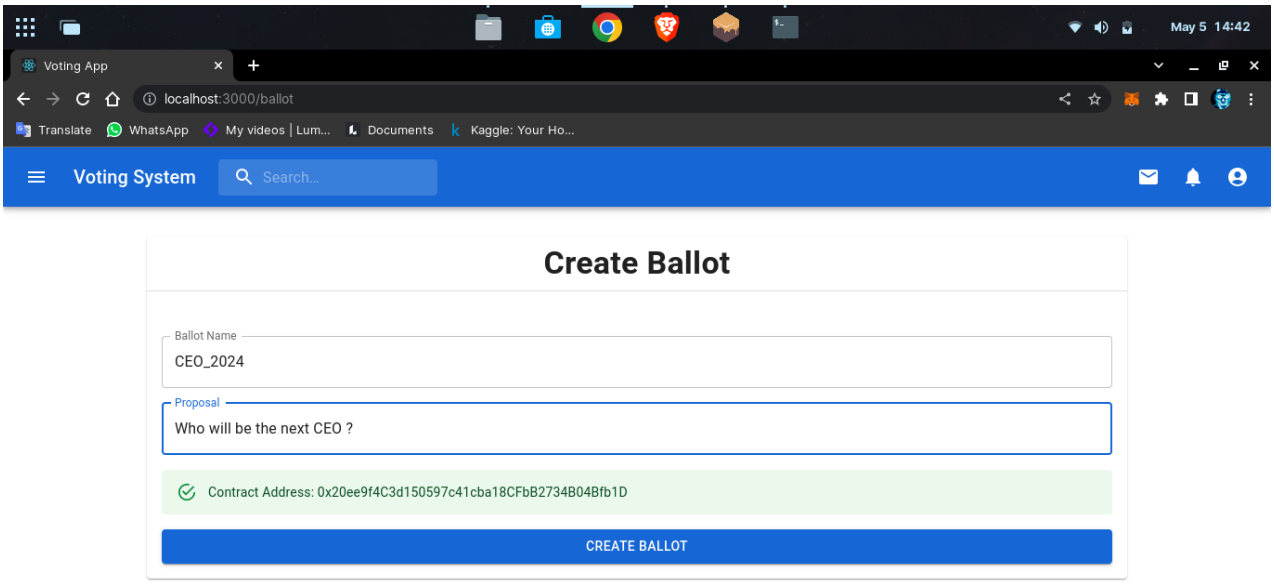


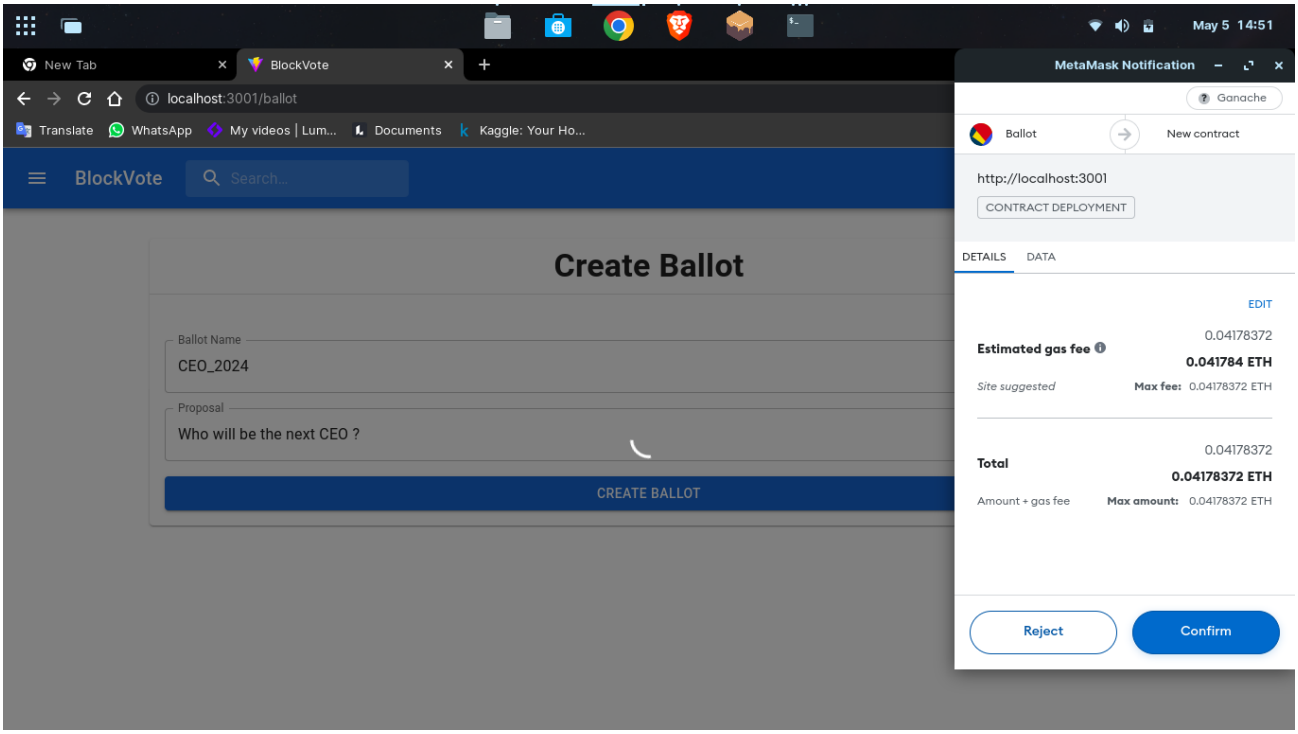


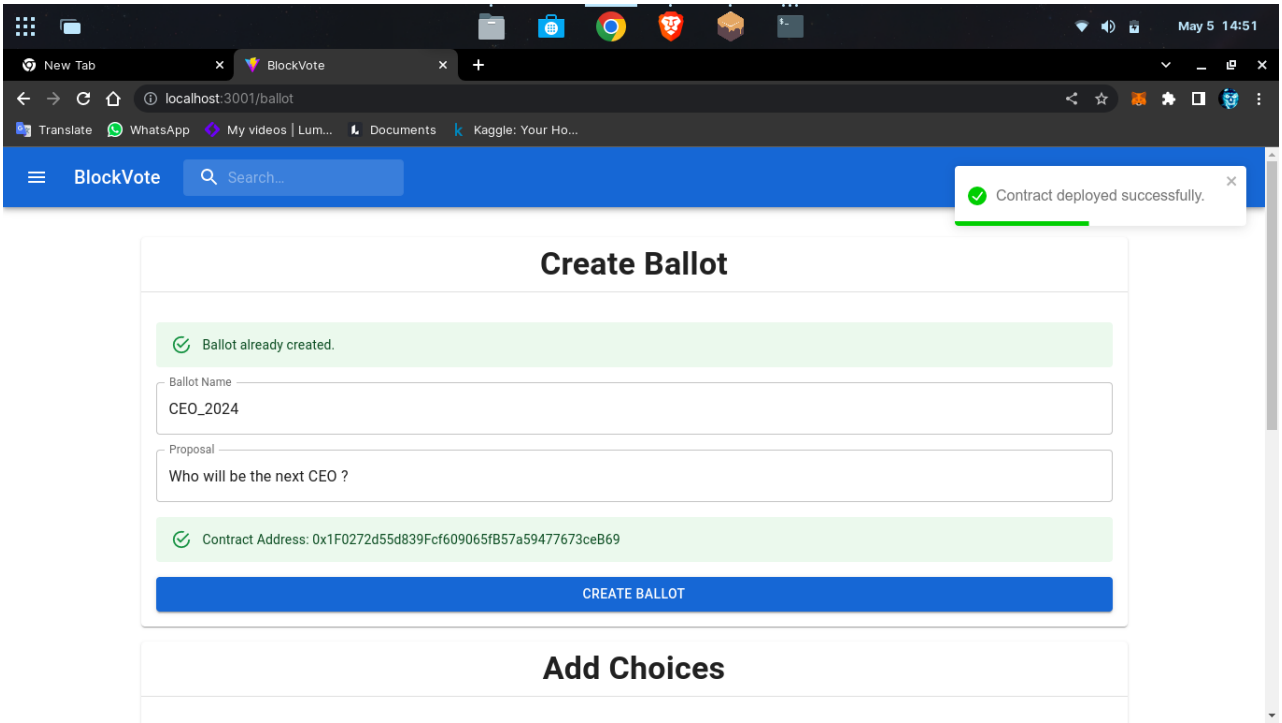
- **Creating Ballot with voters' information**

