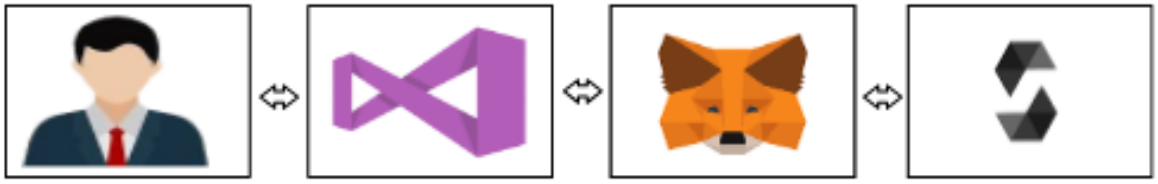
PROJECT DESIGN PHASE

ETHEREUM DECENTRALIZED IDENTITY SMART CONTRACT

SOLUTION ARCHITECTURE

- Develop the identity smart contract using a language like Solidity (for Ethereum) or any other suitable language for the chosen platform. The smart contract will contain the logic for creating, managing, and verifying digital identities.
- Define the structure for storing identity data within the smart contract. This can include personal information, cryptographic keys, and any additional attributes that are necessary for identity verification.
- For added security and privacy, consider using decentralized storage systems such as InterPlanetary File System (IPFS) to store sensitive identity data off-chain.
- Implement access controls within the smart contract. Ensure that only authorized parties can modify or access identity data. This typically involves role-based access control and cryptographic methods.

EXAMPLE-SOLUTION ARCHITECTURE DIAGRAM:

