Thread of Goodness – Your Support ,Their Hope

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Abstract - Our crowdsourcing platform is especially made to enable non-profits to increase their visibility and accomplish their financing targets. Our platform gives NGOs the means to interact with funders, convey their vision, and monitor their progress towards goals while emphasising social impact, accountability, and transparency. We want to completely transform the way NGOs interface with donors and raise money by introducing tools like customisable campaign sites, real-time gift monitoring, and donor engagement statistics. We foresee a future where NGOs may more easily and effectively realise their goal of good social change by utilising the power of crowdfunding.

Key Words: crowdsourcing platform, non-profits, visibility, financing targets, NGOs, funders, vision, progress, social impact, accountability, transparency, donors, money, customisable campaign sites, real-time gift monitoring, donor engagement statistics, crowdfunding, social change.

INTRODUCTION

Our crowdsourcing platform is especially made to enable non-profits to increase their visibility and accomplish their financing targets. Our platform gives NGOs the means to interact with funders, convey their vision, and monitor their progress towards goals while emphasising social impact, accountability, and transparency. We want to completely transform the way NGOs interface with donors and raise money by introducing tools like customisable campaign sites, real-time gift monitoring, and donor engagement statistics. We foresee a future where NGOs may more easily and effectively realise their goal of good social change by utilising the power of crowdfunding. intellectual property, patents, copyrights, and trademarks are examples of intangible assets. Almost everything of value may be recorded and exchanged on a blockchain network, reducing risk and expenses for all parties. Any firm needs information to survive. The better, the faster and more accurate it is .. Blockchain is great for sharing information because it provides instantaneous, shareable, and fully transparent data that is stored on an immutable ledger accessible only to authorised network members. A blockchain network allows for the tracking of orders, payments, accounts, production, and much more. You can see all the details of a transaction from start to finish since members only have access to one version of the truth, which gives you more confidence and opens up new

opportunities and efficiency. The Ethereum blockchain relies heavily on smart contracts, which are essential to its advancement. Although they are fully digital and operate like contracts in the real world, they are computer programmes kept on the blockchain.These programmes run automatically in response to predetermined triggers, removing the need for a central authority and enabling anonymous parties to interact safely and reliably. The programming languages used to generate Ethereum smart contracts include Solidity and Vyper. With browser extensions or a mobile app, users may access the Ethereum network using the cryptocurrency wallet MetaMask. With MetaMask, users may safely engage with decentralised services, manage account keys, broadcast transactions, send and receive Ethereum-based money and tokens, and save account keys using the built-in browser of the mobile app or a compatible web browser. MetaMask was developed by ConsenSys Software Inc..

LITERATURE REVIEW

#	Paper Name	Author	Year of Publication	Publication	Seed Idea
1.	Decentralized Fundraising Application Using Blockchain	Rishi Dange, Aditya Sawant, Prerna Bhardwaj	2022	IEEE	Empower individuals to raise funds for social causes through a transparent and decentralized blockchain fundraising platform, ensuring accountability and trust in charitable giving.
2.	NFT Marketplace using Blockchain	Samreen Kazi, Leon D'souza	2023	IEEE	Develop a groundbreak NFT marketplace that tackles scalability, sustainability, and digit ownership challenges u blockchain and tokenomics.
3.	NFTs: Applications and Challenges	Wajiha Rehman, Hijab e Zainab	2021	IEEE	Establish a niche NFT marketplace catering exclusively to digital artists and creators, providing a curated platform for unique digital collectibles and art, while ensuring fair compensation and recognition for creators.

PROPOSED METHODOLOGY

This section elaborates on the design of our proposed framework, outlining its core functionalities and the deployment of various record-keeping techniques. An empirical study underscored the imperative need for a blockchain-based system for safeguarding the sensitive data of land records. Additionally, the validation of our framework underwent two phases: initially employing a simple smart

contract-based blockchain, followed by experiments to collect stakeholder data, as elucidated in this section.

Customers can create campaigns by connecting their MetaMask wallet to the web application. They enter campaign details, such as title, photo, finality, and boost support. Contract codes are written in the blockchain phase, and a new campaign is created with gas handling fee. MetaMask cooperates with exchange partners. Donors and supporters can fund campaigns by connecting their wallet to the app. Funds go to the campaign site, not the activist. Acceptors support withdrawal requests, and at least half of approvers must withdraw. All exchanges and choices are securely entered into the blockchain, providing additional protection for the crowdfunding system.

Technology Used and the Design of the Framework:

Our framework restricts access solely to authorized entities, underscoring the paramount importance of security, integrity, and traceability of land record data. To this end, we opted for a private blockchain, leveraging the multichain blockchain for its permissioned node architecture. The framework's design is intricately woven around the protocols of the multichain, tailored to meet the specific needs and requirements of the project.

