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Charity Donation Application Using Blockchain

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ABSTRACT: The article looks into the possibility of using blockchain technology for charitable purposes. To ensure data privacy, fund integrity, and donation control, new storage mechanisms and the flow of information between donors, foundations, contribution receivers, and other charitable players must be introduced. Potential donors at nonprofit organizations would be interested in using blockchain to secure data security and the ability to track the movement of monies and transactions. The authors of this paper examine the conditions for and the emergence of blockchain-based charity networks in Russia and around the world. They demonstrate how distributed registry systems can be used to provide a forum for making and tracking charitable donations. The authors collaborated with local funds and non-profits during their research to validate the solution, learn more about ecological needs, and publish their findings in a paper. Donors are concerned about how their contributions are used. Blockchain technology is currently being used in a variety of industries. Blockchain technology will be used to make payments. The method of donating and transferring funds is transparent. It is necessary to create a single database for monitoring donations that will keep track of all gifts, transactions, and donors.

KEYWORDS: Charity Blockchain, Smart-contracts, Ethereum, Transparency.

I. INTRODUCTION

According to research conducted by the Higher School of Economics at National Research University, 57 percent of people give. The share of charitable gifts made by Russians in the GDP ratio is 0.34 percent. A donor has the right to obtain a report on funds spent; nevertheless, only 30% of contributors follow through on their donations' intentions. The majority of gifts, however, are made informally. The funds are distributed to the impoverished in person (via alms, family and friends, work/study, or a civil society initiative) and Fundraising isn't structured in the traditional sense, and it's also not done on a regular basis or with transparency. Even if they donated via a bank account, the Internet, or a mobile phone, donors rarely know how their money was spent (via SMS). Best practices for social intent architecture, platform design, and REST API implementation in blockchain applications are presented in this article. As a result of the increase of social consciousness in Korea, a giving tradition has developed. On the other hand, transparency within a donation scheme has long been a challenge; for example, contributors frequently want to know how their money is spent. Transparency, on the other hand, can make donors and recipients concerned about their privacy. As a result, a donation system that assures both transparency and privacy should be developed. Donors will not want their donations to be made public, whether they are collected or given to the donation system. Users would be able to establish contracts and use the system with addresses that were not instantly recognised if they used a donation system with a blockchain that featured encryption. In a blockchain system like this, however, the log may be inspected to determine if the same sort of address performs the same activity over and over again. As a result of the ability to analyze the user's actions, a privacy issue may occur. All of the data.

II. RELATED WORK

The issue of donation system openness has long been a source of debate. The emphasis on transparency, on the other hand, presents privacy problems for contributors and recipients, with some people seeking to conceal donations or money receipts. To minimize undesirable consequences, a donation method that ensures transparency and anonymity is essential. We created a system that protects personal information utilizing a one-time account address system based on a blockchain while emphasizing transparency in this research. The created system has the potential to contribute to the development of a culture and environment of giving that is both sustainable and safe.This article imagines the feasibility and dependability of constructing a charity donation service system loaded into blockchain in response to the complicated service needs faced by charity operators as a result of the Covid-19 epidemic, based on the functional