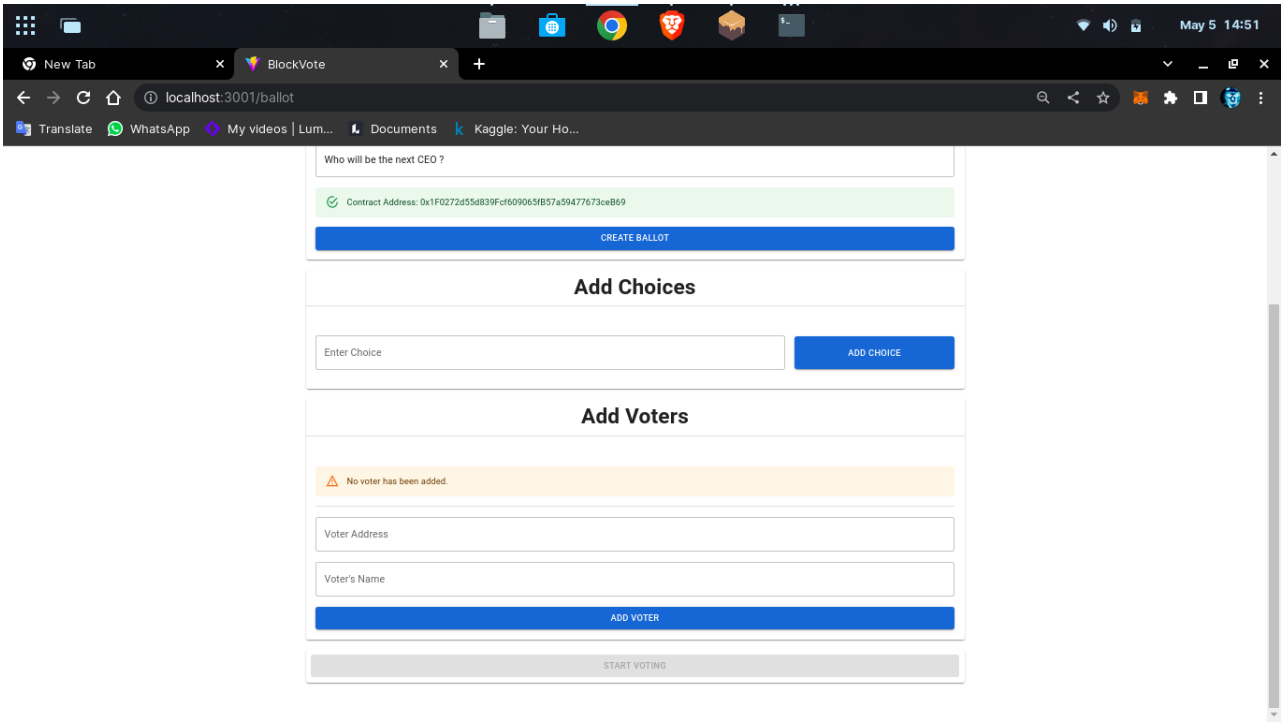


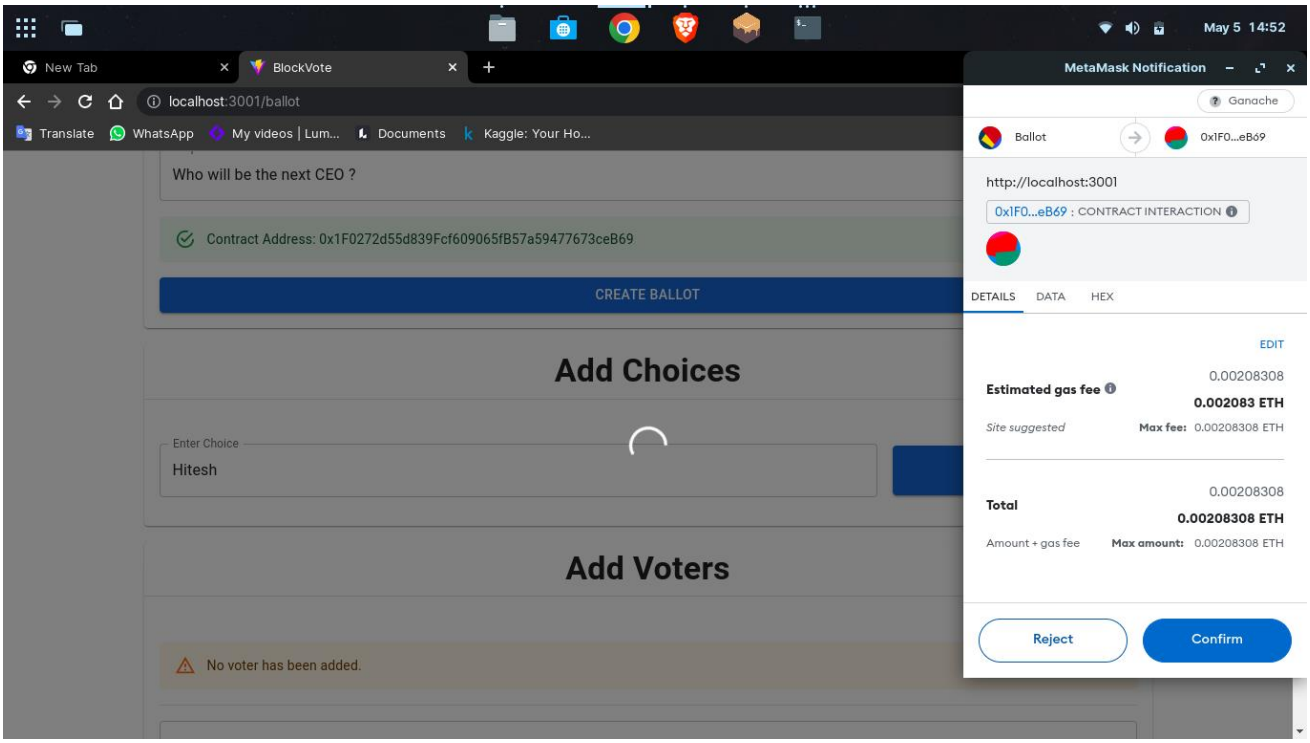


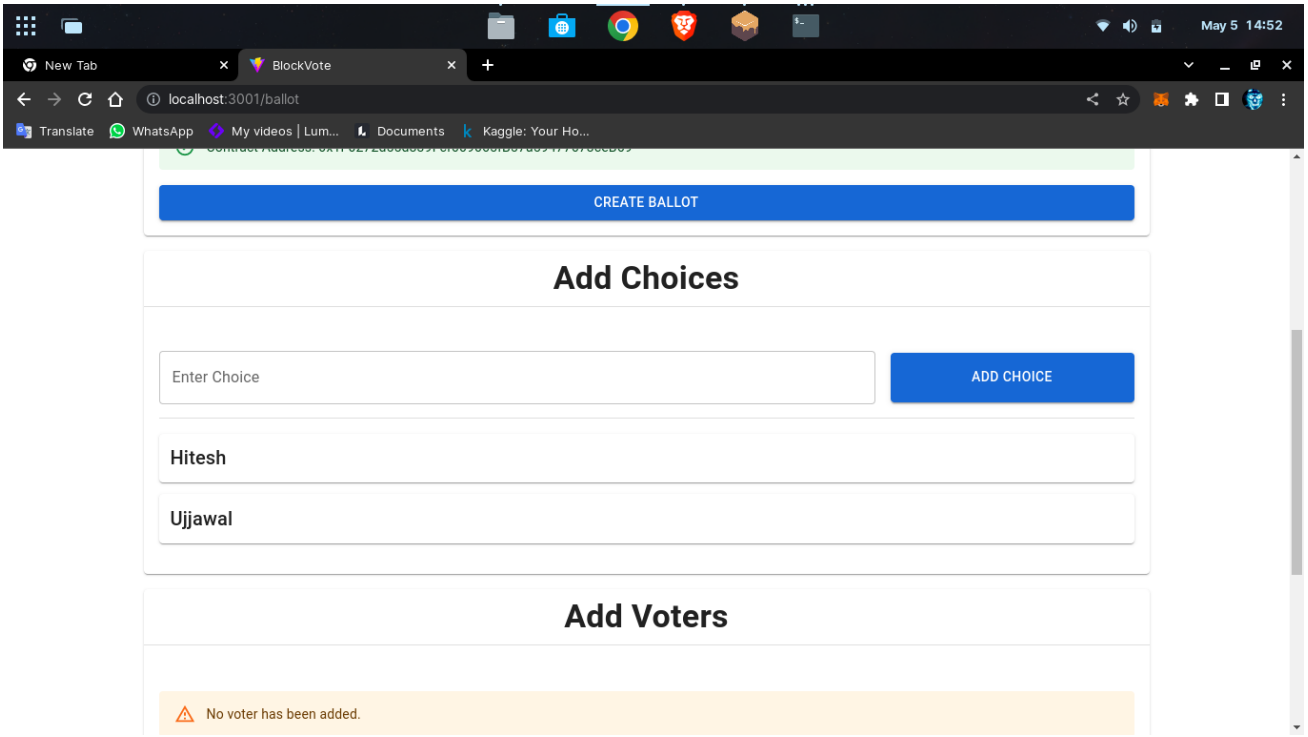

May 5 14:42
Voting App
localhost:3000/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Voting System
Search...
Create Ballot
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
Contract Address: 0x20ee9f4C3d150597c41cba18CFbB2734B04Bfb1D
CREATE BALLOT

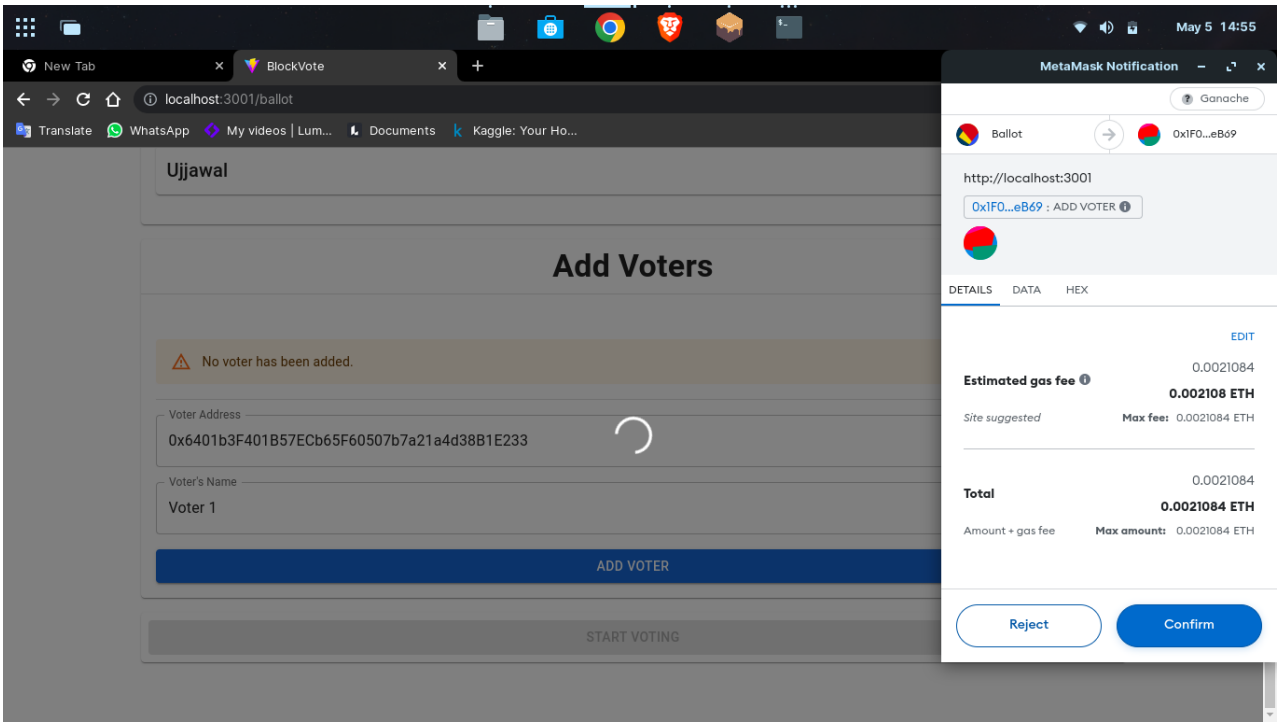

May 5 14:51
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Create Ballot
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
CREATE BALLOT
MetaMask Notification
Ganache
Ballot
New contract
http://localhost:3001
CONTRACT DEPLOYMENT
DETAILS
DATA
EDIT
Estimated gas fee
0.04178372
0.041784 ETH
Site suggested
Max fee: 0.04178372 ETH
Total
0.04178372
0.04178372 ETH
Amount + gas fee
Max amount: 0.04178372 ETH
Reject
Confirm