Concepts of Crowfunding:

Creating an online platform where non-profit organizations can generate money for their projects and initiatives from numerous individuals, companies, or other organizations is the idea behind a crowdfunding website for NGOs. By acting as middlemen between NGOs and potential contributors, these crowdfunding platforms give NGOs a digital platform to present their programs, establish fundraising targets, and ask for contributions from a large audience. Websites for crowdsourcing provide non-governmental organizations (NGOs) with an easy and effective means of raising money for a variety of purposes, from environmental preservation and education initiatives to community development and humanitarian relief. Nonprofits can produce engaging campaign pages that include information about their objectives, mission, and the particular initiatives they are looking to sponsor..

### Smart Contract Compiler Processing:

Within the Ethereum Solidity integrated development environment, the smart contract undergoes a two-step compilation process. The compiler meticulously checks for bugs or errors, ensuring the integrity of the written smart contract. Upon successful compilation, the IDE seamlessly transitions to the subsequent step, as illustrated in Diagram .

PROJECT OBJECTIVE

The main objective is to gather money for certain projects or continuing efforts.Assisting a group of supporters cultivates a feeling of solidarity and dedication to the cause.Crowdfunding initiatives can increase public knowledge of an NGO's goals, initiatives, and influence.Crowdfunding platforms foster transparency by presenting project specifics and financial data,

which helps to earn funders' trust.Platforms frequently let funders offer comments and recommendations, which promotes cooperation between the NGO and its backers.

System Architecture

USE CASE DIAGRAM

(a) Project interactions Use Case   (b) Project Maintainance Use Case
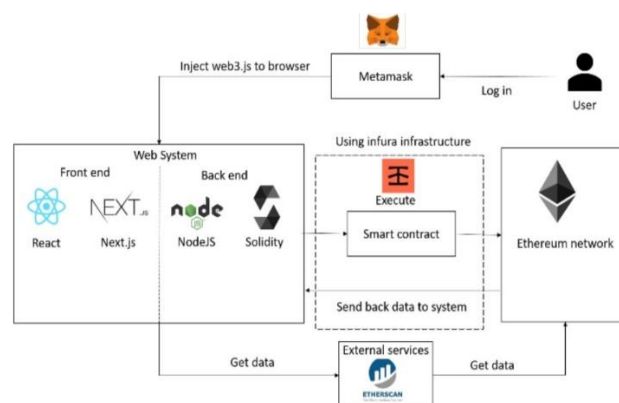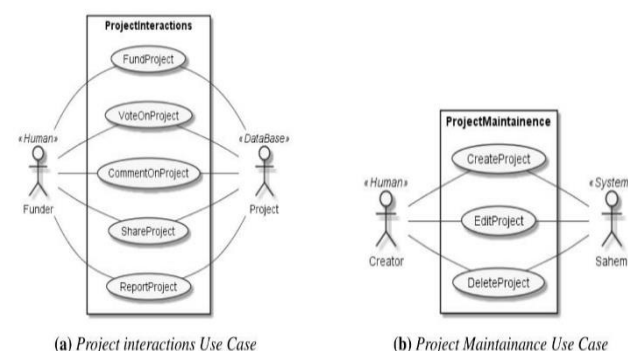
PROJECT FLOW

Registration and Profile Creation: Interested parties can create a profile by checking in with social media accounts or by registering on the site with some basic information.They generate a user profile that can contain past donations, hobbies, and personal information.Campaign Discovery: Users peruse the list of currently running non-profit crowdfunding initiatives.To identify initiatives that fit their interests, they filter campaigns based on categories, topics, region, or popularity. Campaign Exploration: By clicking on individual campaign sites, users may find out more details about the organisation, its goals, and the particular project that is being supported.They go at the campaign's specifics, such as its financing targets, development, schedule, and effect measurements. Donation Process: Through the site, users can choose to support a campaign by donating money.Engagement & Interaction: By posting about the campaign on social media, asking others to give, or taking part in conversations, users interact with the campaign community.They get alerts and updates about the status of the campaign, accomplishments, and any fresh information.
Feedback & Follow-Up: Following the campaign's conclusion, users get information on the effect that was made and how their donations were used.NGOs may offer summaries, images, or

films that highlight the project's achievements and express gratitude to funders for their assistance.

Sustained Engagement: Through investigating new campaigns, taking part in fundraising activities, or getting involved in community projects, users keep their interest in the platform alive.

