PRACTICAL 10

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Aim:	Creating Your Own Application of Blockchain Technology.		

Crowdfunding Platform using Blockchain

Crowdfunding has become a significant means of raising funds for various ventures, ranging from creative projects to innovative startup. Traditional crowdfunding platforms such as Kickstarter and GoFundMe have played a pivotal role in enabling individuals and businesses to seek financial support for their initiatives. However, these centralized platforms come with a host of issues, including transaction fees, lack of transparency, and susceptibility to fraud. A promising solution to these challenges is the integration of blockchain technology into crowdfunding platforms. This project aims to explore the development of a decentralized crowdfunding platform using blockchain, offering transparency, security, and reduced intermediary costs.

Problem Statement

Traditional crowdfunding platforms have several shortcomings:

- **Centralization**: Centralized platforms act as intermediaries between project creators and backers, leading to high fees and delays in fund transfers.
- **Transparency**: It is difficult for backers to track the usage of funds, leading to potential misuse or mismanagement by project creators.
- **Security**: These platforms are susceptible to hacking, data breaches, and fraud.
- **Geographical Limitations**: Traditional platforms often operate within specific regions, limiting access for potential backers and creators from different countries.

Objectives

The primary objectives of this project are:

- To develop a decentralized crowdfunding platform using blockchain technology.
- To ensure transparency by enabling backers to track funds in real-time.
- To eliminate intermediaries, thus reducing transaction costs and delays.
- To implement security features that protect both creators and backers from fraud and unauthorized actions.
- To create a cross-border, borderless platform, making crowdfunding accessible to anyone with an internet connection.

