Electronic Voting System for the selection of Employee of the Month

EXECUTIVE SUMMARY

Innovate Electronic Voting System designed for the “Employee of the Month” selection, featuring a user-friendly interface that is intuitive to navigate and at its core, prioritizes transparency throughout the process by incorporating the following essential components

- Candidate Definition
- Secure Voter Registration Process
- Time Window management for Voting
- Guaranteed Singular Votes
- Easy user interface using drop down menus for voting

Concept

ABC COMPANY

Company ABC places a significant emphasis on employee satisfaction and fostering a culture of recognition. Their dedicated recognition programs serve as a powerful tool to actively engage and motivate their workforce.

They are actively pursuing the deployment of a friendly system to replace the current manual voting process, ensuring transparency, accountability and easy accessibility to all employees from different locations.

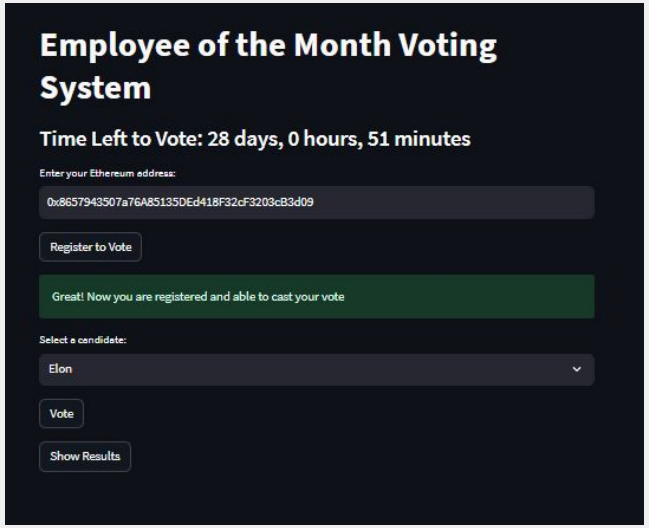
Company ABC has enlisted our expertise to develop an Electronic Voting System designed for the selection of the "Employee of the Month." This comprehensive solution should encompasses the following key components:

- Candidate Definition
- Streamlined Voter Registration Process
- Managed Time Window for Voting
- Guaranteed Singular Votes
- Allow for remote voting

EMPLOYEE RECOGNITION

SOLUTION

Registration



Employee of the Month Voting System

Time Left to Vote: 28 days, 0 hours, 51 minutes

Enter your Ethereum address:

0x8657943507a76A85135DEd418F32cF3203cB3d09

Register to Vote

Great! Now you are registered and able to cast your vote

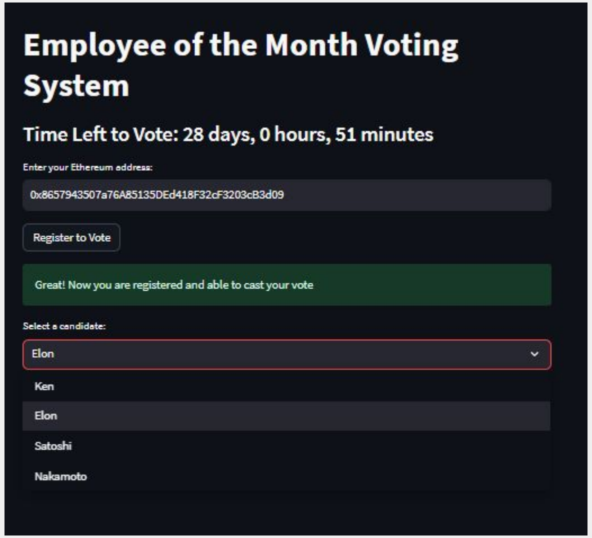
Select a candidate:

Elon

Vote

Show Results

Voting



Employee of the Month Voting System

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Enter your Ethereum address:

0x8657943507a76A85135DEd418F32cF3203cB3d09

Register to Vote

Great! Now you are registered and able to cast your vote

Select a candidate:

Elon

Ken

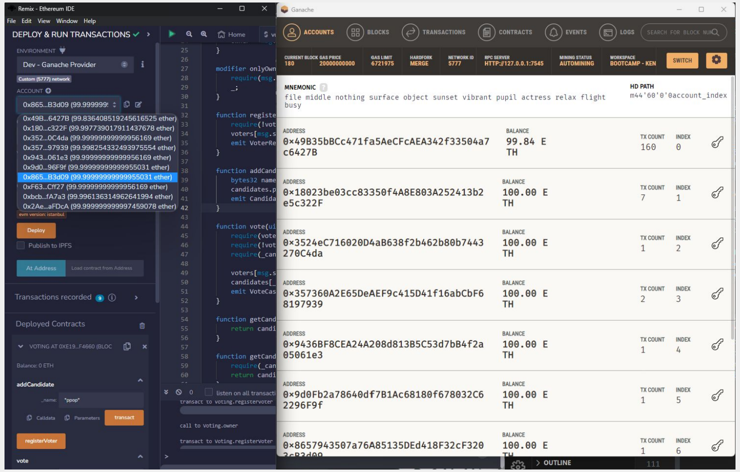
Elon

Satoshi

Nakamoto

SOLUTION

Voter Authentication



```
0x49B...6427B (99.836408519245616525 ether)
0x180...c322F (99.997739017911437678 ether)
0x352...0C4da (99.99999999999956169 ether)
0x357...97939 (99.998254332493975554 ether)
0x943...061e3 (99.99999999999956169 ether)
0x9d0...96F9f (99.99999999999955031 ether)
0x865...B3d09 (99.99999999999955031 ether)
0xF63...Cff27 (99.99999999999956169 ether)
0xbcb...fA7a3 (99.996136314962641994 ether)
0x2Ae...aFDcA (99.999999999997459078 ether)
```

```
    }

    modifier onlyOwn
        require(msg.
        _;
    }

    function registe
        require(!vot
        voters[msg.s
        emit VoterRe
    }

    function addCand
        bytes32 name
        candidates.p
        emit Candida
    }

    function vote(ui
        require(vote
        require(!vot
        require(_can

        voters[msg.s
        candidates[_
        emit VoteCas
    }

    function getCand
        return candi
    }

    function getCand
        require(_can
        return candi
```

```
transact to voting.registervoter
call to voting.owner
transact to voting.registervoter
```

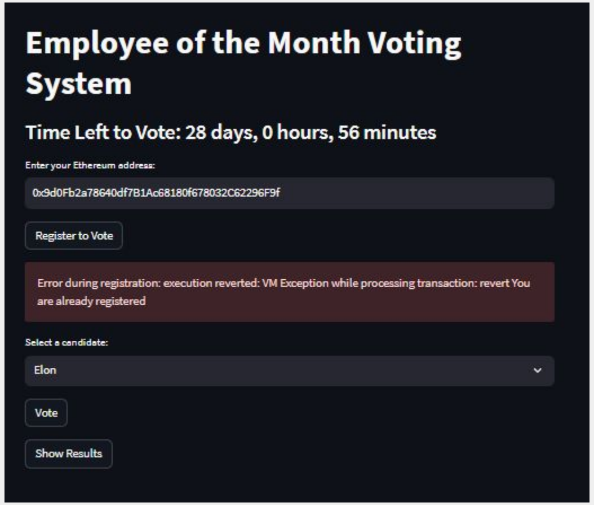
CURRENT BLOCK	GAS PRICE	GAS LIMIT	HARDFORK	NETWORK ID	RPC SERVER	MINING STATUS	WORKSPACE
180	20000000000	6721975	MERGE	5777	HTTP://127.0.0.1:7545	AUTOMINING	BOOTCAMP - KEN

MNEMONIC
file middle nothing surface object sunset vibrant pupil actress relax flight busy

HD PATH
m44'60'0'0account_index

ADDRESS	BALANCE	TX COUNT	INDEX
0×49B35bBCc471fa5AeCFcAEA342f33504a7c6427B	99.84 ETH	160	0
0×18023be03cc83350f4A8E803A252413b2e5c322F	100.00 ETH	7	1
0×3524eC716020D4aB638f2b462b80b7443270C4da	100.00 ETH	1	2
0×357360A2E65DeAEF9c415D41f16abCbF68197939	100.00 ETH	2	3
0×9436BF8CEA24A208d813B5C53d7bB4f2a05061e3	100.00 ETH	1	4
0×9d0Fb2a78640df7B1Ac68180f678032C62296F9f	100.00 ETH	1	5
0×8657943507a76A85135DEd418F32cF3203cB3d09	100.00 ETH	1	6

Unique voting validation



Employee of the Month Voting System

Time Left to Vote: 28 days, 0 hours, 56 minutes

Enter your Ethereum address: 0x9d0Fb2a78640df7B1Ac68180f678032C62296F9f

Error during registration: execution reverted: VM Exception while processing transaction: revert You are already registered

Select a candidate: Elon

Technologies used

SOLIDITY	To create the Smart Contract to manage the votes
GANACHE	To manage the registration process and accounts management
METAMASK	To manage user accounts and private key securely
VSCODE	To edit the text and create the code for Streamlit
STREAMLIT	To create the User interface and visualization elements

Approach

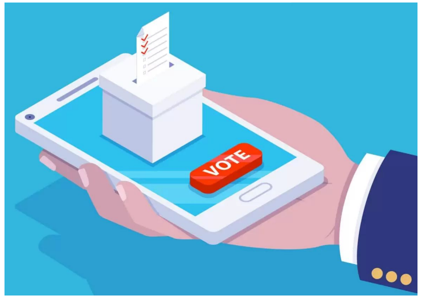
Challenges

- Synchronization of functions between Solidity and Streamlit to obtain the user interface desired
- Changes during development phase compared to the original plan
- Remix version compatibility

Successes

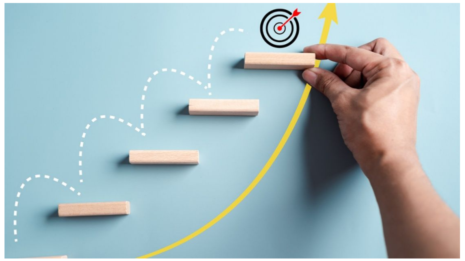
- Creation of an app connecting multiple tools
- Ganache accounts set up
- Use of Streamlit to create a friendly user interface

Demo



Next Steps

- Define a public function that describes what the Candidates are.
- Define an admin function that sets up who the candidates are.
- Include the candidates pictures within the ballot.
- Improve the tally up process visualization.
- Create protocols to control the access to the results



Links

- E Voting System ethereum: https://github.com/GeekyAnts/sample-e-voting-system-ethereum
- Vote Contract: https://gist.github.com/maheshmurthy/3da385a42678c3e36a8328cbe47cae5b