IMPLEMENTATION

Frontend Development:

Blockchain frontend development entails designing user interfaces for blockchain networks or decentralised apps (dApps). Blockchain technology is incorporated by developers into front-end apps to facilitate functions such as data presentation, transaction processing, and user identification. First, developers learn about the fundamentals of blockchain technology and decide which blockchain platform—Ethereum or Binance Smart Chain, for example—is most suited for their product. Subsequently, they select frontend development tools and frameworks (like web3.js for JavaScript-based apps) that facilitate blockchain integration.The next step involves developers leveraging JavaScript, HTML, and CSS frameworks like Angular or React.js to construct user-friendly interfaces. They include user interface components that provide blockchain information, including account balances, transaction histories, and interactions between smart contracts.

Smart Contract Implementation:

Similar to how the internet revolutionized email, Blockchain revolutionizes currency with its underlying technology. Ethereum, a blockchain platform, extends the concept of scripts into a full-fledged code execution framework known as smart contracts. Smart contracts enable the embedding of business logic directly onto the blockchain, offering powerful capabilities for executing code. encompassing all the rules and regulations necessary for the secure and seamless transfer of property ownership. The utilization of smart contracts ensures transparency, immutability, and security in the land registration process.

Truffle Development Environment:

Truffle serves as our primary development environment, testing framework, and guide pipeline for building blockchain applications utilizing the Ethereum Virtual Machine (EVM). Renowned for its ease of use and comprehensive features, Truffle has garnered widespread popularity among blockchain developers, with over 1.8 million downloads. It streamlines the development process by providing essential tools and utilities for writing, testing, and deploying smart contracts efficiently.

MetaMask Integration:

MetaMask functions as a software cryptocurrency wallet, allowing users to interact seamlessly with the Ethereum blockchain. It provides convenient access to Ethereum wallets through browser extensions or mobile applications, enabling users to engage with decentralized applications (DApps) effortlessly. MetaMask integration enhances the usability of our application by enabling secure transactions and interactions with the Ethereum blockchain.

Web3.js for Blockchain Interaction:

Web3.js acts as the bridge between our application and the Ethereum blockchain, facilitating communication through JSON RPC (Remote Procedure Call) protocol. The Ethereum blockchain operates as a decentralized network of nodes, storing a comprehensive record of all data and code. By leveraging Web3.js, we can make requests to individual Ethereum nodes, enabling read and write operations on the blockchain. This interaction mechanism parallels the usage of jQuery with a different API for data manipulation with web servers, providing seamless integration with the Ethereum network.

DEVELOPMENT & TESTING

Truffle

Truffle serves as an all-in-one Integrated Development Environment (IDE) tailored for the testing and development of decentralized applications, much like the one you're working on. While manually writing and compiling Solidity code might suffice for smaller projects, as your project expands, the need for automated smart contract development becomes increasingly apparent. Ensuring the reliability and functionality of your Solidity code through rigorous testing is paramount to preempting any potential issues stemming from bugs within your smart contracts.

Thankfully, there exists a variety of frameworks designed to facilitate the development process, with Truffle standing out as a prominent option. Often hailed as the Ethereum Swiss Knife framework, Truffle offers a comprehensive suite of tools encompassing development environments, testing frameworks, and asset pipelines tailored specifically for Ethereum projects. Leveraging Truffle for tasks such as deployment and testing has proven instrumental in the advancement of your project, providing an efficient and reliable foundation as it continues to evolve and grow.

Georli Test-net

Goerli, a prominent Ethereum testnet since 2018, transitioned from a proof-of-authority (PoA) to proof-of-stake (PoS) consensus mechanism as part of The Merge event in 2023, ensuring a smooth shift for Ethereum's mainnet. Its significance lies in being the first community-built PoA testnet with cross-client functionality, requiring validators to disclose their real-world identities. Goerli's merge with the Prater Beacon Chain testnet served as a crucial final test before Ethereum's mainnet transitioned to PoS, making it a vital platform for developers to verify their validator configurations.

FUTURE SCOPE

Crowdfunding platforms may reach a larger audience as internet access spreads globally, helping NGOs raise money from all around the world. More platforms dedicated to crowdfunding for non-governmental organisations may emerge, providing more specialised resources and support. Blockchain Integration: By using blockchain technology, fundraising might become more accountable and transparent,

giving contributors more assurance about how their money is being used.Using AI and Data Analytics may enhance the efficacy of campaigns by enhancing donor engagement, targeting, and overall performance.Adding VR experiences to crowdfunding campaigns may help contributors feel more deeply connected and empathetic by providing them with immersive insights into the effects of their contributions.As smartphones become more common, it will be essential to make crowdfunding platforms mobile-friendly.