Methodology

Blockchain Framework Selection

The first step in the development of the decentralized crowdfunding platform is selecting an appropriate blockchain framework. Ethereum, with its robust smart contract capabilities, is chosen for this project. Ethereum's decentralized nature, combined with its ability to create programmable contracts, makes it ideal for implementing secure and transparent fundraising campaigns.
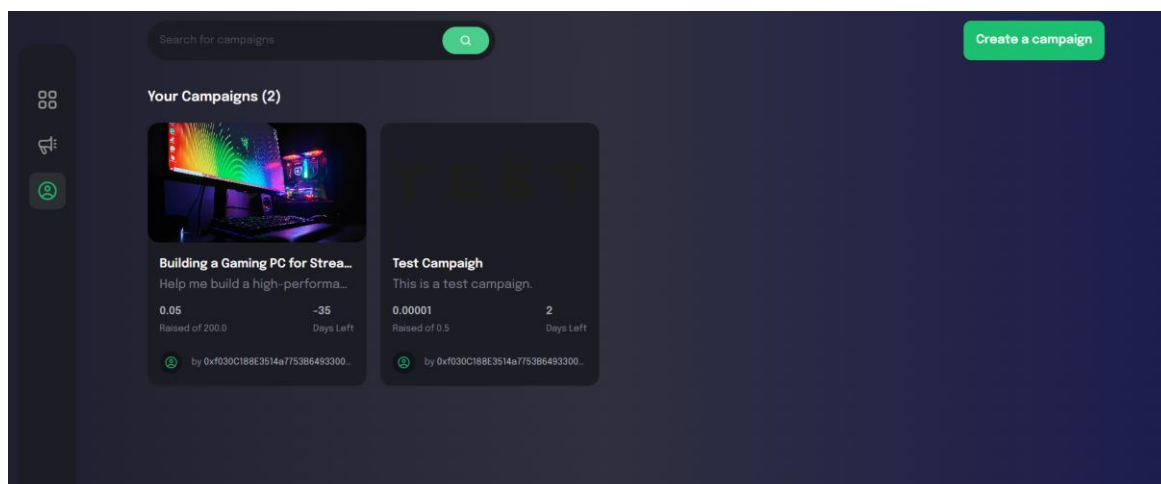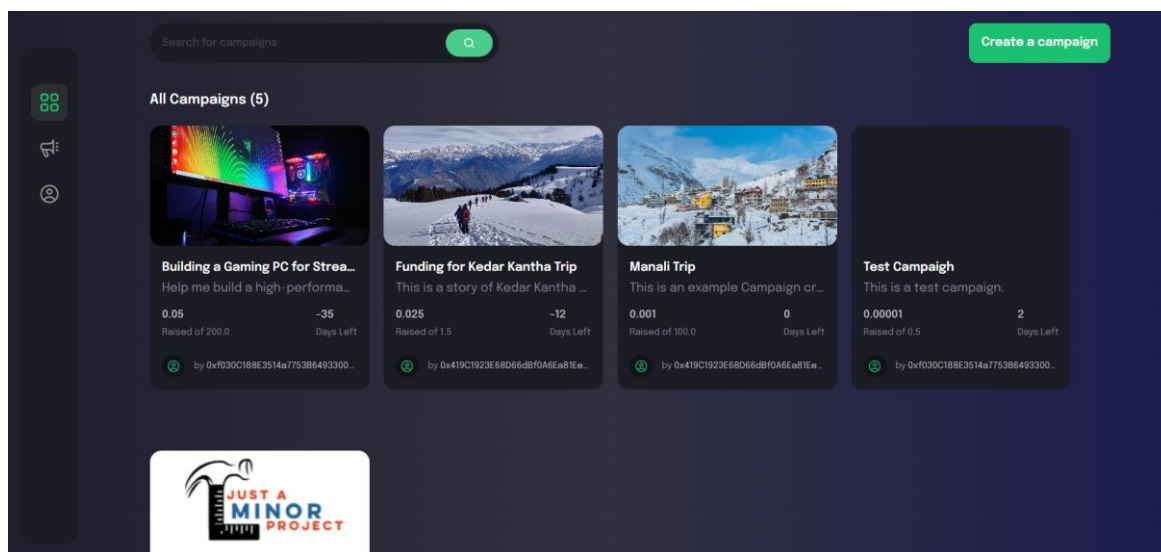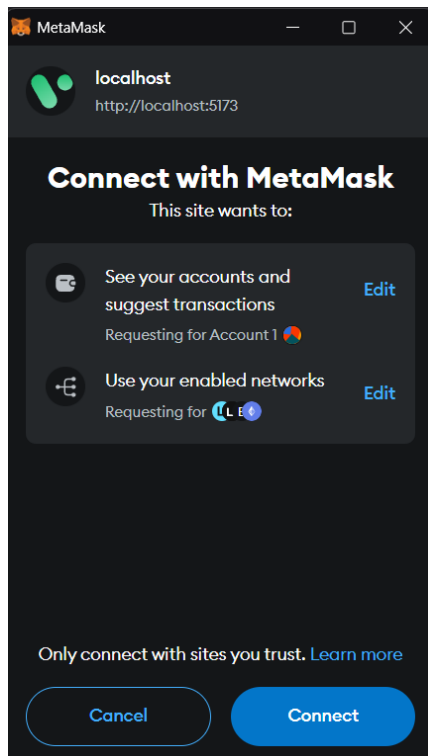
Smart Contracts

Smart contracts are self-executing contracts with the terms of the agreement directly written into code. In the context of this crowdfunding platform, smart contracts will be used to:

- **Fundraising Campaign Creation**: Project creators will deploy a smart contract to set up their campaign, defining the funding goal, duration, and other relevant details.
- **Fund Management**: Backers can contribute funds by interacting with the smart contract. Once the goal is met, the funds will be automatically transferred to the creator.
- **Escrow Mechanism**: Funds will only be released if the project reaches its funding goal within the set period. If the goal is not met, the funds will be returned to the backers, ensuring that no funds are misused.
- **Milestone-based Payments**: For large-scale projects, funds can be disbursed in milestones, with backers being able to vote on whether the creator meets the goals of each phase before funds are released.

Future Work

Future developments could include integrating more blockchain platforms to offer more flexibility and scalability, implementing a wider range of cryptocurrencies, and exploring additional use cases like charity donations and decentralized autonomous organizations (DAOs) for project governance. The platform could also include AI-driven analysis to evaluate project risks and predict the likelihood of success, providing additional insights for backers.

UI Snapshots