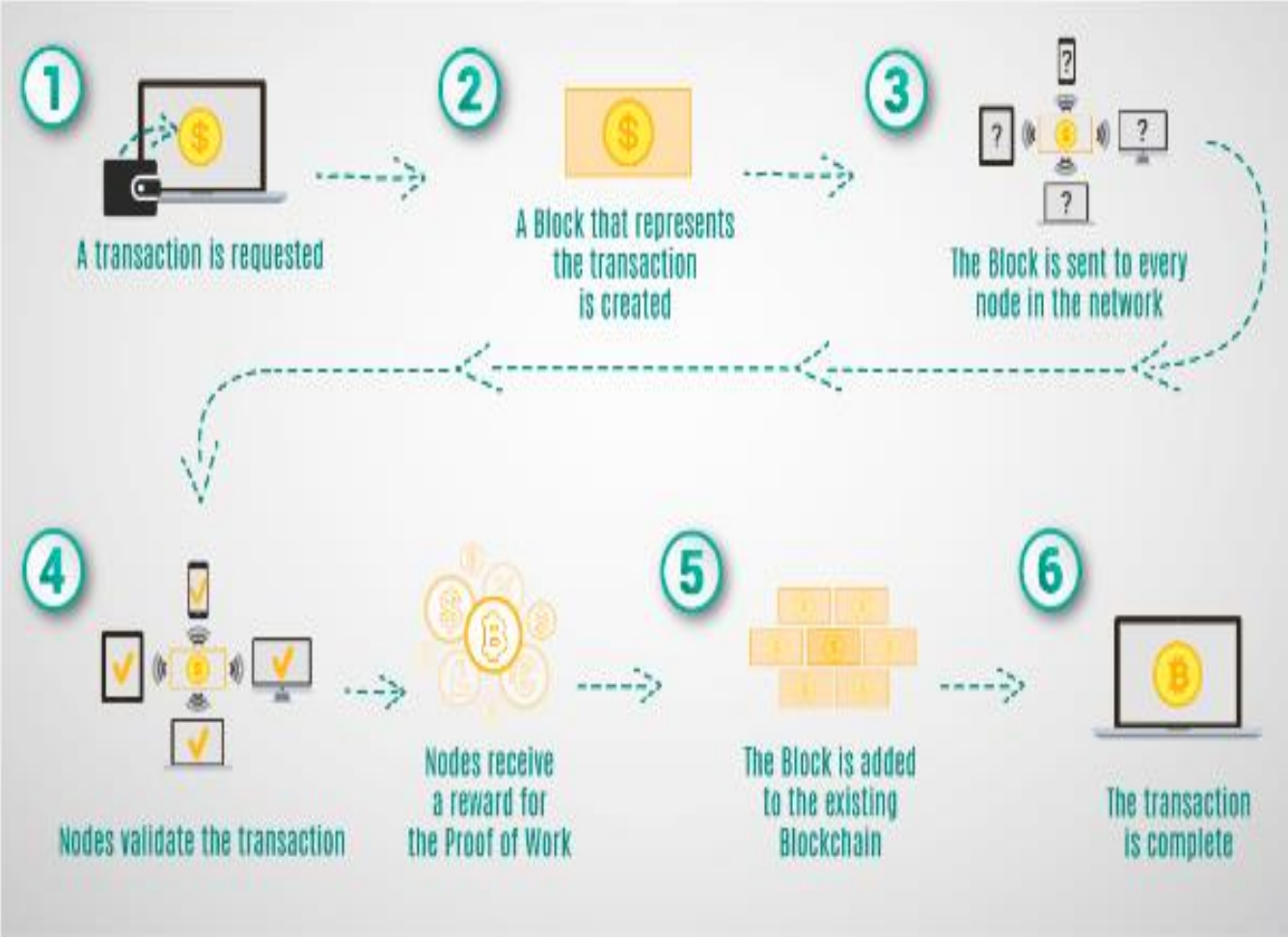


End User

Frontend (VS code)

Meta mask

Solidity code (blockchain code)



STEPS TO FOLLOW:

1 download node.js : Node.js

2 download vs code: **Li4nk**

3 download metamask : https://metamask.io/

Steps to complete the project

Step 1:-

1. Open the Zip file and download the zip file.

Extract all zip files

Step 2 :

1.Open vs code in the left top select open folder. Select extracted file and open .

2. Select the projectname.sol file and copy the code.

3. Open the remix ide platform and create a new file by giving the name of

projectname.sol and paste the code which you copied from vs code.

4. Click on solidity compiler and click compile the projectname.sol

5. Deploy the smart contract by clicking on the deploy and run transaction.

6. select injected provider - MetaMask. In environment

7. Click on deploy. Automatically MetaMask will open and give confirmation. You will get

a pop up click on ok.

8. In the Deployed contract you can see one address copy the address.

9. Open vs code and search for the connector.js. In contract.js you can paste the

address at the bottom of the code. In export const address.

10. Save the code.

Step 3:

open file explorer

1. Open the extracted file and click on the folder.

2. Open src, and search for utiles.

3 . You can see the frontend files. Select all the things at the top in the search bar by

