Charity Donation System Based On Blockchain Technology

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A B S T R A C T

The article investigates the potential for blockchain technology to be used for charity reasons. Problems in this field need the introduction of new storage mechanisms and the flow of information between donors, foundations, contribution receivers, and other charity players to assure data privacy, fund integrity, and donation control. Using the blockchain to ensure data security and the capacity to track the movement of funds and transactions would peak the interest of potential donors in non-profit organisations. In this paper, the writers look at the requirements of blockchain-based charity networks around the world.They show how distributed registry systems can be utilized to build a forum for charitable donation making and tracking. During their research, the authors worked with local funds and non-profits to validate the solution, learn more about ecosystem needs, and publish their results in the paper. Donors are wary of how their funds are handled. Blockchain technology is being employed in a wide range of sectors right now. Payments will be made via blockchain technology. The donation and fund-transfer process will be transparent. It is required to construct a single database for tracking donations that will track all donations,transactions and donor information. This article is to illustrate how a blockchain-based framework for tracking donations can be implemented. The System, which is based on blockchain technology, enables contributors, charitable foundations, and recipients withtransparent and secure operations.

Keywords: Blockchain, Charity, End to End Giving Chain, Transparency, Trackable Donations

1. INTRODUCTION

A research conducted by Higher School 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 regularly 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. 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 contacts and use the system with addresses that were not instantly recognized 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.

2.PROBLEM STATEMENT

To provide a reliable and transparent platformbetween donors and organizations that will helpthem track their donations using concepts ofBlockchain.

3. LITERATURE REVIEW

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.

Drawing upon the functional characteristics ofblockchain technology, this paper envisages the feasibility and reli- ability 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 de- sign 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 block chaintechnology.

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 andtowhomwentresourcesofcharityfunds.

The lack of transparency has made people lose trust in charities, making social funding stagnant. The donor is unawareofthelegitimateutilizationofhisfunds.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 organi- sations to run projects transparently, using smart contract- based incentives to ensure their impact is independently ver- ifiedandaccessibletoeveryone.Thismakesitmucheasier for funders (philanthropic organisations, impact investors, small donors) to monitor their transactions and hencerestore theirtrustingivingtosuchsocialorganizations.

Major disaster resistance has become a regular global concern, and disaster governance is an important sector of charity. There have been 3751 catastrophic natural catastrophes worldwide in the last decade. With a population of 2billion people and a total loss of 1658 billion USD, it is the world's most populous country. All countries value close cooperation between the public and commercial sectors, as well as between diverse non-governmental groups and scientific research institutions, and have established a multi- partydisasterreliefandcatastrophereductionmechanism[*]

4. CHALLENGES IN THE EXISTING SYSTEM

From sponsors to beneficiaries, it is difficult to provide transparency using current mechanisms. Some users wish to keep their identity anonymous, which makes it difficult to expose transactions. It is difficult to detect data tampering which can happen at the organizational level. The lack of Automation in the current system leads to prolonged approvals and disbursement of funds.

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5. PROPOSED SYSTEM

Users' transparency and privacy are the difficulties in present centralized contribution methods. We designed a donation system based on blockchain for the sake of transparency. As a result of this procedure, donations become more transparent. The anonymity of donation system users is preserved by not documenting the donation from a specific donor to a specific recipient.

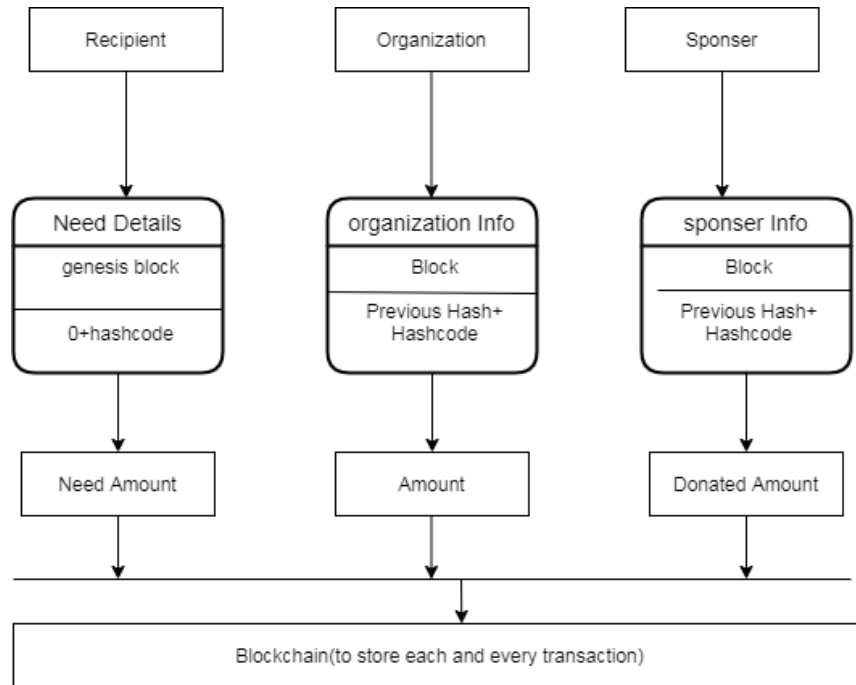Different types of end-users are as follows:

Fig. 1. System Architecture

1. Recipient/ Beneficiary: Beneficiaries are able to request donation to organization by giving their personal information, amount requirement, proofs like hospital bills, income proofs, etc.

2. Organization: Organizations recieves the donation requests and broadcasts it to sponsors. Italso verifies the authenticity of request and further sends donations recieved from sponsors.

3. Sponsors: Sponsors get the request from organizations and if they are willing to donate, they send the amount to the organizations.

