

Asst. Manager – Full Stack Developer – Technical Assessment

This assessment is about developing an NFT portal in order to assess the technical skills of the candidate in the areas of Web3.0, Full stack and API.

The Assessment consists of 3 parts :

1. Smart contracts :
 - a. Develop and Deploy NFT smart contracts
 - b. The smart contracts should be able to mint NFT
 - i. Mint only valid certain duration (example between 7 Jan to 14 Jan 2023)
 - ii. Mint only once for each wallet and Receipt (refer to 3.i)
 - iii. The receipt will have to be store in smart contract state
 - iv. Only able to mint 5 NFT
 - v. The NFT should have metadata (name, description, image)
 - c. Script to deploy the smart contract
2. WebApp :
 - a. React app with any preferred React framework can be used
 - b. Web3 integration with web3.js or ether.js
 - c. Collect user input e.g. NRIC
 - d. Interact with Smart contract by Claim (mint) NFT with the connected wallet and Receipt (refer to 3.i)
 - e. The App should display the NFT image from NFT metadata
 - f. The necessary error handlings to be developed
3. API:
 - a. Golang API
 - b. Any preferred framework (example gin-gonic)
 - c. The API will collect National Registration Identity Card (NRIC) and wallet address from WebApp
 - d. POST API body: NRIC and wallet address
 - e. NRIC must be unique
 - f. Wallet address can only be associated with 1 NRIC
 - g. Store into RDBS (PostgreSQL, MySQL, etc) for the unique NRIC and wallet address
 - h. Provide the docker-compose.yaml script for the RDBS stack
 - i. POST API Response with a Receipt produce by encrypt or hash the API body, you would need to explain why you choose one mechanism over the other (encrypt vs hash)

Please zip the solution and provide the publicly accessible GitHub link of the solution for whatever development work done.

The solution should include the instructions on how to start the application and deploy the smart contract.

Recommended to provide any references, documentation used along with codebase.