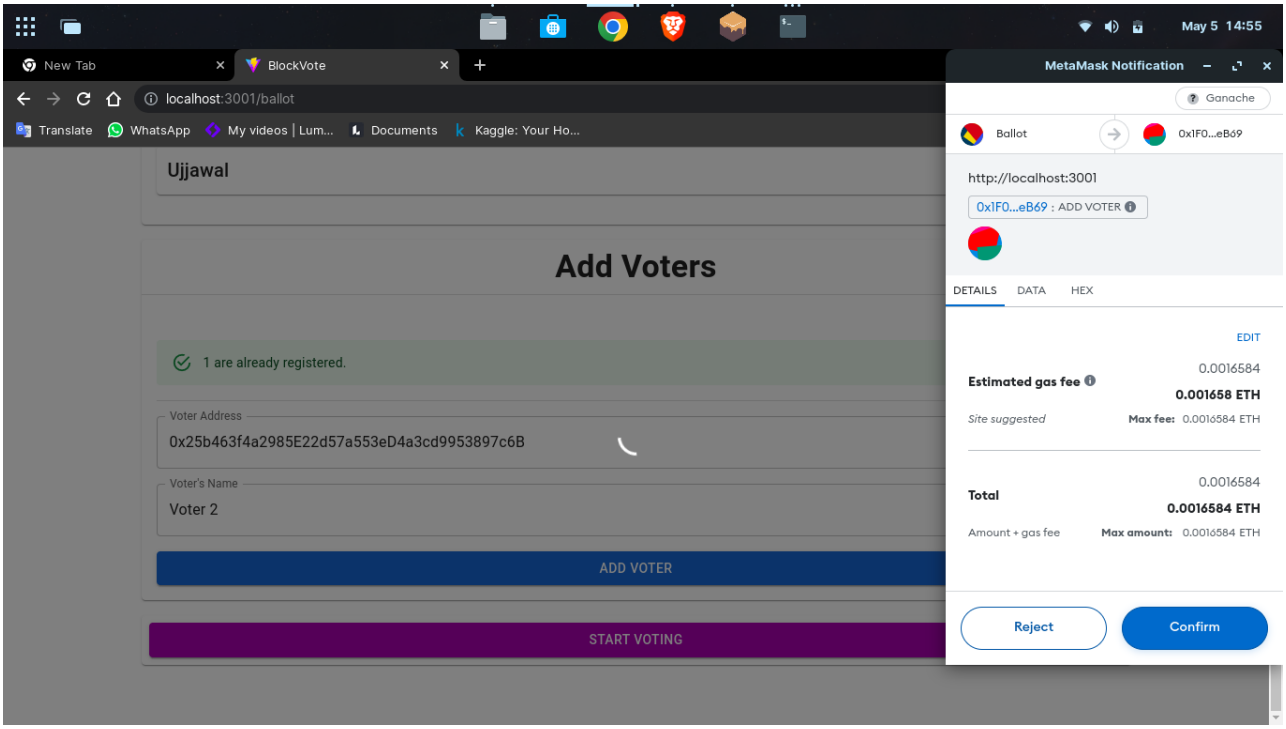

May 5 14:51
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Contract deployed successfully.
Create Ballot
Ballot already created.
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
Contract Address: 0x1F0272d55d839Fcf609065fB57a59477673ceB69
CREATE BALLOT
Add Choices

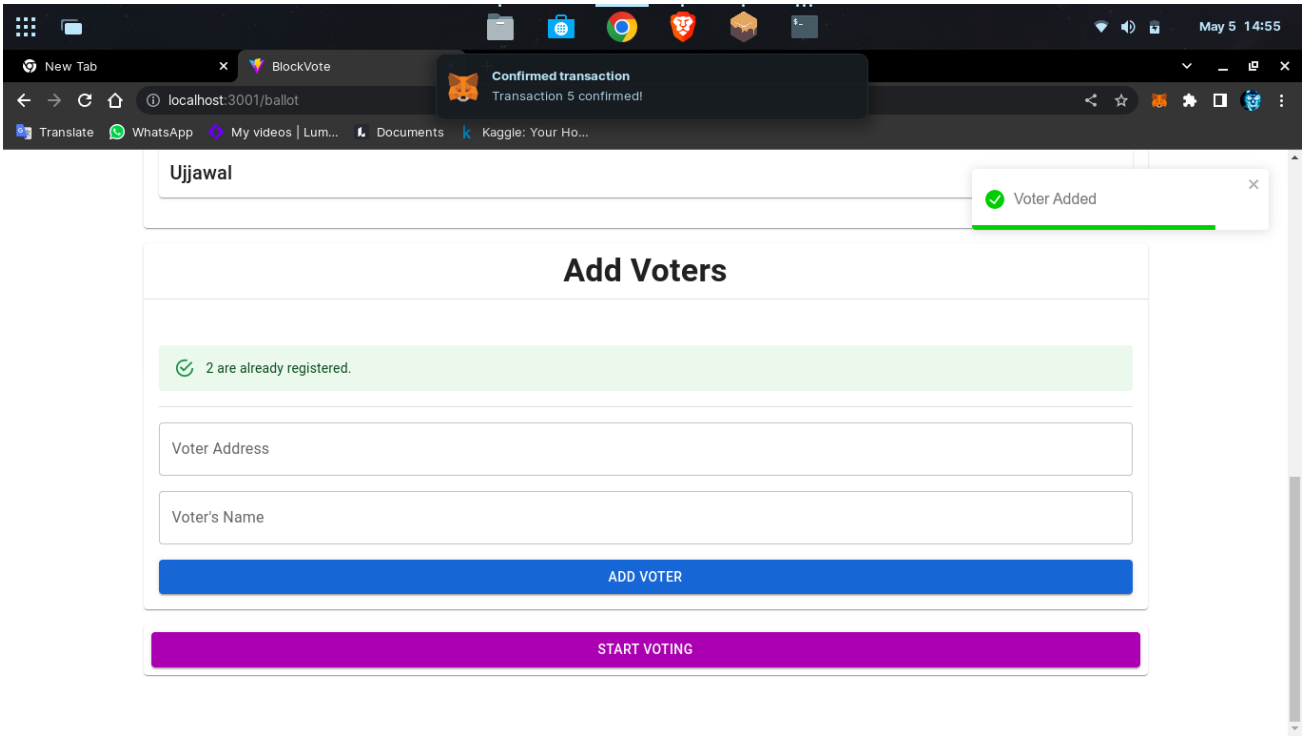

May 5 14:51
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Who will be the next CEO ?
Contract Address: 0x1F0272d55d839Fcf609065fB57a59477673ceB69
CREATE BALLOT
Add Choices
Enter Choice
ADD CHOICE
Add Voters
No voter has been added.
Voter Address
Voter's Name
ADD VOTER
START VOTING

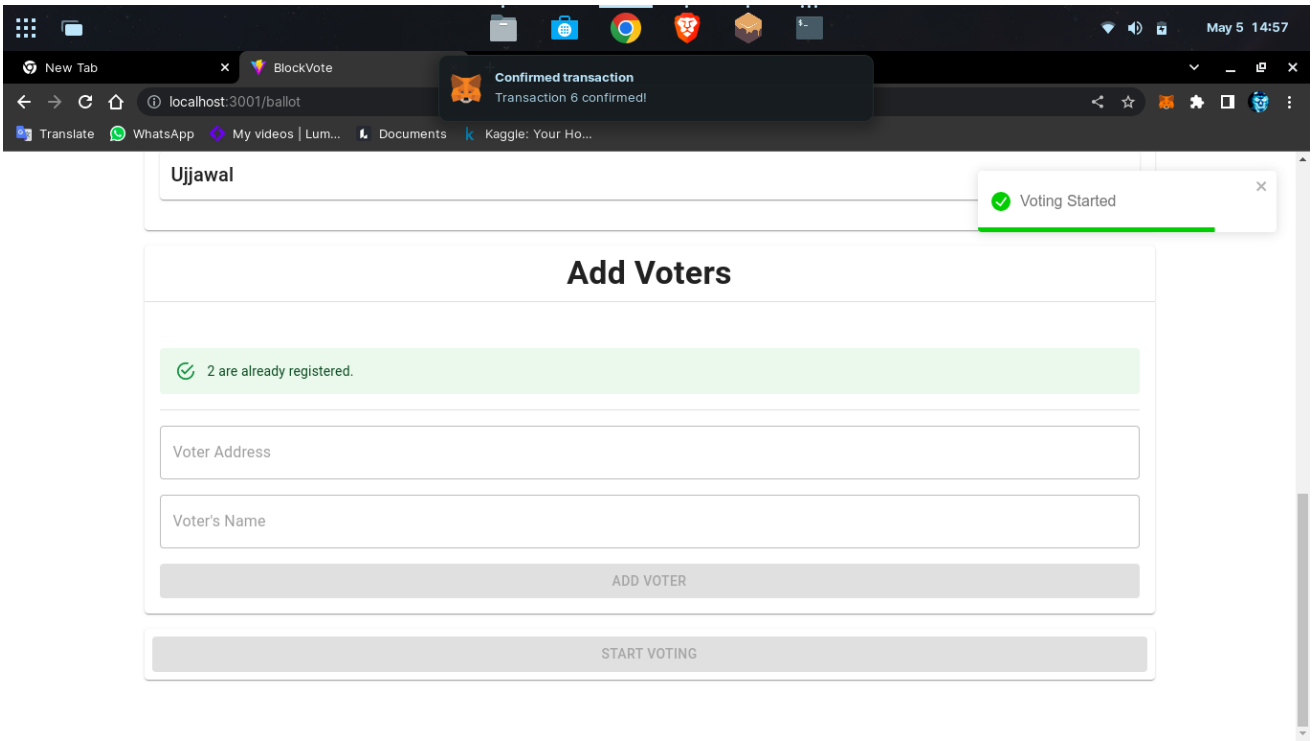

May 5 14:52
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Who will be the next CEO ?
Contract Address: 0x1F0272d55d839Fcf609065fB57a59477673ceB69
CREATE BALLOT
Add Choices
Enter Choice
Hitesh
Add Voters
No voter has been added.
MetaMask Notification
Ganache
Ballot
0x1F0...eB69
http://localhost:3001
0x1F0...eB69 : CONTRACT INTERACTION
DETAILS
DATA
HEX
EDIT
Estimated gas fee
0.00208308
0.002083 ETH
Site suggested
Max fee: 0.00208308 ETH
Total
0.00208308
0.00208308 ETH
Amount + gas fee
Max amount: 0.00208308 ETH
Reject
Confirm


May 5 14:52
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
CREATE BALLOT
Add Choices
Enter Choice
ADD CHOICE
Hitesh
Ujjawal
Add Voters
No voter has been added.

