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# Trans-Charity Application Using Blockchain

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**ABSTRACT:** Donors lack confidence in the way their money is used. Charities are susceptible to the same kinds of fraud that plague businesses, like embezzlement and executive money misuse. Blockchain technology has recently been used in a variety of industries. You can increase the transparency of the money-giving and -receiving process by using blockchain technology. Building a single platform for tracking donations is essential in order to keep track of all data relating to gifts, transactions, and donors. The creation of a blockchain-based infrastructure for tracking donations is the subject of this article. The system, which is based on blockchain technology, offers donors, charitable foundations, and recipients transparent accounting of operations.

**KEYWORDS:** Ethereum, Charity, Decentralization, Smart Contract, Consensus.

## I. INTRODUCTION

This year, the Central Bureau of Investigation reported that there are two million nonprofit organizations in India, one for every 600 people. However, many in the nonprofit sector believe the sum to be significantly higher. Charitable organizations that ask for money from the public for noble causes, like finding treatments for diseases or helping the families of fallen police officers, commit charity fraud when they dishonestly solicit donations or use the money for purposes that the donors did not intend. Charities are susceptible to the same kinds of fraud that plague businesses, like embezzlement and executive money misuse. This paper outlines best practises for platform design, REST API implementation, and social purpose architecture in blockchain initiatives. A crucial step is to increase the openness of charitable data.

## II. RELATED WORK

The author of paper [1] discusses the advantages of using Blockchain technology over a conventional system in various fields and, consequently, the difficulties it faces in those fields. Blockchain can eliminate the need for any Transactions to be dependent on a third party. This can even be used when creating decentralised applications for supply chain management, banking, currency exchange, charity, etc. where it is necessary to track, verify, and authenticate transactions. The explanations include a number of key characteristics like decentralisation, persistence, anonymity, and auditability along with typical difficulties. In order to determine which technology should be used in accordance with the system requirements, the various consensus algorithms used in blockchain technology were compared on the basis of various properties like node identity management, energy efficiency, adversary power, etc.

In paper[2], the author surveys the various cryptocurrency mining systems and talks about the mining methods and algorithms that are used by the various crypto assets. Because currency is always exchanged between two parties involved in a transaction, the author explains why mining is essential. The blockchain technology's mining process is used to confirm each transaction that takes place between the two parties. Here, the miner's duty is to determine whether the currency being used by the payer is his own currency or not. The author also explains the advantages and disagreements associated with various forms of cryptocurrency. Different mining algorithms and various cryptocurrencies like Bitcoin, Litecoin, Peercoin, Ethereum, Black coin, etc. are explained.

In paper [3] Elliptic Curve Digital Signature Algorithm (ECDSA)-based transaction signing and verification are discussed by the author. The secp256k1 standard is used by ECDSA to define a curve. The secp256k1 aids in determining constants that the blockchain can use when signing a transaction. To find these constants, a challenging mathematical puzzle must be solved.

Thus, it has strong cryptography.

In paper [4], the author suggested using the JSONRPC interface to allow connections from the client side to Ethereum nodes. Because it is a low-level interface, it needs the help of libraries like web3.js and ethers.js to generate function calls on the client's behalf and return a response.

The author of paper [5] offers instructions for creating a decentralised application. The author has advocated using the online editor Remix to create smart contracts using the solidity language. Additionally, the author recommends using the Truffle.js framework to effectively manage and deploy the decentralised application.

In paper [6], The author describes how the history of each cryptocurrency on the Monero blockchain can be tracked. People argue that blockchain systems like Monero Blockchain make it impossible to track the origin of cryptocurrencies.

The author finds a solution to the issue of transactional traceability between two entities. Transparency between the parties and the end user is a result of any transaction being traced. When a real-world transaction like buying a product takes place, the customer should be able to confirm whether the product is genuine or not. If it is able to track down and confirm the product's prior transactions soon after it is manufactured, this is feasible. This can therefore be applied to programmes that manage metal purchase orders, deliver food, check the quality of products, and other real-world programmes that need to keep track of previous transactions. The model's authors assert that the product's transactions on the Monero blockchain can be tracked for authenticity and verification purposes.

In Paper [7], The author N. Sai Sirisha, a student at the CMPN Department of VESIT in Chembur, Mumbai, Maharashtra, India. a paper titled "Proposed Solution for Trackable Donations Using Blockchain" was published. Utilizing smart contract-based incentives, the goal is to assist social organisations in managing projects transparently. This will increase transparency in the donations and ultimately encourage the donor to make larger donations to such adaptable but effective and traceable charities.

In Paper[8], The author Muhammad Shoaib Farooq is a professor of computer science at the University of Management and Technology in Lahore, Pakistan, in the year 2021. published a paper titled "A framework for transparent and auditable charity collection using blockchain technology." This essay makes the claim that charity is viewed as a moral obligation everywhere, and that a significant amount of money is distributed in the name of charity. Most of the time, the procedures for collecting donations for charities are opaque, and as a result, charitable organisations struggle to win the trust and interest of donors. The system's scalability and performance in terms of storage, time required for different block sizes, and the number of blocks in the chain are both exhibited in the experiments in a promising manner.

In Paper [9], Hadi Saleh is the author in the year 2019 and is from the National Research University's Higher School of Economics in Moscow, Russia (0000-0002-0163-6583). "Platform for Tracking Donations of Charitable Foundations based on Blockchain Technology" was a paper that was published. The implementation of a platform for tracking donations built on blockchain technology is discussed in this paper. According to the analysis, domestic charitable organisations using blockchain technology will increase donations' effectiveness and dependability while also increasing their appeal to donors.

In Paper [10], The authors of the paper "The use of web 3.0 tools for reading skill development: case blogs in virtual education" were M. Chimbo-Caceres, E. Barragan-Mejia, M. Sanchez-Galindo, and R. Infante-Paredes. It was published in 2022. The paper discusses the significant changes in EFL teaching and learning, including the growing use of ICT and web 3.0 technologies. Blogs have emerged as a popular method for promoting language learning as a result of this phenomenon. This study set out to investigate whether using blogs has a significant effect on how well English language learners can read.



### III. OPEN ISSUES

Charity is a critical part of a democratic society. It is known that there are many incidents taking place in this world which causes tragic loss whether it can be related to wealth or life and cause extensive damage every year. To recover from various types of losses many afflicted require help from aid agencies which can be financial aid to basic necessities. People are now becoming voracious to contribute to the society.

### IV. CONCLUSIONS

A new charity platform model based on blockchain was proposed after we studied the intersection of blockchain technology and philanthropy. Users in this system complete the donation and make use of the money through smart contracts. To enable fund traceability and increase charity transparency, all transactions are tracked on the blockchain. With this blockchain-based charity system, the technical problem of lack of transparency in charitable activities could be resolved, which might lead to a rise in public confidence in charitable organisations. A Dapp we created has realised and verified some of the fundamental elements. The next step for us will be to build a complete charity system based on blockchain in the future

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