clicking alt+ A. Search for cmd

4. Open cmd enter commands

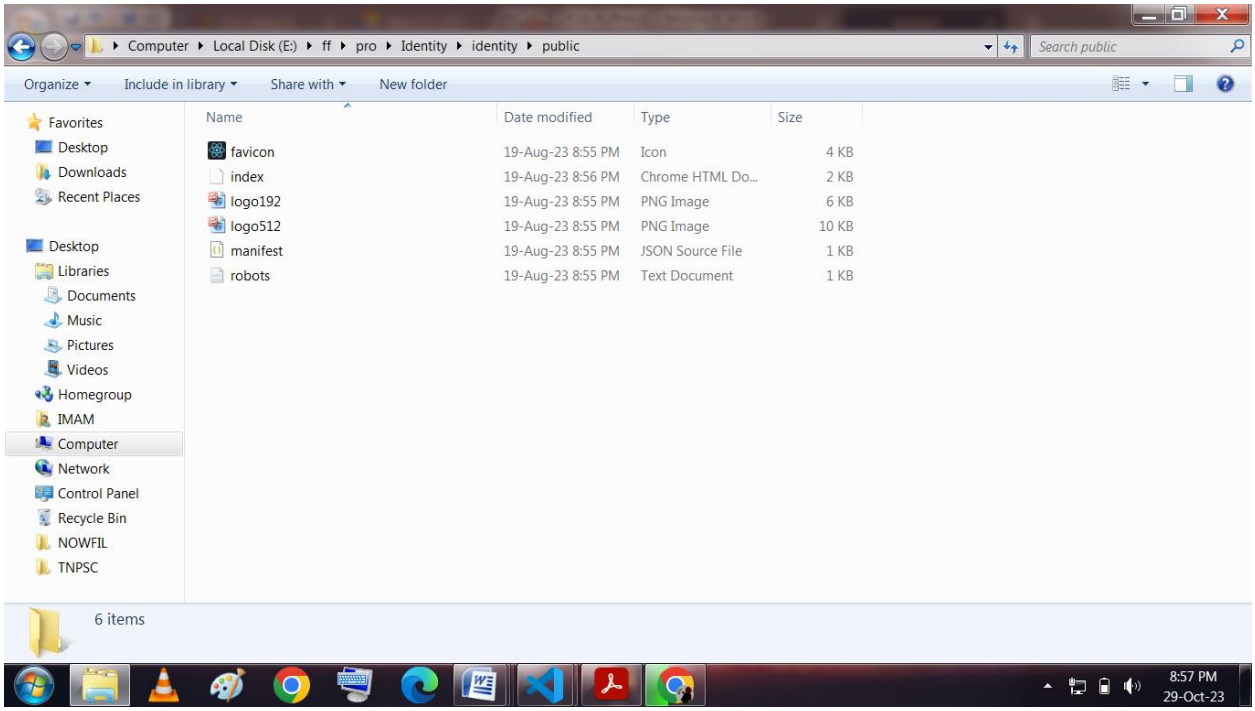
npm install

npm bootstrap

npm start

5. It will install all the packages and after completing it will open {LOCALHOST IP ADDRESS} copy the address and then we can run front end of our project.