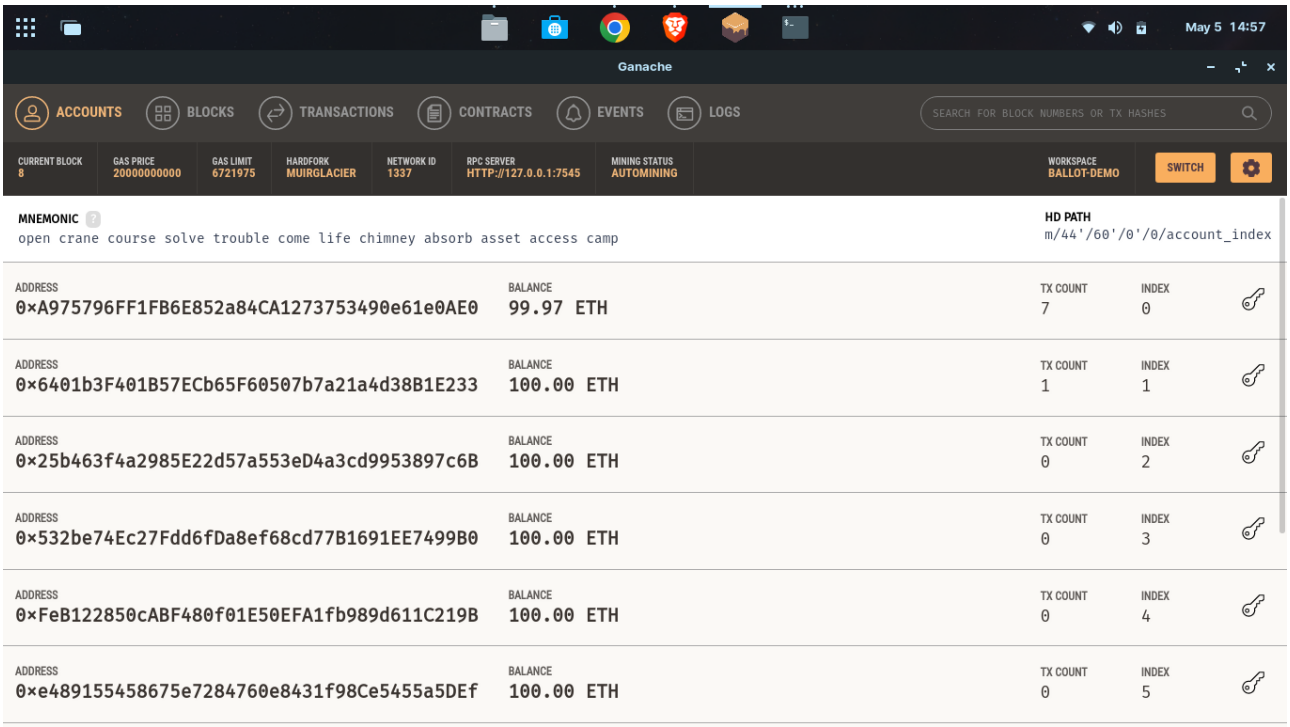

May 5 14:55
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Ujjawal
Add Voters
No voter has been added.
Voter Address
0x6401b3F401B57ECb65F60507b7a21a4d38B1E233
Voter's Name
Voter 1
ADD VOTER
START VOTING
MetaMask Notification
Ganache
Ballot
0x1F0...eB69
http://localhost:3001
0x1F0...eB69 : ADD VOTER
DETAILS
DATA
HEX
EDIT
Estimated gas fee
0.0021084
0.002108 ETH
Site suggested
Max fee: 0.0021084 ETH
Total
0.0021084
0.0021084 ETH
Amount + gas fee
Max amount: 0.0021084 ETH
Reject
Confirm

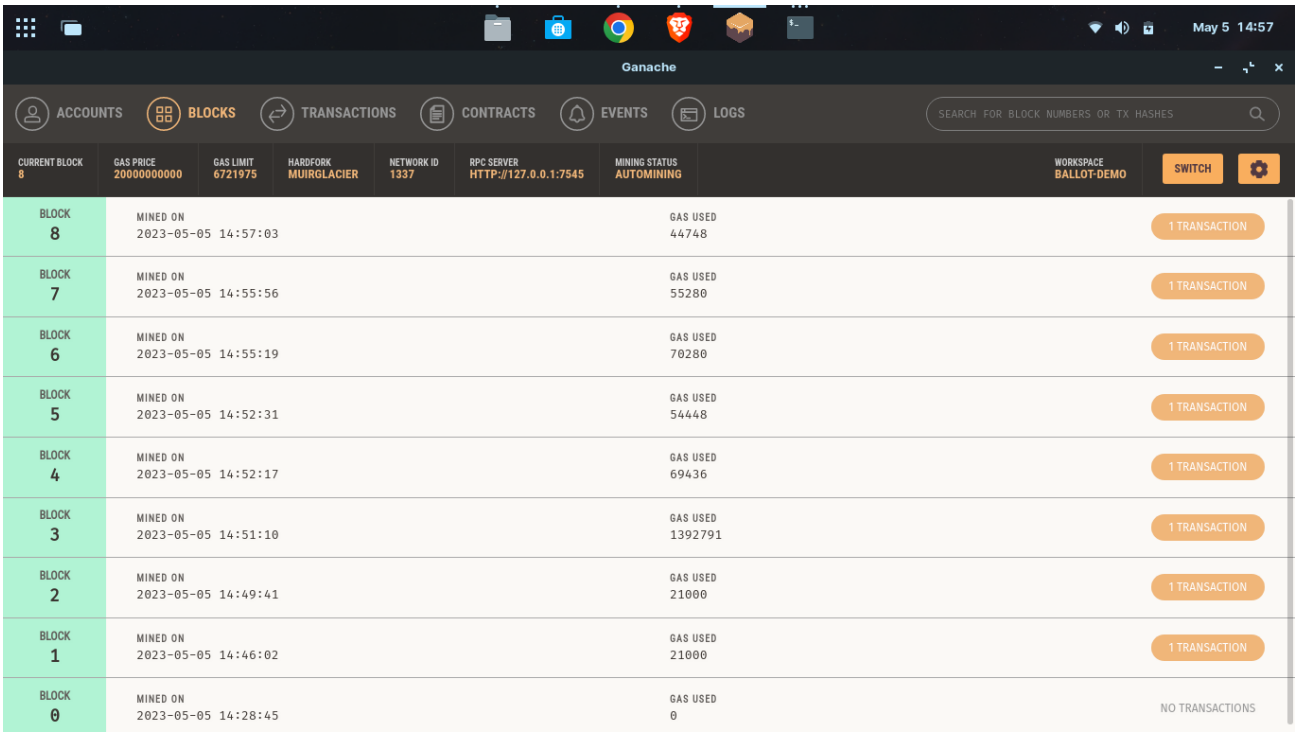

May 5 14:55
New Tab
BlockVote
localhost:3001/ballot
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Ujjawal
Add Voters
1 are already registered.
Voter Address
0x25b463f4a2985E22d57a553eD4a3cd9953897c6B
Voter's Name
Voter 2
ADD VOTER
START VOTING
MetaMask Notification
Ganache
Ballot
0x1F0...eB69
http://localhost:3001
0x1F0...eB69 : ADD VOTER
DETAILS
DATA
HEX
EDIT
Estimated gas fee
0.0016584
0.001658 ETH
Site suggested
Max fee: 0.0016584 ETH
Total
0.0016584
0.0016584 ETH
Amount + gas fee
Max amount: 0.0016584 ETH
Reject
Confirm

