GIVER

THE DECENTRALIZED CHARITY PORTAL

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PROBLEM STATEMENT

- In a world where charitable contributions play a pivotal role in addressing societal needs, there is a pressing need for a transparent and efficient system that connects donors with a diverse range of charity organizations.

- Traditional methods of donation often lack transparency, leaving donors uncertain about the impact of their contributions.

- Furthermore, the process of volunteering for charitable causes can be fragmented and lacks a unified platform for coordination.

OBJECTIVES

TRANSPARENCY ENHANCEMENT

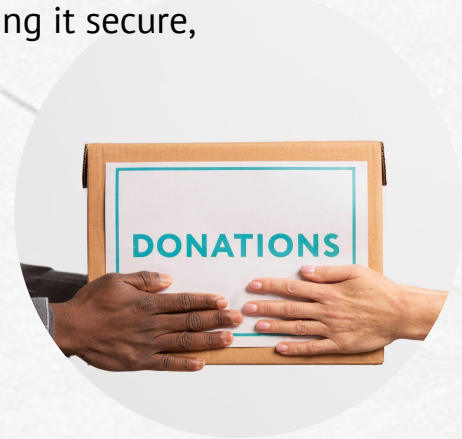
Enable donors to have full transparency into the utilization of their contributions by implementing a blockchain-based system that records and displays real-time transactions related to specific fundraising campaigns.

EFFICIENT FUNDRAISING

Facilitate charity organizations, including NGOs and other entities, in hosting decentralized fundraising campaigns. Utilize blockchain technology to streamline the fundraising process, making it secure, transparent, and efficient.

UNIFIED VOLUNTEER ENGAGEMENT

Create a centralized platform for NGOs and various charity organizations to post volunteer opportunities. Provide volunteers with a user-friendly interface to easily discover and engage with causes aligned with their interests.



OBJECTIVES

REAL-TIME TRANSACTION TRACKING

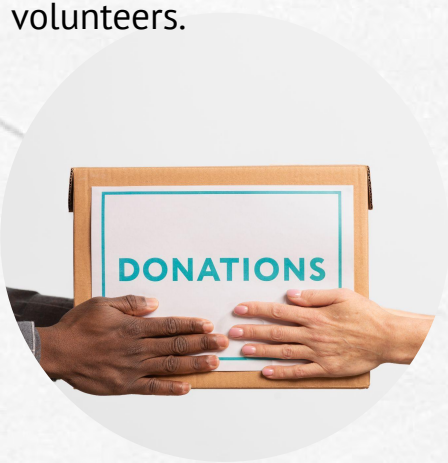
Develop a feature that allows donors to track transactions in real-time, offering a clear view of how their contributions are being utilized by charity organizations. Enhance accountability and build trust between donors and charities.

USER-FRIENDLY INTERFACE

Design an intuitive and accessible user interface for donors, charity organizations, and volunteers. Prioritize a seamless user experience to encourage engagement and participation.

DECENTRALIZED SMART CONTRACTS

Develop and deploy smart contracts on the blockchain to manage fundraising campaigns, volunteer incentives, and other critical processes. Ensure the security and efficiency of smart contracts to maintain the integrity of the platform.



LITERATURE REVIEW

Paper	SmartCon: A Blockchain-Based Framework for Smart Contracts and Transaction Management
Author	Muhammad Muneeb, Zeeshan Raza, Irfan Ul Haq, Omair Shafiq
Published	2021
Study	• Transactions have immutable cryptographic signatures • Smart contracts self-execute with agreement terms • Using separate blockchains for storing smart contracts and transactions
Conclusion	Secure and transparent blockchain architecture ensuring integrity and accessibility in executing and tracking contracts.
Drawback	Scalability challenge due to separate blockchains for smart contracts and transactions.