6. ALGORITHM

6.1 SHA 256

A hash is not 'encryption' it cannot be decrypted back to the original text (it is a 'one-way' cryptographic function and is a fixed size for any size of source text). This makes it suitable when it is appropriate to compare 'hashed' versions of texts, as opposed to decrypting the text to obtain the original version. Such applications include hash tables, integrity verification, challenge handshake authentication, digital signatures, etc. Challenge handshake authentication(or 'challenge hash authentication') avoids transmitting passwords in 'clear' a client can send the hash of a password over the internet for validation by a server without risk of the original password being intercepted anti-tamper link a hash of a message to the original, and the recipient can rehash the message and compare it to the supplied hash.
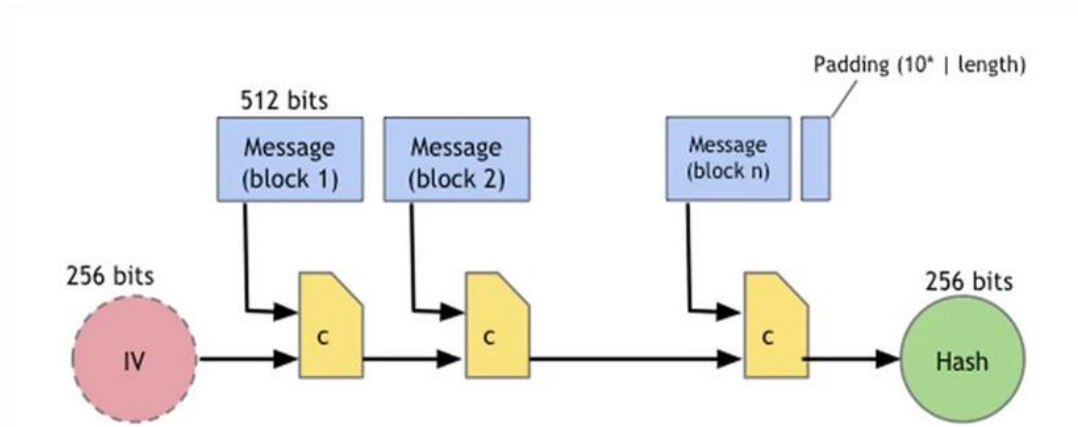
Fig, 2, SHA 256

6.2 Message Digest

The Java Message Digest class represents a cryptographic hash function which can calculate a message digest from binary data. When you receive some encrypted data you cannot see from the data itself whether it was modified during transportation. A message digest can help alleviate that problem. To be able to detect if the encrypted data has been modified in transport, the sender can calculate a message digest from the data and send that along with the data. When you receive the encrypted data and message digest you can recalculate the message digest from the data and check if the message calculated digest matches the message digest received with the data. If the two message digests match there is a probability that the encrypted data was not modified during transport. There are a couple of conditions that have to be met for a message digest to be useful as a modification detection mechanism. However, the exact conditions are part of cryptographic theory, so you will have to visit that theory to read how to use message digests correctly.
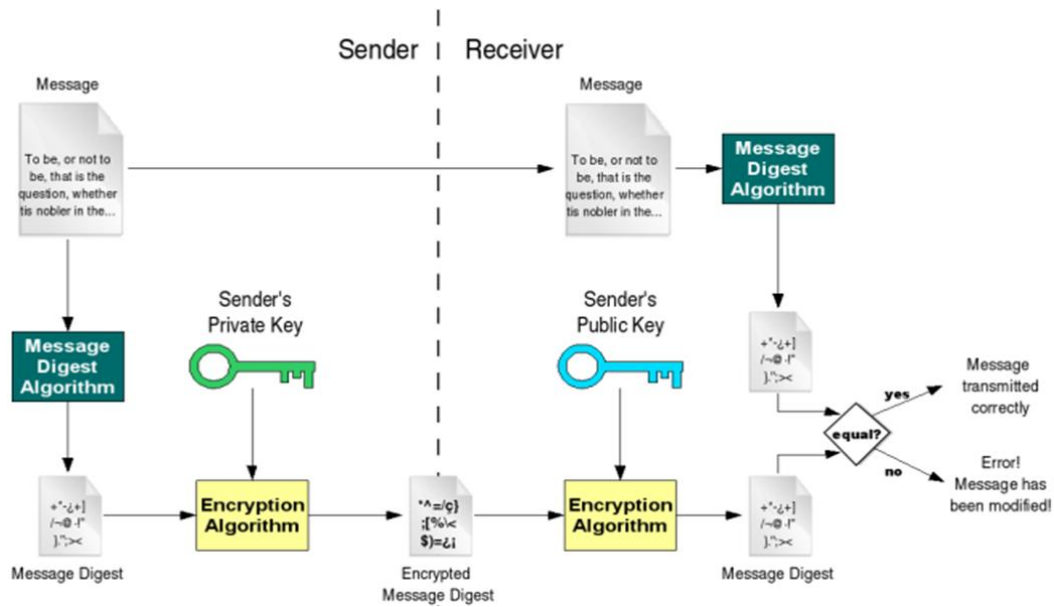

Fig. 3. Message Digest

7. CONCLUSION

The existing centralized donation systems involve problems related to the transparency and privacy of users. In this study, we designed a donation system based on Blockchain for transparency. Through this process, donations are made transparent. It protects the privacy of the users of the donation system by encrypting the donation from a specific donor to a specific person.

8. FUTURE SCOPE

Smart contracts can also be used by a charity chain to manage and track donations. For scalability and computational ease, the Byzantine consensus technique can be used. Because it is a public platform, Ethereum can be used. Incorporation of cryptocurrencies can be done which will help donors all around the world participate in charities without any taxes or conversion fees.

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