SMART VERIFICATION SYSTEM FOR MEDIA FILES USING BLOCKCHAIN

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Brief of Description

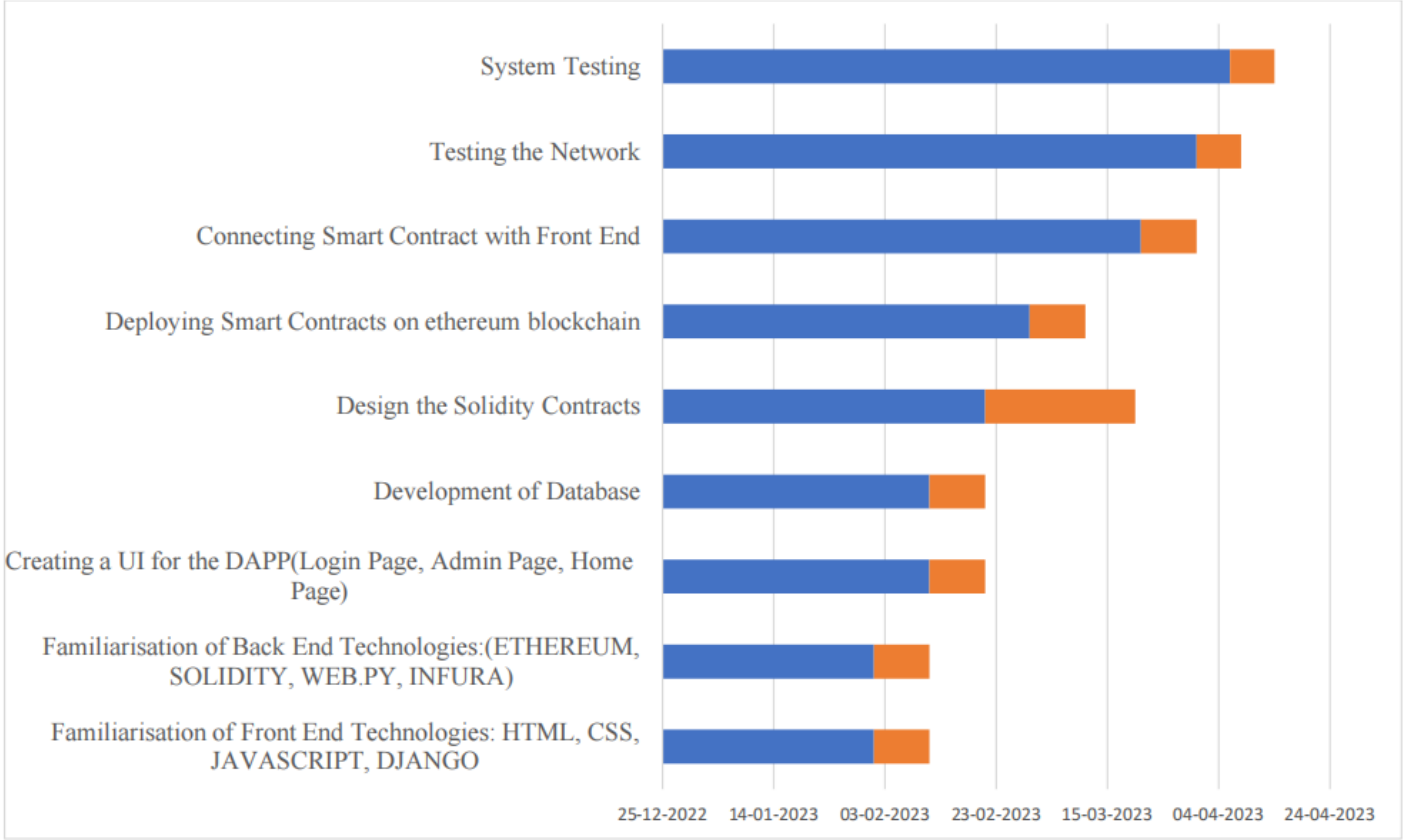
- In this modern world where information is stored and shared in digital manner in the format of image, video.
- Document privacy and authenticity of the data needs to be preserved which is not an easy task.
- The major threat is where the data shared or stored can be tampered or manipulated with and it is very difficult to check for the same
- Sometimes the data we are collected like videos may have much importance which may be a crucial part in the evidence of crimes etc.
- So we need some technique which will helps to verify whether the data in the media file is manipulated or not .
- This system will overcome this challenge because we are building the system using the Blockchain technology.

- The system starts with the creation and registration of admin account which will be used to manage the system as a whole.
- Admin logs into the system then after successfully logging into the system the admin can add media file to the system and the system will store the details in to the blockchain.
- Admin is responsible for block creation.
- After block creation and block addition the system can generate the report which contain the overview of the blockchain which contains all the details of blocks in the Ethereum blockchain.
- The report is generated using the updated blockchain data from tools provided by the infura framework which is used to manage the Ethereum blockchain in this system and represent it in a more readable format.

- When the admin adds files into the system that files will be processed by a metadata extractor.
- The meta data extractor is responsible for extracting the data about the files.
- The hash calculator will generate the hash values based on these file details.
- The block creator will create a new block which contain informations such as hash value of the file and file details.
- After the successful creation each block will be added to the Ethereum blockchain.
- When the user wants to verify a particular file they can use the verify option which will allow the hash calculator to generate the hash value and which will be compared with the hash value previously stored in the blockchain at the time when admin adds the file in to the system.
- The users can view the results which will help they to verify whether a file is tampered or not.

- This system allows user to add media file to the system ,then generate 256-bit unique hash value using SHA-256 hashing algorithm which is the unique identifier for the media file.
- If the need arises to check the authenticity and integrity of the media file then the hash generated is compared against hash value that is stored in blockchain, if both hash values are same, then the file is authentic and if generated hash is different from the one stored in blockchain then file is tampered or manipulated.

GANTT CHART


System Testing
Testing the Network
Connecting Smart Contract with Front End
Deploying Smart Contracts on ethereum blockchain
Design the Solidity Contracts
Development of Database
Creating a UI for the DAPP(Login Page, Admin Page, Home Page)
Familiarisation of Back End Technologies:(ETHEREUM, SOLIDITY, WEB.PY, INFURA)
Familiarisation of Front End Technologies: HTML, CSS, JAVASCRIPT, DJANGO
25-12-2022
14-01-2023
03-02-2023
23-02-2023
15-03-2023
04-04-2023
24-04-2023

Things we have done in this semester

Front End

- html css js Django and vs code
- Template views business logic
- Html css home page
- Login page
- Admin dashboard

Back End

- Database: Mysql Admin information database
- Users information database
- Studied about blockchain
- Important dependencies for blockchain and web3 library installed
- Remix id for writing solidity installed and familiarised
- Researched about verification process
- Database created to upload files with description and reference to the file and saved locally in the system

Reference

Thank you