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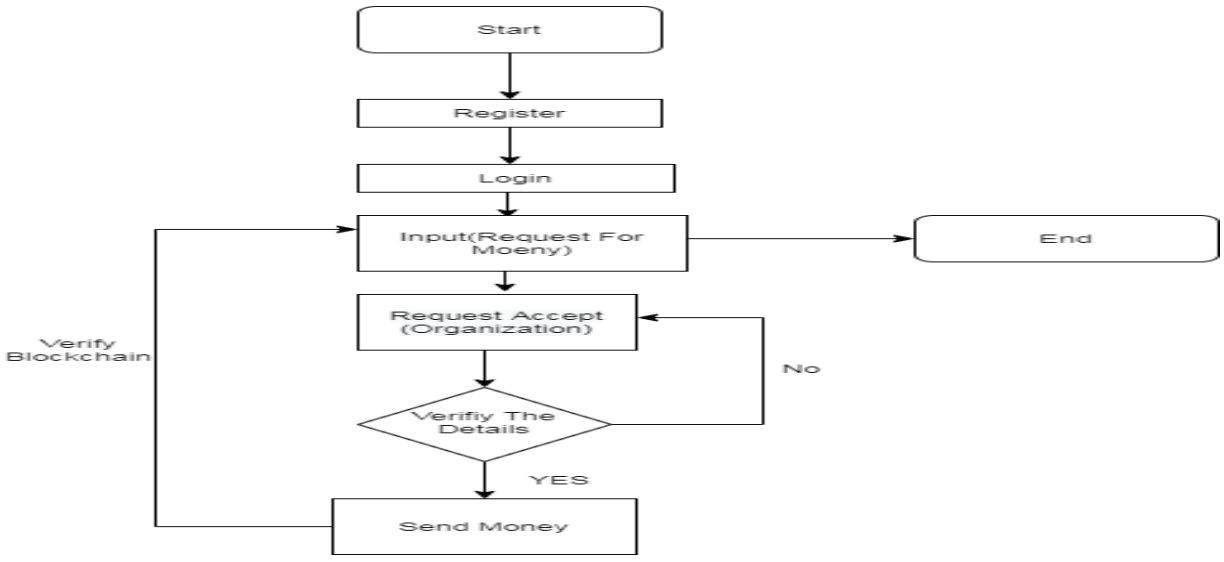
properties of blockchain technology. This article focuses on the practical concerns of charity contribution fund and material allocation, as well as information release and sharing, charity donation organization, and organization self-management, using blockchain technology as the underlying data book. The study next analyses the core technologies of the donation service system in terms of overall structure design, particular service sector design, and functional design, as well as the operational mechanism of the system as it relates to the needs of help-seeking, receiving, and management users. All of the aforementioned solutions, it is believed, have the ability to help China's charitable services overcome their trust crisis due to inadequate transparency. The article aims to serve as a beneficial resource for charitable business innovation using blockchain technology.

III. PROPOSED SCOPE

The architecture of a decentralized blockchain-based application. Bitcoin is a good example of such a programme. In this situation, the data on the network is dispersed, and all business logic is implemented using the blockchain. The donation field, on the other hand, creates a large amount of data, including information about gifts, transactions, and donors. It is presently not feasible to write data to the blockchain. Every network node necessitates disc space, and recording requires time. This causes issues in our project, which handles a large amount of data. The vast majority of blockchain-based projects aren't fully decentralized. In the majority of cases, they are tightly linked to a client/server architecture (hybrid). Outside of the blockchain, all minor application data is maintained in a centralized storage system. The master data is stored in a database. A distributed ledger system is referred to as "blockchain." Smart contracts are used to produce all entries in the decentralized store. REST requests are used to send and receive data from the blockchain and centralized storage.