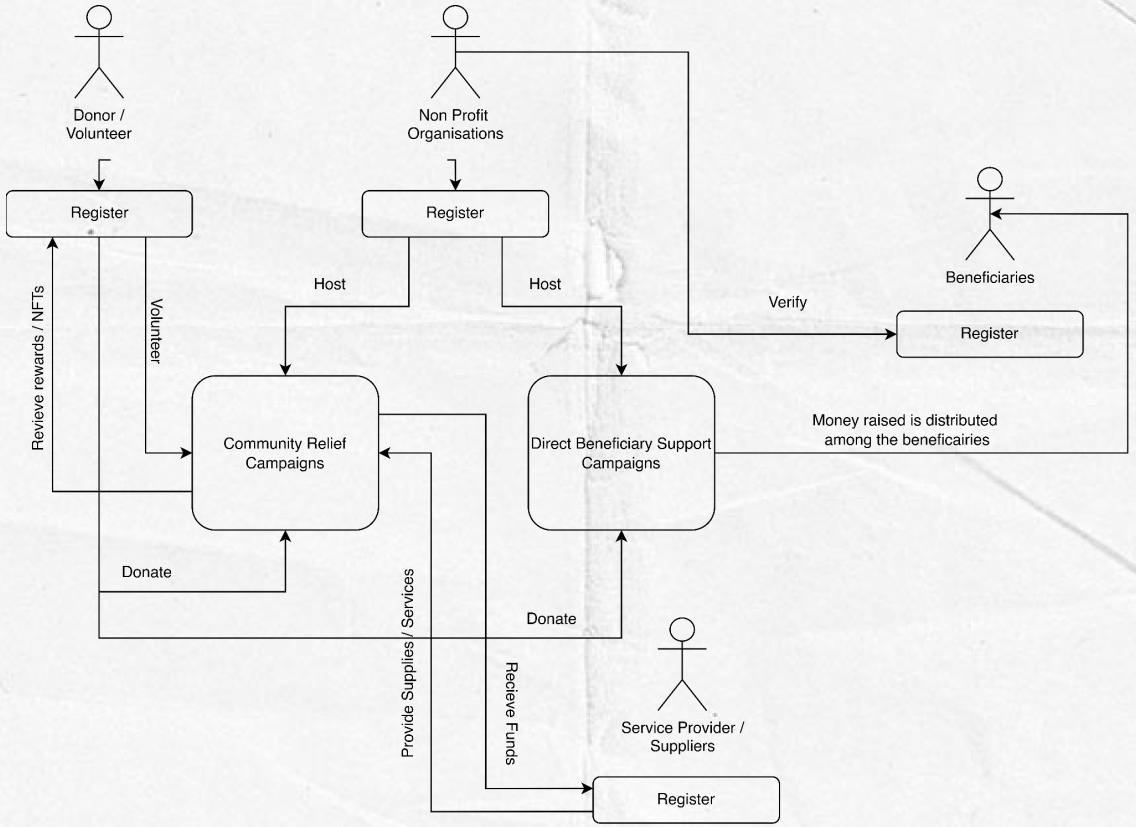
LITERATURE REVIEW

Paper	Recent Advances in Smart Contracts: A Technical Overview and State of the Art
Author	Kemmoe V Y, Stone W, Kim J, Kim D, Son J
Published	2020
Study	• Development and compilation of smart contracts • Deployment and storage on blockchain • Execution and validation by nodes
Conclusion	Smart contracts operate by being developed, deployed, and executed on a blockchain, providing a secure and automated way to enforce and execute contractual agreements.
Drawback	Challenging to update or correct errors in the code, potentially leading to unintended consequences or vulnerabilities.

LITERATURE REVIEW

Paper	Aid, Charity and Donation Tracking System Using Blockchain
Author	Aashutosh Singh, Rohan Rajak, Harsh Mistry, Prachi Raut
Published	2020
Study	• Transparent transaction process via website • Token-based transaction system • Government oversight and permission granting
Conclusion	Transparent transaction system, facilitated through a website and incorporating token-based transactions with government oversight, aims to instill trust among donors and enhance accountability in the donation process.
Drawback	Potential privacy concern, as the use of hash values to uniquely identify transactions may compromise the complete anonymity of donors, raising issues related to confidentiality.

APPLICATION FLOW



APPLICATION FLOW

The application flow of the decentralized charity platform involves a series of steps that guide users, donors, charity organizations, and volunteers through the process of registration, donation, campaign hosting, and volunteer engagement. Here's a detailed description of the typical application flow:

User Registration:

Donor Registration

All users, including donors/volunteers, beneficiaries, NGOs, and service providers, must register on the website. Needy individuals' registrations are subject to verification by sponsoring NGOs.

