Tracking Donations of Charitable Foundations Using Blockchain Technology

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Abstract: The paper looks at the possibilities of using blockchain technology for charitable purposes. To ensure data protection, fund integrity, and donation control, problems in this field necessitate the introduction of new storage tools and the transfer of information between donors, foundations, donation recipients, and other charitable actors. Via assured data protection and the ability to monitor the movement of funds and transactions, using the blockchain would increase the interest of potential donors in charitable organisations. The authors of this article examine needs and emerging blockchain-based charity networks in Russia and around the world. They provide an example of how distributed registry systems can be used to create a forum for making and monitoring charitable donations. The authors collaborated with local funds and non-profits during their research to validate the solution, gain a deeper understanding of ecosystem needs, and share their findings in the report.

Donors are suspicious of how their money is spent. Blockchain technology is currently being used in a variety of industries. You will use blockchain technology to make payments Transparency in the donation and fund-transfer process. It is necessary to create a single database for monitoring donations that will monitor all details about donations, transactions, and donors. The aim of this paper is to describe the implementation of a blockchain-based framework for monitoring donations. Centered on blockchain technology, the System provides open accounting of operations for donors, charitable foundations, and recipients.
should provide a clear donation route, allowing public users and donors to track and control where, when, and to whom charity funds were distributed.

Keyword— Charity Blockchain, Smart-contracts, Ethereum, Transparency

I. INTRODUCTION

According to National Research University's Higher School of Economics research, 57 percent of people donate. The proportion of Russian charitable donations in The GDP ratio is 0.34 percent. A donor has the right to request a report on funds spent; however, just 30% of donors follow the direction of their donations. However, the majority of donations are made informally. The money is given to the poor in person (alms, through family and friends, through work/study, or through a civil society initiative) and Formally, fundraising is not structured in nature, nor is it done on a continuous basis or with transparency. Donors seldom know how their funds were spent, even though they donated via a bank account, the Internet, or mobile contact (via SMS). This paper offers best practises for social intent architecture, platform design, and REST API implementation in blockchain projects. In Korea, a tradition of giving has emerged as a result of the rise of social consciousness. Transparency within a donation scheme, on the other hand, has long been a problem; for example, donors often want to know how their money is spent. However, a focus on transparency can cause donors and recipients to be concerned about their privacy. As a result, a donation mechanism should be built that ensures both transparency and privacy. Donors will not want their contributions to be revealed whether they collect them or give them to the donation system. If they used a donation system with a blockchain that included encryption, users would be able to build contracts and use the system with addresses that were not easily recognisable.
However, in a blockchain system like this, the log can be examined to see if the same type of address performs the same action repeatedly. As a result, since the user's actions can be analysed, a privacy problem may arise. That is, the donation system will keep track of all contributions made or received, exposing personal information.

II. LITERATURE SURVEY

Paper Name- Blockchain-Based One-Off Address System to Guarantee Transparency and Privacy for a Sustainable Donation Environment
Author: Jaekyu Lee 1,†, Aria Seo 2,†, Yeichang Kim 3 and Junho Jeong 4,*
Description:
The problem of transparency in donation systems has long been a topic for discussion.
However, the emphasis on transparency raises privacy concerns for donors and recipients, with some people attempting to hide donations or the receipt of money. Therefore, a donation system that guarantees transparency and privacy is required to avoid negative side effects. In this study, we developed a system that protects personal information by using

a one-time account address system based on a blockchain while emphasizing transparency. The developed system could contribute to the creation of a sustainable and safe donation environment and culture.

2) **Paper Name-** Developing a Reliable Service System of Charity Donation during the Covid-19 Outbreak
Author-Hanyang WU1，and Xianchen Zhu2
Description:- Drawing upon the functional characteristics of blockchain technology, this paper envisages the feasibility and reliability of developing a charity donation service system loaded onto blockchain in response to the complex service demands encountered by charity operators due to the Covid-19 epidemic. With blockchain technology's support as the underlying data book, this paper focuses on the practical issues of charity donation fund and material allocation, as well as information release and sharing, charity donation organization, and organization self-management. The paper thereby discusses the key technologies in terms of overall structure design, specific service sector, and functional design of the donation service system and further summarizes the operational mechanism of the system as combined with the needs of help-seeking, receiving, and management users. It is argued that all the above proposals have the potential to alleviate the trust crisis of charity services in China in view of low transparency. The paper expects to provide a useful reference for charity business innovation propelled by blockchain technology.