IV. PSEUDO CODE



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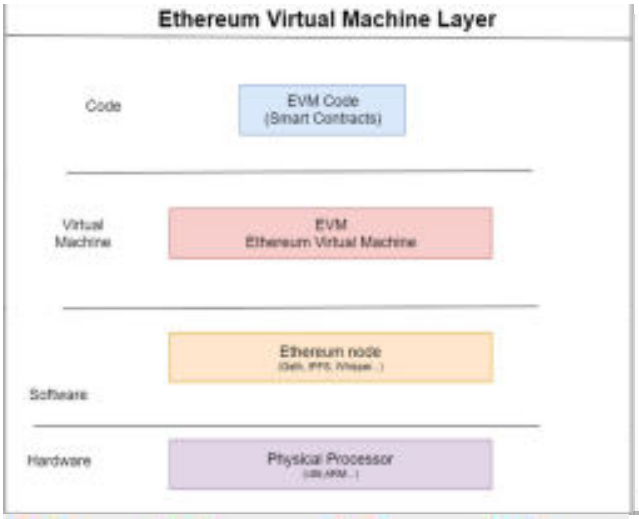
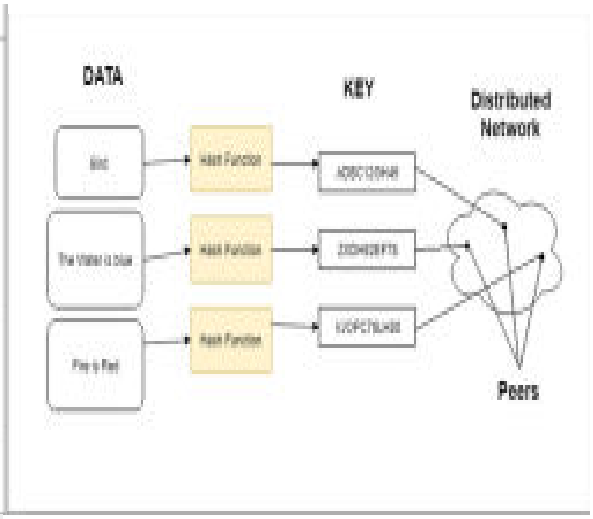
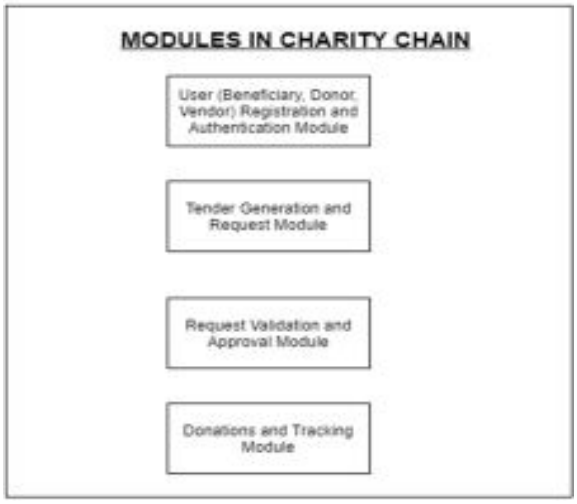
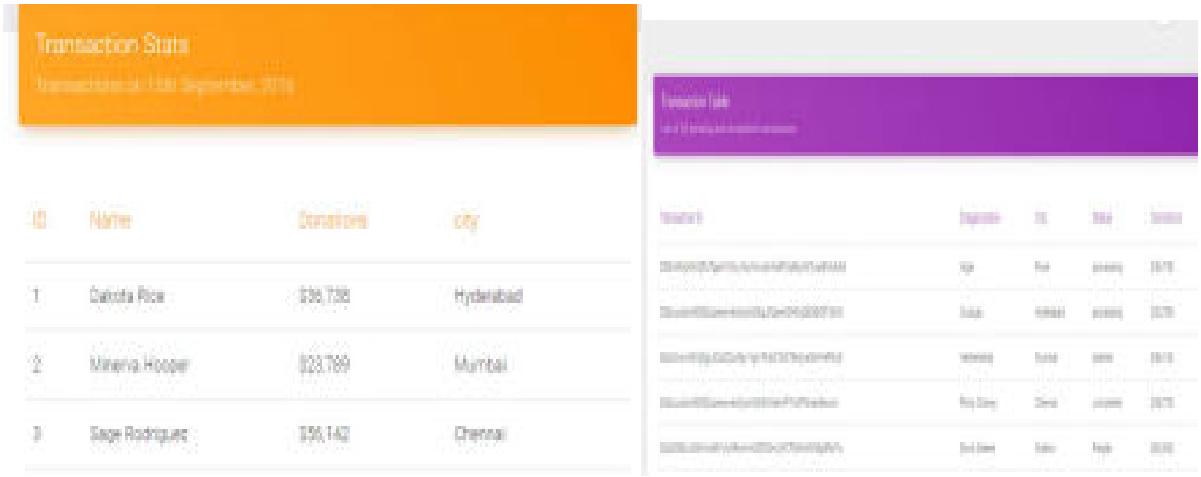
V. SYSTEM ARCHITECTURE









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VI. CONCLUSION & FUTURE SCOPE

With current centralized contribution mechanisms, users' transparency and privacy are issues. For the sake of transparency, we created a donation system based on a smart contract on the blockchain. Donations become more transparent as a result of this procedure. To protect privacy, we developed a one-time address mechanism using a smart contract. By not reporting the donation from a specific donor to a specific receiver, the anonymity of donation system users is kept.

- A charity network uses smart contracts to handle and track donations.
- The Byzantine consensus mechanism is utilized for scalability and computational ease.
- The Ethereal platform is chosen since it is a public platform.
- This will boost donation transparency, encouraging donors to give more to NGOs that are adaptive, efficient, and traceable.

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