Blockchain Technology as a Social Revolution:

Blockchain technology represents a transformative social revolution, permeating critical sectors, particularly those prioritizing security. As we navigate this revolutionary landscape, it's imperative to harness blockchain's potential to the fullest extent. By leveraging this technology, we can fortify systems, enhance trust, and redefine conventional paradigms across various domains.

Enhancing Cloud Storage Solutions:

Cloud storage solutions currently offer fundamental functionalities, yet there exists a significant scope for advancement. These solutions, while serving essential purposes, can be expanded to incorporate more sophisticated features. By augmenting existing capabilities, we can optimize performance, bolster security, and cater to evolving user demands effectively.

Deployment on Test-net or Private Ethereum Network:

Presently, our blockchain network operates on the Georli faucet test net, utilizing ETH from faucets devoid of real-world value and market presence. Moving forward, our strategic focus entails deploying the network on either the Main-net or a private Ethereum network, contingent upon specific requirements. This transition ensures seamless integration with the real world, facilitating genuine interactions and transactions.

Hosting the Decentralize APP on a Cloud Platform:

As our application gains traction and user base expands, the imperative to scale becomes paramount. To accommodate this growth, we plan to host our decentralized application (DApp) on a robust cloud platform such as web services(AWS). Leveraging cloud infrastructure enables us to seamlessly manage increasing traffic, enhance accessibility, and ensure optimal performance for our users.

Collaboration with Government Agencies:

Governmental organisations and crowdfunding platforms may work together for mutual benefit in a number of ways. To increase the effect of NGO activities, governments might offer matching funds or financing incentives for projects that are started on crowdfunding sites. In order to promote confidence among donors and non-governmental organisations, governments can collaborate with crowdfunding platforms to create regulatory frameworks that guarantee accountability, transparency, and legal compliance.Through their communication channels, government agencies may encourage

crowdfunding campaigns for non-profit organisations, therefore boosting exposure and involvement. In order to better understand community needs and efficiently focus initiatives, government agencies and crowdfunding platforms should collaborate by exchanging pertinent data and insights.Governments can help NGOs raise more money and have a greater impact by teaching them how to use crowdfunding efficiently.

RESULT & DISCUSSION

The webpage interface consists of a header with navigation links (Home, Create Campaign, View Campaign, NFT), a main content area with three sections displaying logos/images along with associated text describing charitable organizations or initiatives, and wallet address or identifier fields, suggesting a connection to blockchain technology or NFTs for fundraising purposes.
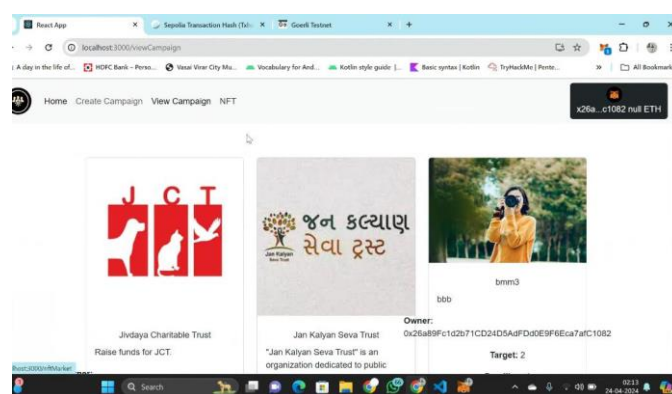
The UI has input fields for entering the title of the campaign, the target audience or goal, the deadline in days, and a URL for an image to be associated with the campaign. There is also a text area for providing a description of the campaign. The interface appears to be part of a larger application or platform, as indicated by the navigation menu at the top with links to different sections like "Home," "Create Campaign," "View Campaign," and "NFT." The interface has a clean and minimalistic design with text input fields and a simple layout.
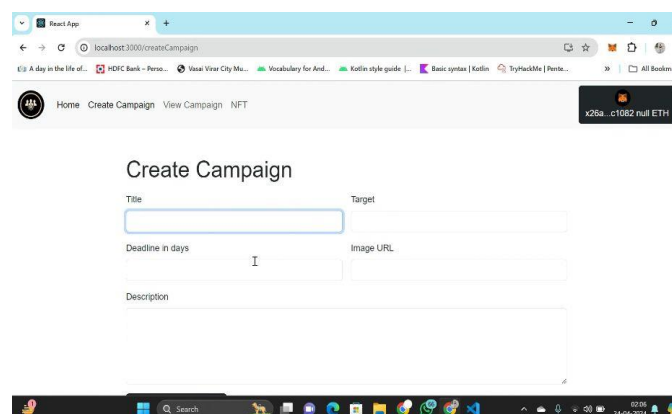
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