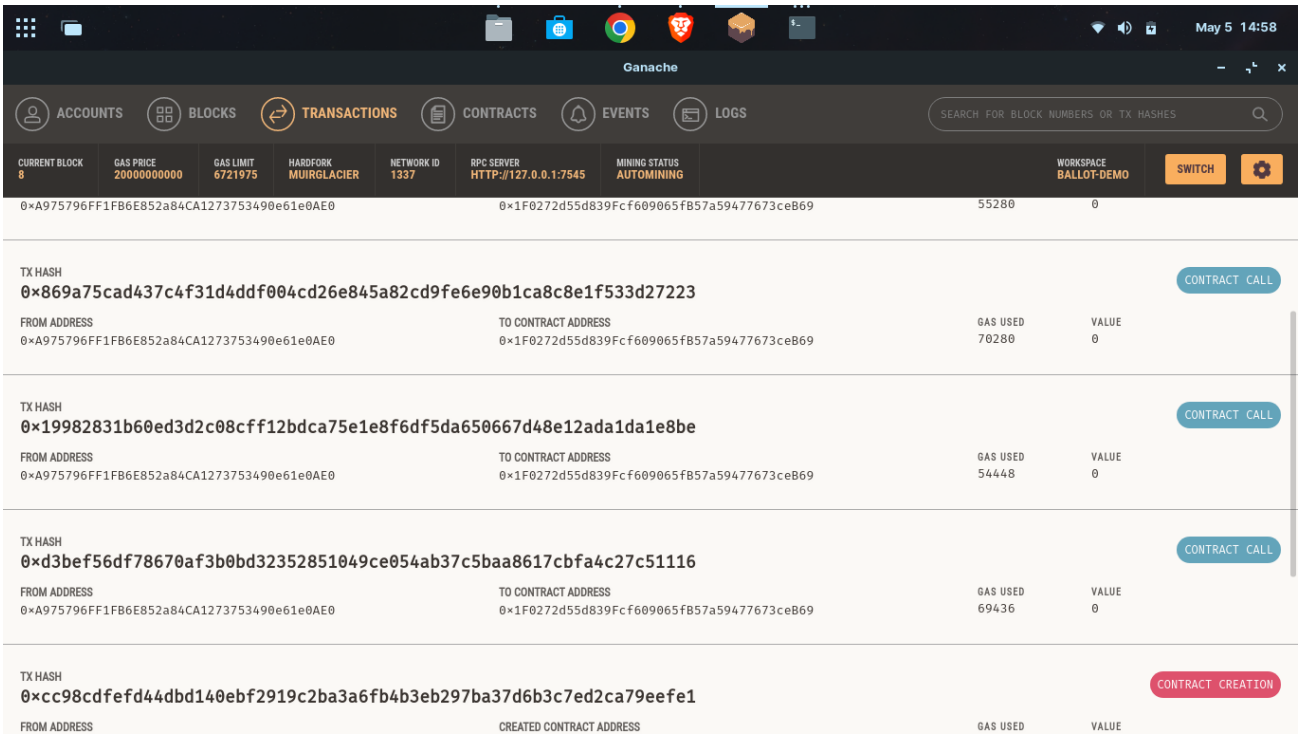




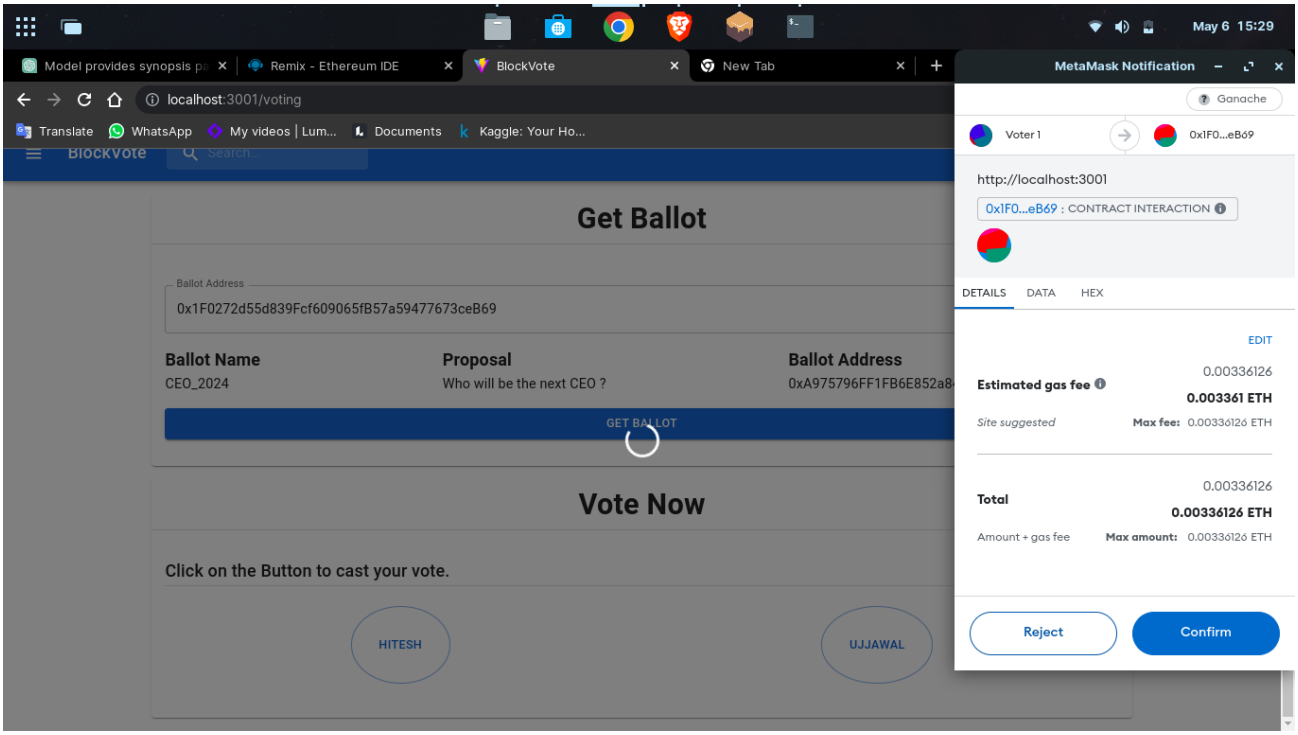
- **Ganache After Contract Initialization**

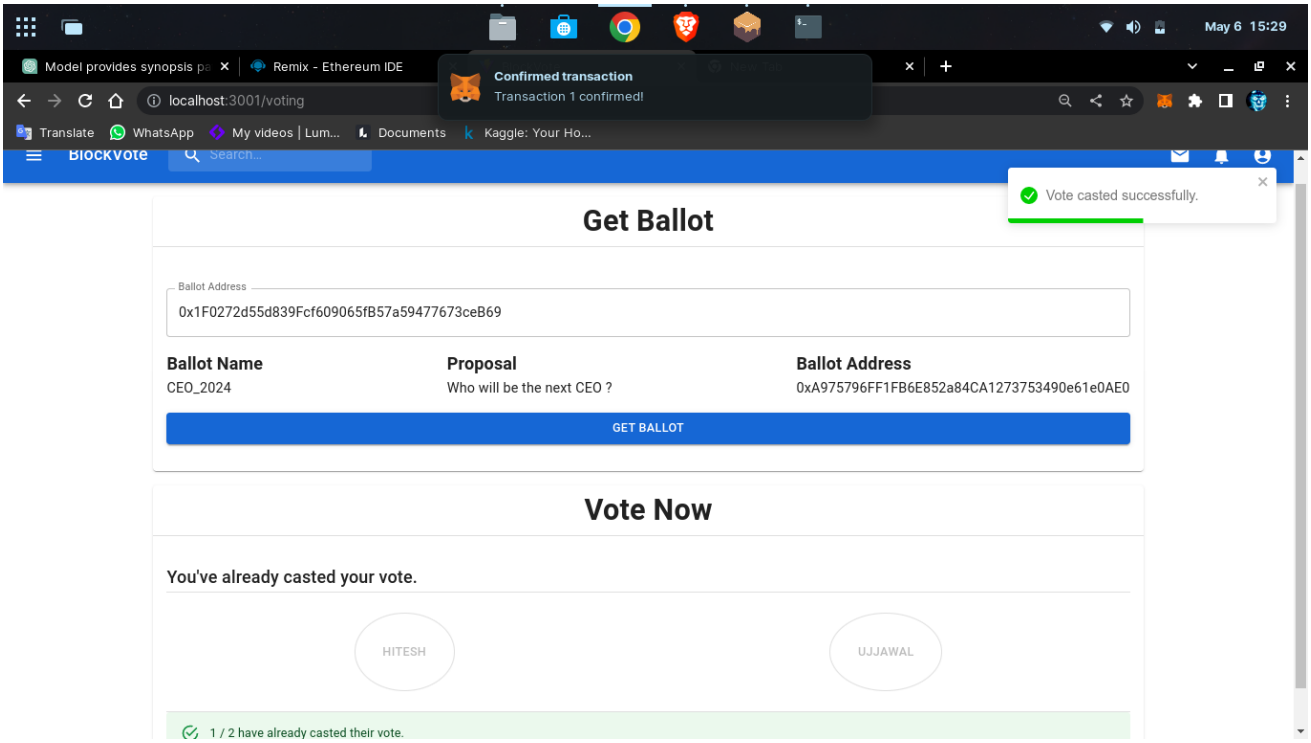

May 5 14:57
Ganache
ACCOUNTS
BLOCKS
TRANSACTIONS
CONTRACTS
EVENTS
LOGS
SEARCH FOR BLOCK NUMBERS OR TX HASHES
CURRENT BLOCK 8
GAS PRICE 20000000000
GAS LIMIT 6721975
HARDFORK MUIRGLACIER
NETWORK ID 1337
RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING
WORKSPACE BALLOT-DEMO
SWITCH
MNEMONIC
open crane course solve trouble come life chimney absorb asset access camp
HD PATH
m/44'/60'/0'/0/account_index
ADDRESS 0×A975796FF1FB6E852a84CA1273753490e61e0AE0 BALANCE 99.97 ETH TX COUNT 7 INDEX 0
ADDRESS 0×6401b3F401B57ECb65F60507b7a21a4d38B1E233 BALANCE 100.00 ETH TX COUNT 1 INDEX 1
ADDRESS 0×25b463f4a2985E22d57a553eD4a3cd9953897c6B BALANCE 100.00 ETH TX COUNT 0 INDEX 2
ADDRESS 0×532be74Ec27Fdd6fDa8ef68cd77B1691EE7499B0 BALANCE 100.00 ETH TX COUNT 0 INDEX 3
ADDRESS 0×FeB122850cABF480f01E50EFA1fb989d611C219B BALANCE 100.00 ETH TX COUNT 0 INDEX 4
ADDRESS 0×e489155458675e7284760e8431f98Ce5455a5DEf BALANCE 100.00 ETH TX COUNT 0 INDEX 5