APPLICATION FLOW

User Registration:

Charity Organization Registration:

Charity organizations register on the platform, providing details about their mission, goals, and verification information.

The platform may include a verification process to ensure the legitimacy of charity organizations.

Campaign Hosting:

Campaign Creation:

NGOs can create two types of campaigns:

Direct Beneficiary Support Campaigns: Funds are directly donated to the web3 wallets of verified needy individuals.

APPLICATION FLOW

Campaign Creation:

Community Relief Campaigns: Funds are used to provide services for the needy through service providers.

Donation Process:

Donors can contribute funds to both types of campaigns.
In Direct Beneficiary Campaigns, donors can track their contributions' progress and verify if funds reached the target individuals.

APPLICATION FLOW

Donation Process:

In Community Relief Campaigns, donors can track if their payments reached the service providers.

Volunteering:

Users can volunteer for Community Relief Campaigns, indicating their willingness to participate in events or activities.

APPLICATION FLOW

Volunteering

NGOs approve volunteer applications and post volunteer opportunities on the platform.

Transparency Measures

Donors can view the funds raised and spent at any time during a campaign, ensuring transparency and building user trust.
Needy individuals can see the number of contributions and the donors who contributed to their well-being, enhancing transparency and accountability.

APPLICATION FLOW

Real-time Communication:

Platform Notifications:

The platform sends real-time notifications to users, including donors, charity organizations, and volunteers.

Notifications may include updates on campaign progress, volunteer opportunities, and transaction confirmations.

