Group Members -

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Project Topic -

Voting System (https://github.com/dhyey510/BlockchainProject)

Project Description -

Primarily, We will work on the given contracts and get them up and running. We've decided to work on the application on the subject of ''Voting'' and it would include sub-components such as registering for a new party, automatic vote calculation, immutable votes and all in all - a decentralized voting system with genuine confidentiality of votes.

We will ensure the authenticity of the user by validating the documents and we will check later on whether the user has a sufficient amount of Ethereum in their wallet.

The votes are immutable which means that the person won't be able to change their vote once it is submitted. We'll also add a 'NOTA (None of the above)' option for a person who does not support any of the candidates.

Improvements -

We developed our project from scratch. We developed 3 contract
1. NFT
2. Marketplace
3. Ballot

In Ballot contract, we take help of contract which is given on solidity website under example tab. Then we developed multiple functionalities as describe below :

- Developed a Web Interface.
    - In which we developed 2 side. One is for Admin who handel voting process and another for voter who cam on website for voting and buying nfts.

- Reset Button
    - The functionality of this button is that we are going to rest the whole voting process and it will start from scratch. The user must also ask for **"Give me right"** once the reset button is called.

- End Vote
    - The functionality of this button is that when the admin clicks on this button, the ballot being conducted is stopped. After that, no user can vote for the ballot being conducted. Plus, the **Winner's name** will also be displayed as soon as the End Vote button is clicked.

- Summary
    - The functionality of this button is that the user will come to know the **current status** of the election being conducted. We will also display the list of candidates that are currently standing up for election and the **live vote count** of that candidate.

- Voting
    - The user can vote for the desired candidate he/she wishes. The user has also an option of **NOTA (None Of The Above)** if the user doesn't want to vote for any of the above-listed candidates.

- Give Me Right
    - The user needs to click on this button before he wants to vote. The user can't vote if he hasn't taken this permission from the admin. We are also checking for a condition that the user has a sufficient amount of Ethereum to vote for the election being conducted.

- Pause / Continue
  - Pause - The admin only can use this button. We have given this authority to the admin in case there is any technical glitch or any type of error then the election can be stopped at that time only. The current state of the election is being saved and no user can vote at that time. Users can start voting once the continue button is clicked by the admin.
  - Continue - The admin can only use this button. The use of this button is to continue the election process from the pause state where it was stopped.

- User Profile
  - We are going to display the user details which consist of the **current Etherium** the user posses and the **user address**.

- Candidate Page
  - The list of the candidates that are currently been standing for the election. The difference between the Summary and Candidate Page is that the Candidate Page will consist of the history of the candidate that is in an election and their motto.

- Delegate
  - The word delegate means "a person sent or authorized to represent others".
  - We are going to use the delegate function so if a user doesn't want to vote or doesn't know which party to vote for then the user can use the delegate function, so user will give the authority to vote from their side. The person who is going to vote for that user can vote from his side also and from their own side.
  Example - If there are 2 people "A" and "B". "A" uses delegate function and gives authority to "B". "B" has the power to vote from his side and also from "A" side. B will vote 2 times in total.

- NFT
  - We developed NFT Page on admin side from which admin can mint and listing nfts as much as party said.
  - Also, admin have to set price of all nfts as per party said while listing nft.
  - The NFT consists of the **symbol** of the parties which are currently standing up for the election.
  - Also it consist, seller address and price.
  - Once admin mint the nft then it need approve for listing.

- NFT Marketplace

- We developed nft marketplace from scratch for our website where voters can buy nfts.
- Voter can see all listing nfts on marketplace.
- Also there is status part which describe particular nft is sold or not.
- Here, voter can buy as many nfts as they want from their account.

Instructions -

1. Open ganache for local blockchain network

2. Run **truffle compile** code in terminal

3. **Change contract address** of Market, Ballot and NFT in index.js file from ganache.

4. Run **truffle migrate** command.

5. Run index.html file. It will connect website with metamask.

6. That's it! Enjoy our website for Evoting.