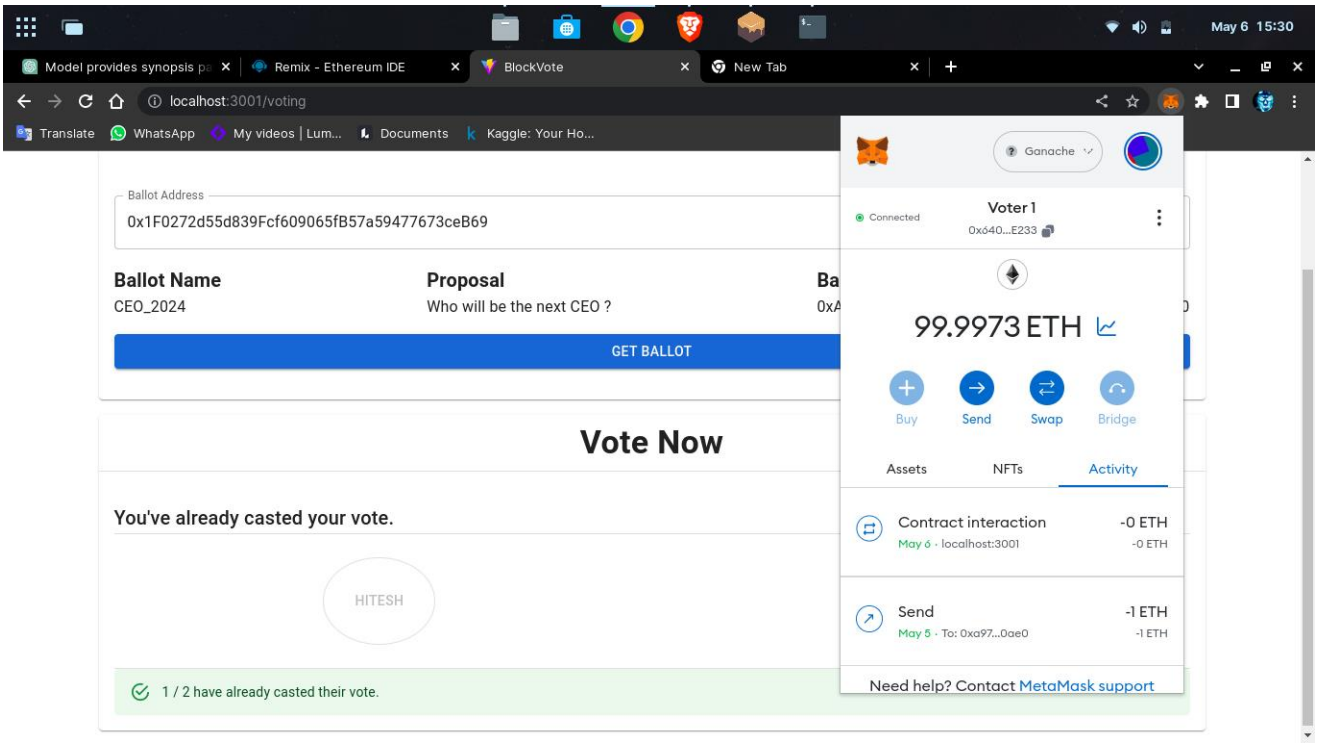

May 5 14:57
Ganache
ACCOUNTS
BLOCKS
TRANSACTIONS
CONTRACTS
EVENTS
LOGS
SEARCH FOR BLOCK NUMBERS OR TX HASHES
CURRENT BLOCK 8
GAS PRICE 20000000000
GAS LIMIT 6721975
HARDFORK MUIRGLACIER
NETWORK ID 1337
RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING
WORKSPACE BALLOT-DEMO
SWITCH
BLOCK 8 MINED ON 2023-05-05 14:57:03 GAS USED 44748 1 TRANSACTION
BLOCK 7 MINED ON 2023-05-05 14:55:56 GAS USED 55280 1 TRANSACTION
BLOCK 6 MINED ON 2023-05-05 14:55:19 GAS USED 70280 1 TRANSACTION
BLOCK 5 MINED ON 2023-05-05 14:52:31 GAS USED 54448 1 TRANSACTION
BLOCK 4 MINED ON 2023-05-05 14:52:17 GAS USED 69436 1 TRANSACTION
BLOCK 3 MINED ON 2023-05-05 14:51:10 GAS USED 1392791 1 TRANSACTION
BLOCK 2 MINED ON 2023-05-05 14:49:41 GAS USED 21000 1 TRANSACTION
BLOCK 1 MINED ON 2023-05-05 14:46:02 GAS USED 21000 1 TRANSACTION
BLOCK 0 MINED ON 2023-05-05 14:28:45 GAS USED 0 NO TRANSACTIONS