3) **Paper Name-** Platform for Tracking Donations of Charitable Foundations
based on Blockchain Technology
Author:-Azamat Dzhonov
Description-Donors have distrust about how donated money is spent. Currently, blockchain technology is being implemented in different sectors. Blockchain technology allows you to make the process of donations and transactions of funds transparent. Single platform for tracking donations that will track all information about donations, transactions and donors need to be developed. This paper considers description of implementation of the platform for tracking donations based on blockchain technology. The System offers transparent accounting of operations donors, charitable foundations and recipients based on blockchain technology, charitable platform should provide transparent donation route, enable public users and donors to track and monitor where, when and to whom went resources of charity funds.

4) **Paper Name:-**Proposed Solution for Trackable Donations using Blockchain

Author- N. Sai Sirisha, Tarasha Agarwal

Description- The lack of transparency has made people lose trust in charities, making social funding stagnant. The donor is unaware of the legitimate utilization of his funds. Corruption adds to the distrust of the donor. This paper proposes a system called Charity-Chain that is a decentralised network built on the Ethereum blockchain. It helps social organisations to run projects transparently, using smart contract-based incentives to ensure their impact is independently verified and accessible to everyone. This makes it much easier for funders (philanthropic organisations, impact investors, small donors) to monitor their transactions and hence restore their trust in giving to such social organizations.

III. PROPOSED METHODOLOGY:
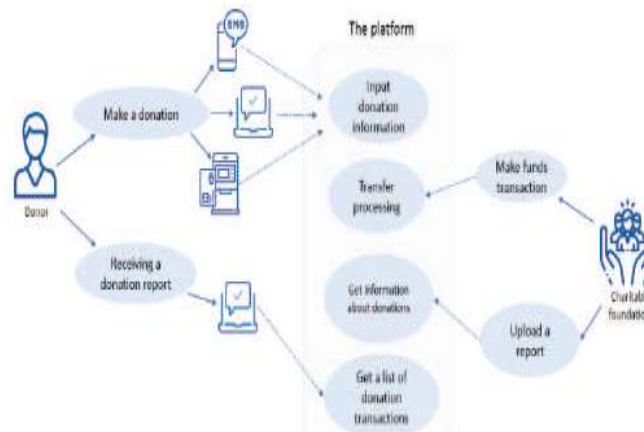
A.   PROPOSED-SYSTEMARCHITECTURE

Fig:-system architecture

The architecture of a decentralized blockchain-based application. Examples of such applications can be Bitcoin. In this case, the data in the network is distributed, and all business logic is implemented in the blockchain. However, a large amount of data is created in the donation field, including information about donations, transactions, and donors. At the moment, data writing to blockchain is not possible. needs disc space on all network nodes, and recording takes a long time. This causes issues in our project, which has a broad data flow. The vast majority of blockchain-based projects aren't fully decentralised. They are usually tightly integrated with a client/server architecture (hybrid). Outside of the blockchain, all minor application data is stored in a centralised storage system. The master data is kept in a database. The term "blockchain" refers to a Smart contracts are used to create all entries in the decentralised storage. REST requests are used to send and receive data from the blockchain and centralised storage.

V. CONCLUSION AND FUTURE WORK

To address the issues with current sponsorship schemes, we create a donation system that can improve accountability while maintaining privacy. The useP2P-mixing-technique-based blockchain is d to build the method. As a result, other donors and receivers are unable to identify donors and receivers. When submitting donations, the process of converting an account address. The algorithm for generating the detailed structure of the system and updating the address is described in this section. The donor is a machine owner with a private key and a public key who makes donations. The donor account is one that the donor creates with the help of the public and private keys. The donor is the owner of the donor address (Donor Eth Addr) provided by the account. Smart contracts can be created and accessed using addresses. The recipient is a member of the system who accepts donations and has both a private and public key. The receiver account is formed with the receiver's private and public keys, and it owns the receiver's address (Receiver Eth Addr).

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