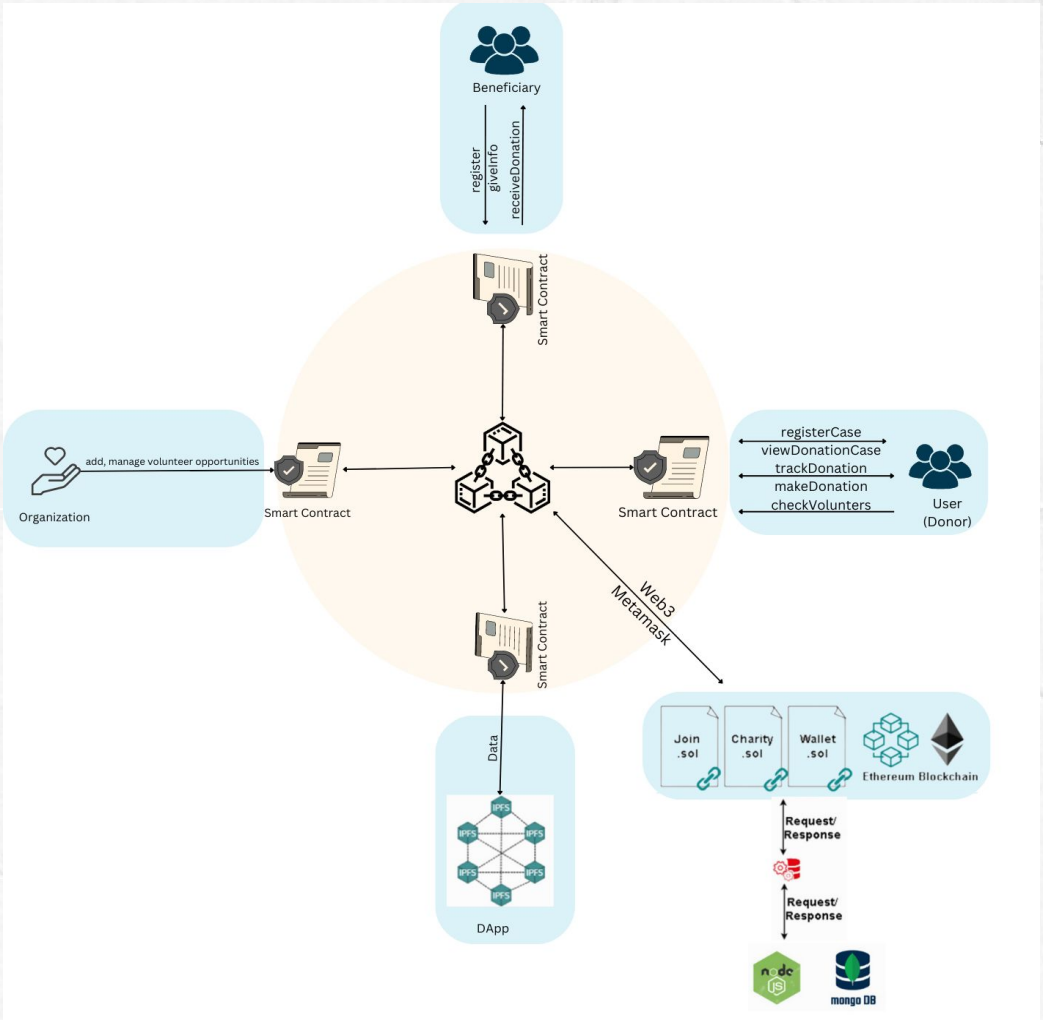
APPLICATION FLOW

Additional Feature for Direct Beneficiary Support Campaigns:

Beneficiary Payout Conversion:

For Direct Beneficiary Support Campaigns, beneficiaries have the option to convert the raised cryptocurrency into their native local currency. This conversion process facilitates seamless access to funds for beneficiaries who may not have the means to manage cryptocurrencies. Upon conversion, the funds are directly deposited into the beneficiaries' bank accounts, ensuring ease of use and financial accessibility.

SYSTEM ARCHITECTURE


Beneficiary
register
giveInfo
receiveDonation
Smart Contract
add, manage volunteer opportunities
Organization
Smart Contract
Smart Contract
registerCase
viewDonationCase
trackDonation
makeDonation
checkVolunters
User
(Donor)
Web3
Metamask
Smart Contract
Data
DApp
Join
.sol
Charity
.sol
Wallet
.sol
Ethereum Blockchain
Request/
Response
Request/
Response
mongo DB

SYSTEM ARCHITECTURE DESIGN

Frontend

- The frontend is built using Next.js, which serves as the user interface for donors, charity organizations, and volunteers.
- It includes pages for user registration, campaign creation, volunteer opportunities, and transaction tracking.
- Implements user authentication and interacts with the backend through API routes.

SYSTEM ARCHITECTURE DESIGN

Backend

- Next.js is used for the backend as well, handling API routes for various functionalities.
- API routes manage user authentication, campaign creation, volunteer opportunities, and interactions with the blockchain.

Database

- Connects to a database (MongoDB or PostgreSQL) to store non-blockchain data, including user information, campaign details, and volunteer registrations.

SYSTEM ARCHITECTURE DESIGN

Blockchain Layer

- Integrates with a blockchain network (Ethereum) for transparent and secure management of smart contracts.
- Smart contracts handle fundraising campaigns, donation tracking, volunteer incentives, and record transactions on the blockchain.

Ethers.js

- Interacts with the blockchain node using Web3.js or Ethers.js to handle transactions, queries, and events on the blockchain.

SYSTEM ARCHITECTURE DESIGN

Metamask Wallet

- MetaMask serves as a digital wallet that enables users to securely store, send, and receive Ethereum (ETH) and other ERC-20 tokens.
- Once installed, it seamlessly integrates into the browser's interface, providing easy access to Ethereum-based decentralized applications (dApps) and blockchain functionalities.

NFT

- It is a type of digital asset that represents ownership or proof of authenticity of a unique item or piece of content using blockchain technology.
- Volunteers on our platform are offered certificates in the form of nft's.