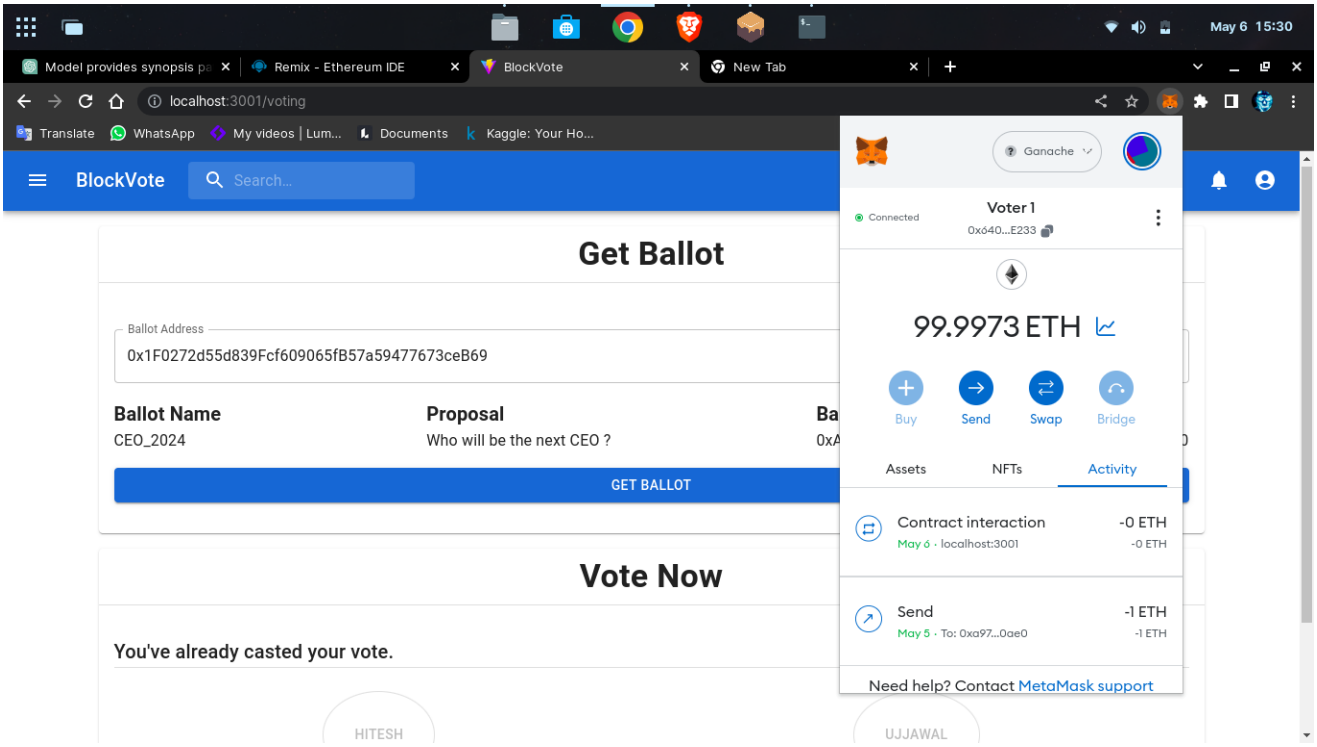


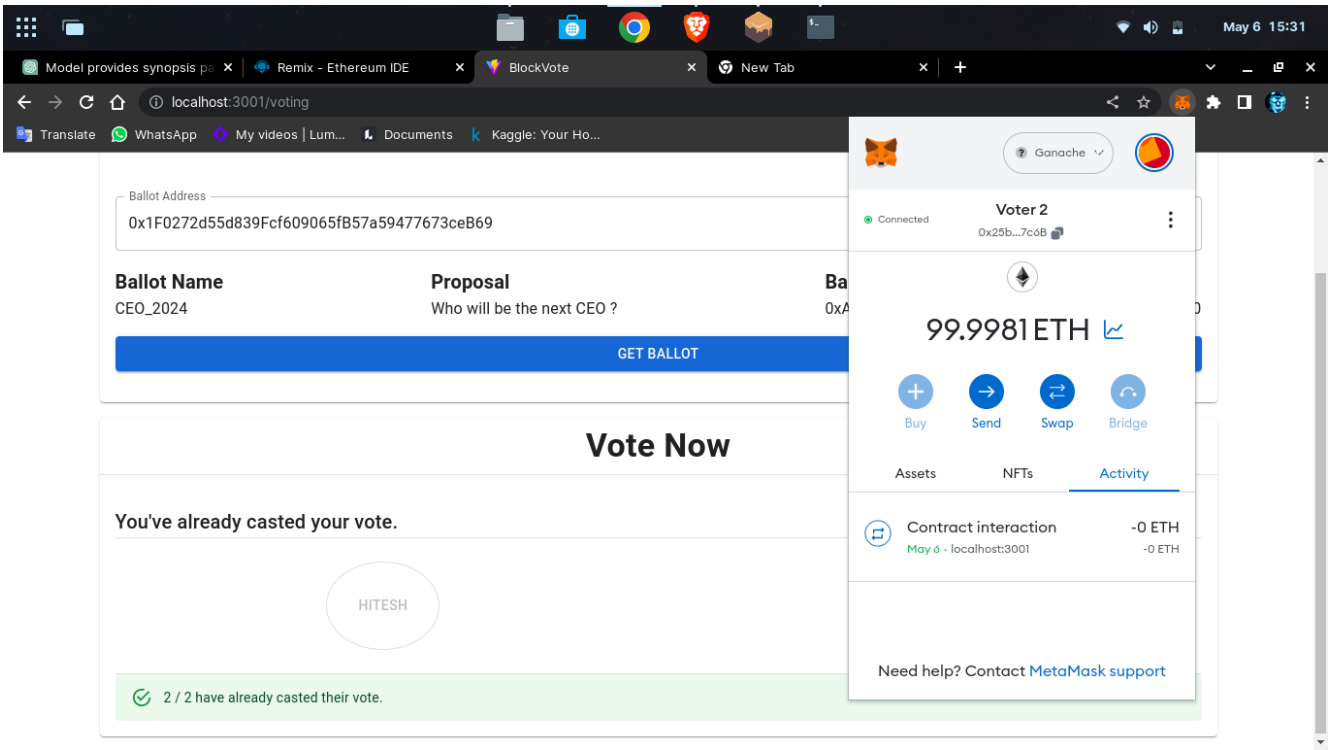
- **Voting Process**

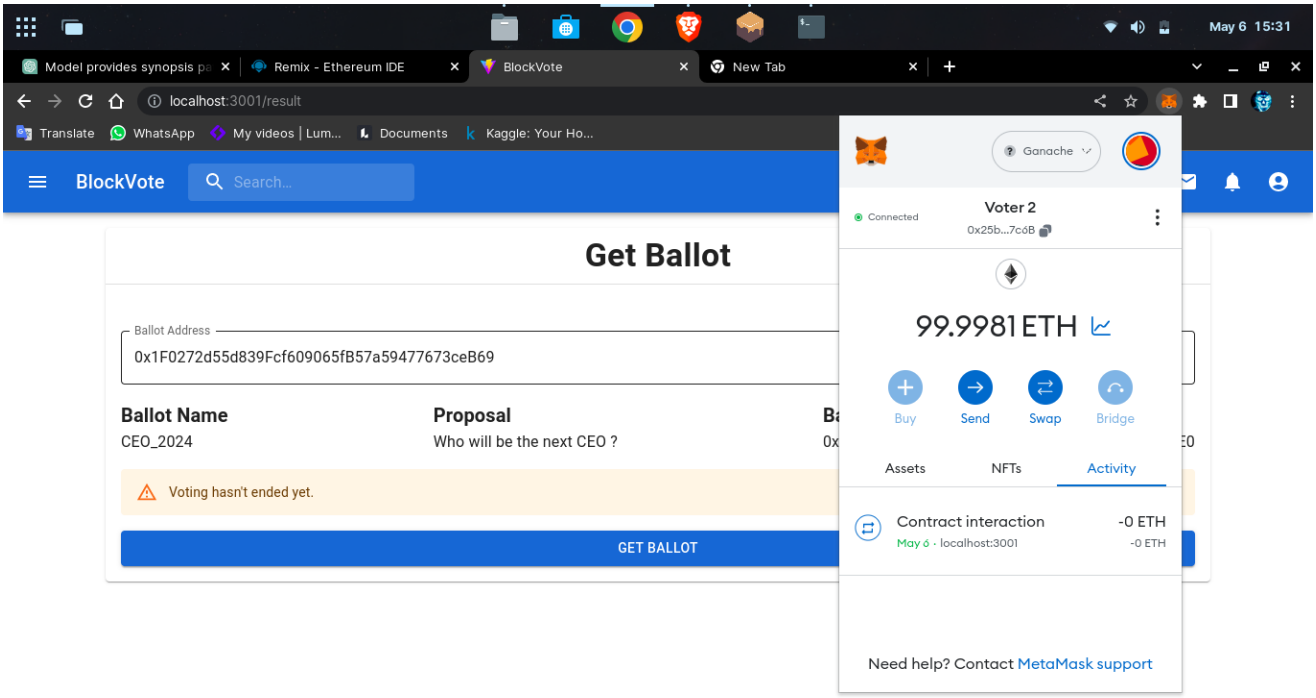


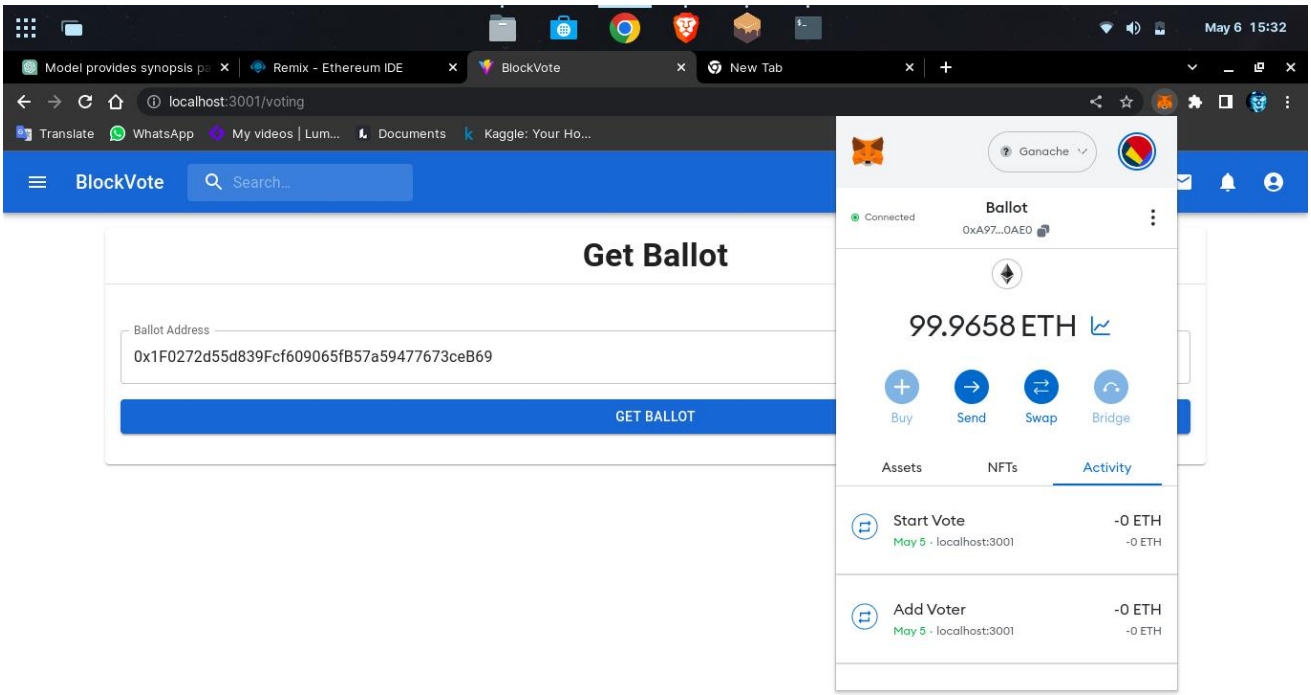

May 6 15:29
Model provides synopsis pa
Remix - Ethereum IDE
Confirmed transaction
Transaction 1 confirmed!
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Vote casted successfully.
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
Ballot Address
0xA975796FF1FB6E852a84CA1273753490e61e0AE0
GET BALLOT
Vote Now
You've already casted your vote.
HITESH
UJJAWAL
1 / 2 have already casted their vote.

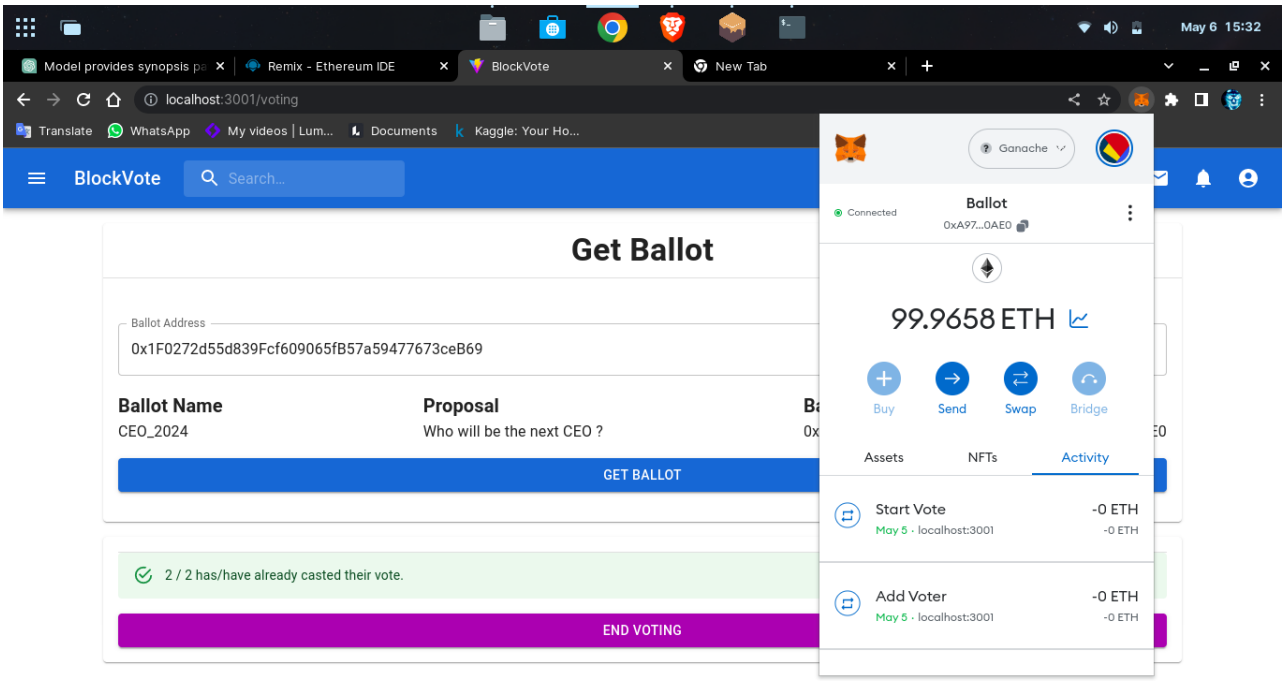

May 6 15:30
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Ganache
Connected
Voter 1
0xd40...E233
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
GET BALLOT
99.9973 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Contract interaction
May 6 · localhost:3001
-0 ETH
-0 ETH
Send
May 5 · To: 0xa97...0ae0
-1 ETH
-1 ETH
Need help? Contact MetaMask support
Vote Now
You've already casted your vote.
HITESH
1 / 2 have already casted their vote.

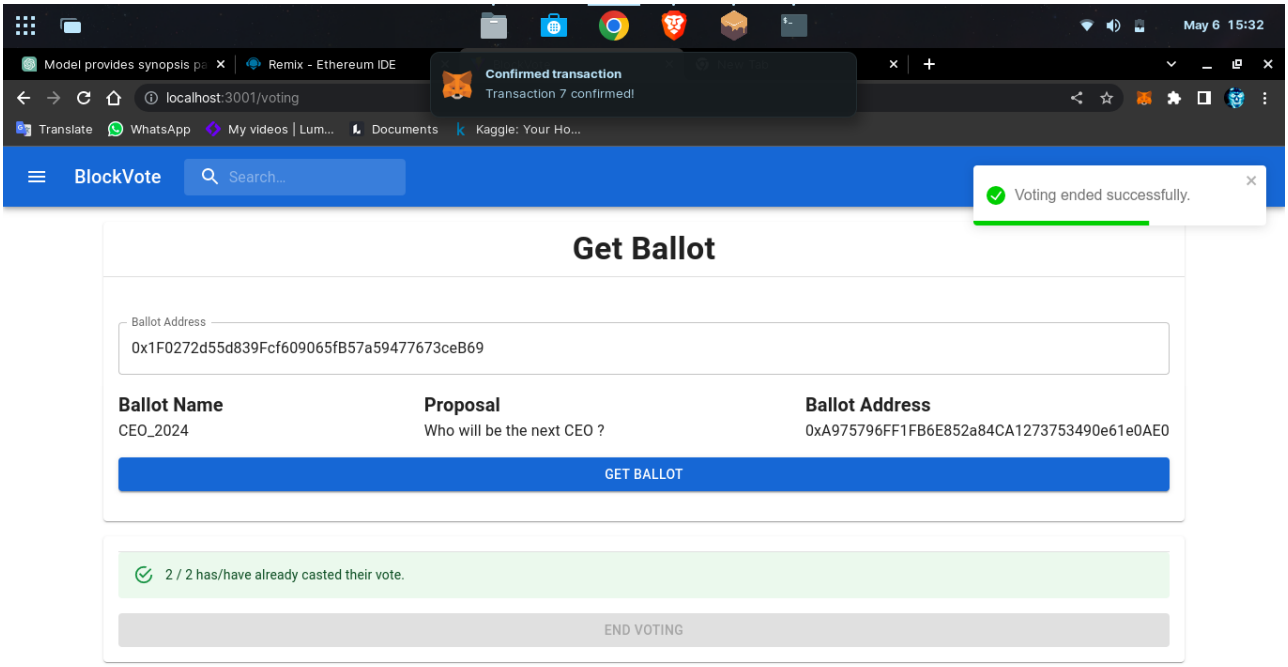

May 6 15:30
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
GET BALLOT
Vote Now
You've already casted your vote.
HITESH
UJJAWAL
Ganache
Connected
Voter 1
0x640...E233
99.9973 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Contract interaction
May 6 · localhost:3001
-0 ETH
Send
May 5 · To: 0xa97...0ae0
-1 ETH
Need help? Contact MetaMask support