STEP 1: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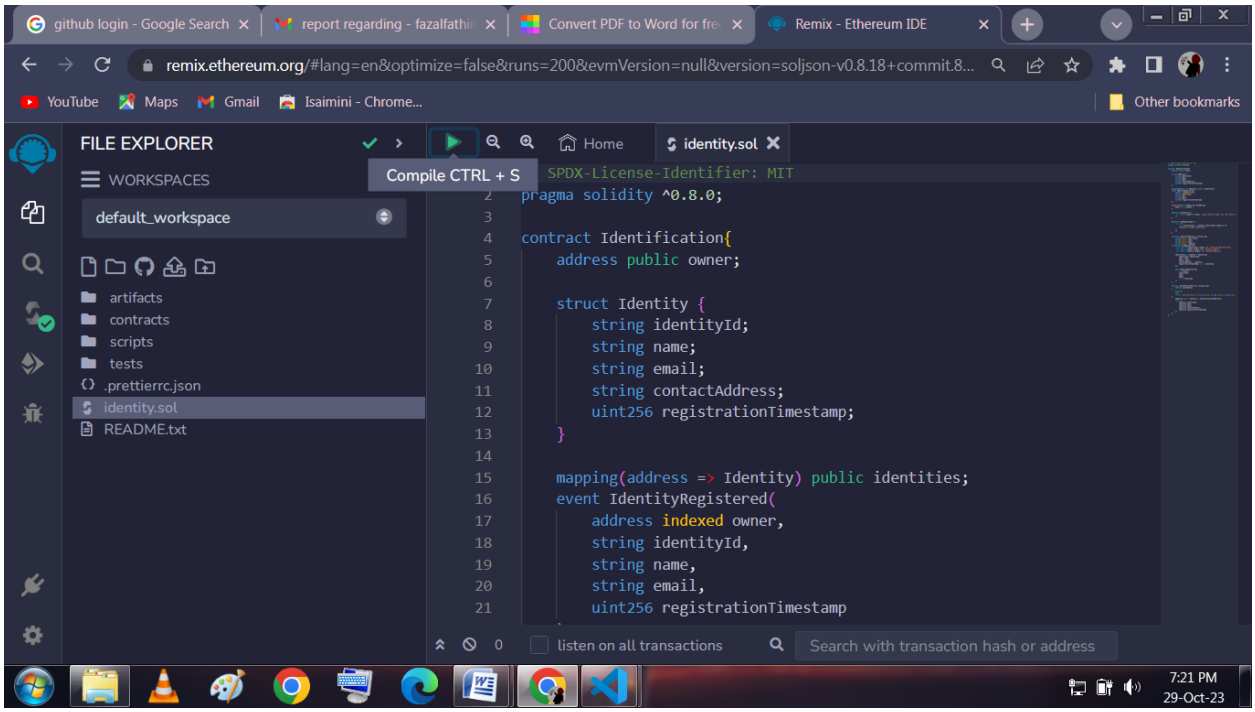
STEP 2: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tests
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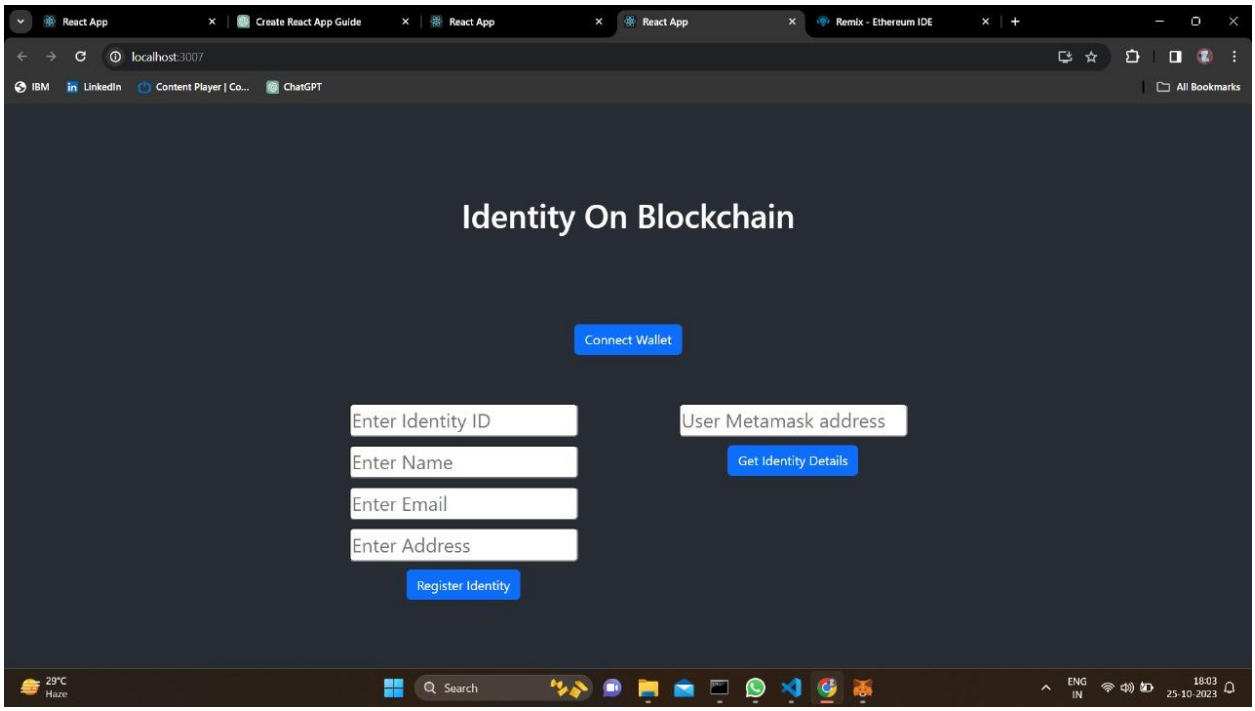
identity.sol
README.txt
SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
contract Identification{
address public owner;
struct Identity {
string identityId;
string name;
string email;
string contactAddress;
uint256 registrationTimestamp;
}
mapping(address => Identity) public identities;
event IdentityRegistered(
address indexed owner,
string identityId,
string name,
string email,
uint256 registrationTimestamp
listen on all transactions
Search with transaction hash or address
7:21 PM
29-Oct-23

STEP 3: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