Tools & Technologies Used

Solidity

Ethers.js

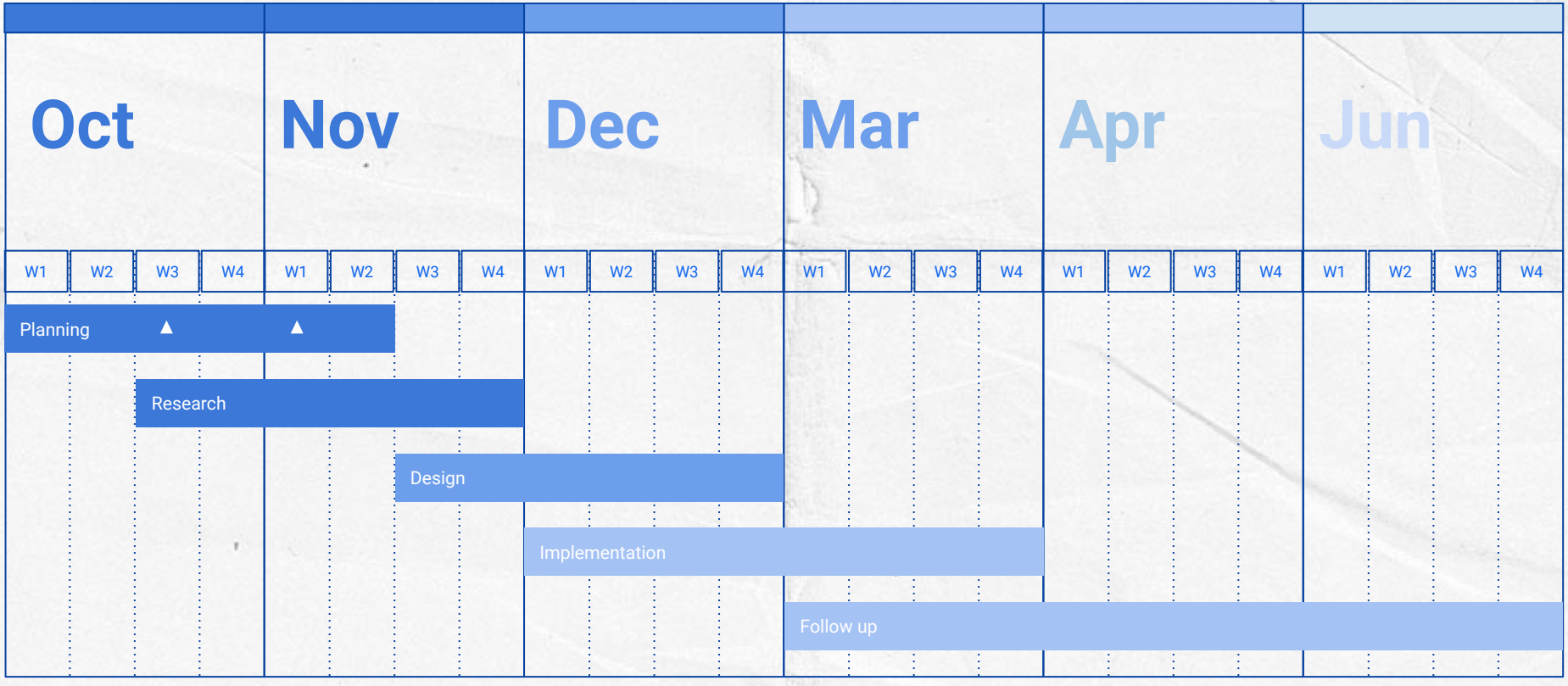
Next.js

PostgreSQL

RESOURCE ALLOCATION

ROHIT	FRONTEND & BACKEND
SURYAJIT	SMART CONTRACTS & BLOCKCHAIN INTEGRATION
SUDARSANAN	UI/UX & DOCUMENTATION
SREENATH	DATABASE MANAGEMENT

PROJECT PLANNING & SCHEDULING



EXPECTED RESULTS

- Enhanced donor confidence through transparent fund tracking.
- Swift and successful campaign fundraising.
- Increased volunteer engagement and streamlined coordination.
- Improved donor experience with real-time transaction visibility.
- Active volunteer participation due to rewarding incentives.
- Fostering a sense of community through user interactions.
- Credibility boost through successful charity organization verification.
- User confidence with minimal security incidents and legal compliance.
- Continuous user registration growth as the platform gains popularity.
- Iterative improvements based on user feedback, enhancing satisfaction.
- Clear and useful documentation aids user navigation.

CONCLUSION

- The decentralized charity platform, driven by Next.js, aims to redefine charitable contributions with transparency, efficiency, and community engagement.

- Ongoing monitoring, user feedback, and legal compliance are pivotal for sustained success and positive impact on philanthropy.



THANKS