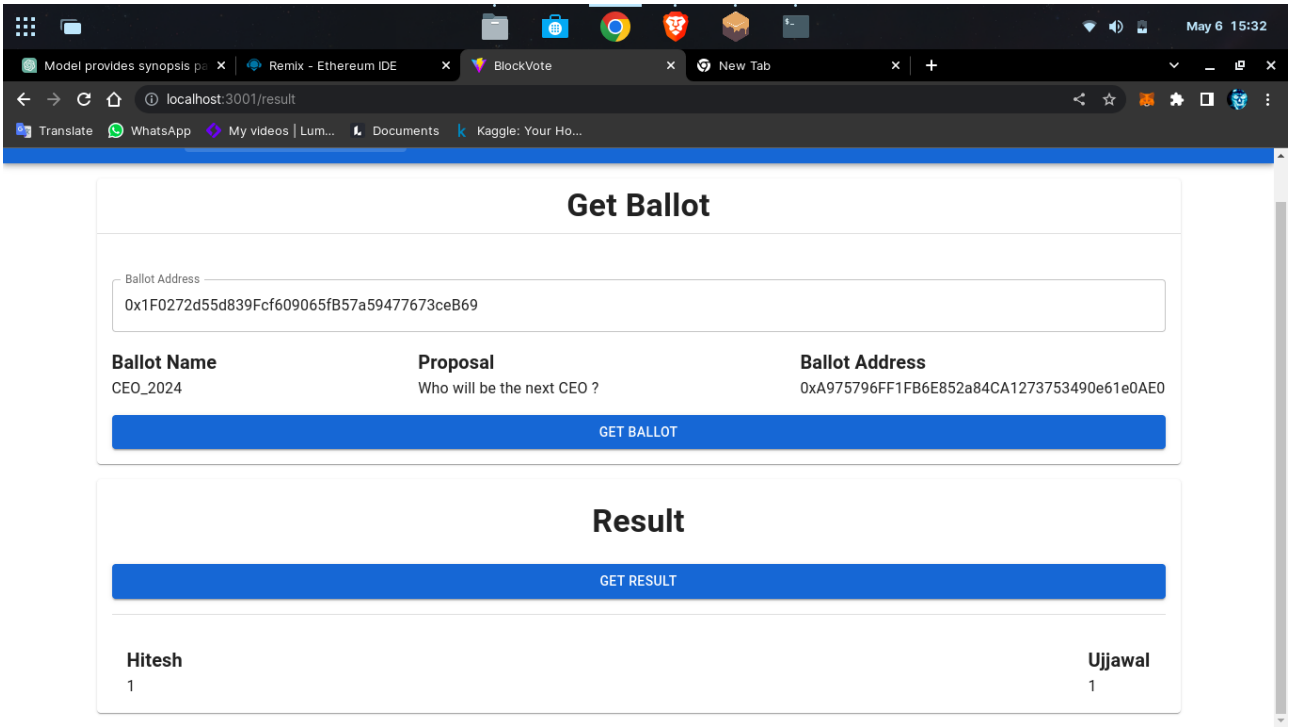

May 6 15:31
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
GET BALLOT
Vote Now
You've already casted your vote.
HITESH
2 / 2 have already casted their vote.
Ganache
Connected
Voter 2
0x25b...7c6B
99.9981 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Contract interaction
May 6 · localhost:3001
-0 ETH
Need help? Contact MetaMask support


May 6 15:31
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/result
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
Voting hasn't ended yet.
GET BALLOT
Ganache
Connected
Voter 2
0x25b...7c6B
99.9981 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Contract interaction
May 6 · localhost:3001
-0 ETH
-0 ETH
Need help? Contact MetaMask support

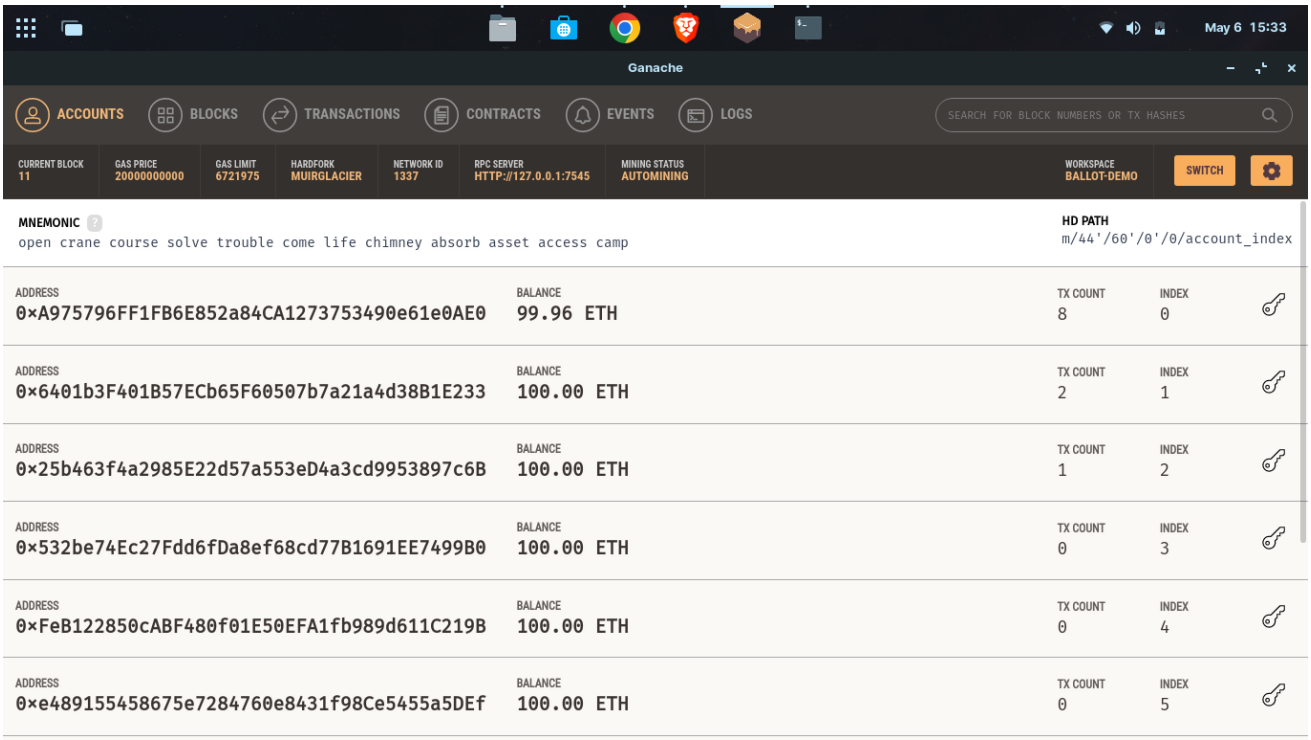

May 6 15:32
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
GET BALLOT
Ganache
Connected
Ballot
0xA97...0AE0
99.9658 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Start Vote
May 5 · localhost:3001
-0 ETH
-0 ETH
Add Voter
May 5 · localhost:3001
-0 ETH
-0 ETH


May 6 15:32
Model provides synopsis pa
Remix - Ethereum IDE
BlockVote
New Tab
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
GET BALLOT
2 / 2 has/have already casted their vote.
END VOTING
Ganache
Connected
Ballot
0xA97...0AE0
99.9658 ETH
Buy
Send
Swap
Bridge
Assets
NFTs
Activity
Start Vote
May 5 · localhost:3001
-0 ETH
Add Voter
May 5 · localhost:3001
-0 ETH


May 6 15:32
Model provides synopsis pa
Remix - Ethereum IDE
Confirmed transaction
Transaction 7 confirmed!
localhost:3001/voting
Translate
WhatsApp
My videos | Lum...
Documents
Kaggle: Your Ho...
BlockVote
Search...
Voting ended successfully.
Get Ballot
Ballot Address
0x1F0272d55d839Fcf609065fB57a59477673ceB69
Ballot Name
CEO_2024
Proposal
Who will be the next CEO ?
Ballot Address
0xA975796FF1FB6E852a84CA1273753490e61e0AE0
GET BALLOT
2 / 2 has/have already casted their vote.
END VOTING



- **Ganache After Voting Process**



Conclusion:

The blockchain-based voting machine platform is a secure and transparent way for voters to cast their votes. The platform offers several benefits over traditional voting methods, including transparency, security, cost-effectiveness, and efficiency. The platform is still in its early stages, but it has the potential to revolutionize the way we conduct elections in the future.

References:

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- https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID3648870_code4274500.pdf?abstractid=3648870&mirid=1
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- https://core.ac.uk/download/pdf/155779036.pdf
- https://www.researchgate.net/publication/351723225_Blockchain_Based_E-Voting_System
- https://www.researchgate.net/profile/Ahmed-Ben-Ayed-4/publication/341498272_A_CONCEPTUAL_SECURE_BLOCKCHAIN-BASED_ELECTRONIC_VOTING_SYSTEM/links/5ec4852a299bf1c09acbe626/A-CONCEPTUAL-SECURE-BLOCKCHAIN-BASED-ELECTRONIC-VOTING-SYSTEM.pdf