



Centre For Innovation

Office of Dean Students

IIT Madras

Chennai - 600 036



APPLICATION FOR PROJECT MEMBER WEBOPS AND BLOCKCHAIN CLUB BLOCKCHAIN

Centre for Innovation (CFI)

Indian Institute of Technology Madras

"I could either watch it happen or be a part of it"

Elon Musk

Name:	Nick:
Roll No:	E-Mail:
Phone:	CGPA:



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GENERAL INSTRUCTIONS

- Keep your answers concise, crisp and information-rich. **Do not** write long paragraphs. Write answers in bullet points, and detailed to the point.
- Presentation is everything. Or at least something. So make it that way.
- In case of any queries or concerns, feel free to reach out to:
Girinath C:8754893068
Mithesh M:7812887158
- The completed application (saved as <Your Name>_<Roll no.>_Blockchain_Project Member_2024) must be sent in PDF format to **cfiwebops@smail.iitm.ac.in**
- Deadline for submission: 1st May 2024, 11:59pm.



PROJECT DETAILS

Project:

Instagram 3.0: Traditional social media platforms, like Instagram, are centralized, leading to concerns regarding user data privacy, content ownership, censorship, and lack of user control over platform governance. Users face challenges related to data exploitation, limited monetization opportunities, and reliance on platform intermediaries. There is a need for a decentralized social media platform that prioritizes user privacy, data ownership, content monetization, community governance, and censorship resistance while providing a seamless and engaging user experience comparable to centralized platforms like Instagram. This platform empowers users to control their identities, content, and interactions, foster a vibrant and inclusive community, enable content creators to monetize their work effectively, and ensure transparent and democratic platform governance through blockchain, smart contracts, and decentralized autonomous organizations (DAOs).

ConservChain - CrossChain EcoSustainability: In this project, instead of using traditional carbon credits issued within regulatory cap-and-trade programs, we are using digital tokens to represent the environmental impact and emissions reductions achieved through sustainable actions. These tokens, (say carbon tokens) serve a similar purpose to carbon credits but operate within a blockchain-based system.

The environmental actions are verified and validated using established protocols. Each token represents a specific amount of environmental benefit, such as carbon sequestration or energy savings. Users can trade, transfer or use these tokens. We will ensure that the tokenized assets are interoperable across various blockchains using cross-chain protocols. We will also make a decentralized governance model that allows communities to participate in decision-making processes, voting consensus protocols related to environmental initiatives.

Blockchain based Mutual Funds: Many companies are working with stocks and we have come up with a Blockchain-based Mutual funds system idea. Some of the benefits of it over traditional methods -

- Users can invest in off-chain or on-chain stocks through mutual funds on the blockchain.
- Mutual funds that operate on a blockchain can provide increased transparency in terms of their investment holdings, transactions, and fees. This can help investors make more informed decisions and increase trust in the fund.
- Mutual fund managers or companies cannot misrepresent the fund's performance by



inflating the reported returns, misrepresenting the fund's risk level, or providing false information about the fund's holdings.

- Blockchain-based Mutual funds will enhance the safety of investments by traceability.
- Blockchain-based mutual funds can allow investors to buy and sell fund shares more quickly and easily than traditional mutual funds.

All the best!!

QUESTIONNAIRE

ABOUT YOU

1. Why do you wish to become a Project Member of the club and what is your motivation and expectation for applying. Also for which project you want to apply?
2. Mention your strengths, previous experience (if any) pertaining to the role.

ABOUT BLOCKCHAIN

1. Explain the terms :
 - a. Hashing
 - b. Target hash
 - c. NFT
 - d. Consensus protocol
 - e. Public Permissionless blockchain
 - f. ERC-20 tokens
2. One of the important things associated with distributed networks is IPFS. Discuss the use cases of IPFS ,also the advantages and disadvantages.
3. One of the major aspects of blockchain is DeFi (Decentralized Finance system). Discuss the advantages of using DeFi over traditional systems.Support your reasoning with suitable examples.
4. **Smart contracts** are pieces of code maintained on the blockchain, which run applications (called dApps) on the blockchain.Traditional Banking systems involve a lot of paperwork and delay and everything.Let's implement a smart contract that will try to ease the banking system.Write a smart contract implementing loan and other features of bank i.e. whenever a



new customer comes, admin registers his name, existing customer can withdraw as well as deposit money and loan feature. Please ensure required checks are performed at each step. For simplicity you can assume only one admin.

You can write and test the contract on Remix IDE (<https://remix.ethereum.org/>).

Brownie points: Innovate to include penalties for delayed payments of loan. Implement an array of admins.

5. Blockchain/Decentralized part mostly consists of backend. In order to make frontend and connect backend and frontend Javascript and associated libraries/modules play an important role. Javascript is also used to make HTML pages dynamic. Solve the given question using basic HTML and Javascript.

Design an accordion-style menu using HTML, CSS, and JavaScript. Clicking on a menu item should expand or collapse its corresponding content section.

ABOUT PROJECT

1. From the proposed project choose any one project and try to form an end-to-end solution for that project. Your solution may or may not include code, try to cover the flow and way things will work for completing the project.