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TRANSPARENT CHARITY APPLICATION USING BLOCKCHAIN

Pooja Molavade[1], Apeksha Sable[2], Shweta Sanas[3]

Prof. H.B. Sale[4]

Student, Information Technology Engineering, Bharati Vidyapeeth College of Engineering, Navi Mumbai, Maharashtra, India

Abstract—Nowadays, people are becoming voracious to contribute to society. Many people want to donate generously for the causes they believe in but usually end up doing nothing due to no trust in the system around them. There are a lot of charitable organizations and NGOs that require funds now and then, which are working for the betterment of society. To decrease this fraud, we came up with new technology called a blockchain. There are four types of users such as government, NGO, retailer, and users. Users can donate some amount to the NGO and retailer. Government can see donations for the proposal. This system will make the entire process more transparent. We are using blockchain for a charity donation to make it more transparent. This Application provides trust between the users and donors. This helps resolve the trust issues, as people already know what they are paying for and the system will help to solve the problem.

Keywords—Blockchain, Charity, Cryptocurrency, proof of work, bidding

I. INTRODUCTION

Recently, many people have become involved in donation activity and people look for trust and security in the process of donation. To attain contributions from various donors from different parts of the world, charity puts the maximum effort to reach the maximum crowd. Blockchain is a technology that could have a huge impact on the charity sector, helping to manage and distribute funds securely and transparently. Many businesses and governments are already using blockchain innovations in wide areas. There are a lot of online portals to donate to these charities which seems to be truthless. Through blockchain, donations will be largely transparent. Blockchain technology allows us to make the transaction and donation of funds transparent. We are using cryptocurrency for charity work to make it more transparent through a decentralized system for those making a charitable donation, blockchain provides the ability to precisely track where your donation is going when they arrive and whose hands they ended up in. Enormous information contains delicate and private data, so as to secure this huge volume that put away at various product equipment, important to actualize confirmation to check client or framework personality [7].

A. Problem Statement

In existing charity applications everything is done manually, so it is very difficult to maintain the records. It's also very difficult to find the activities. It is a Long-time process. It takes more time to prepare various events within a short time. The

biggest disadvantage of most NGOs there are exceptions is that they are not able to scale up their success. NGOs have many workers, and the effort they put in is considerable. But, when they succeed, it is often in a limited area. And, they cannot easily scale up.

B. Objectives

The main objective is to provide privacy, security, and transparency. The implementation of blockchain is a distributed decentralized network that provides immutability, privacy, security, and transparency. The proof of work is validating the transaction. All the transactions within the new block are then validated and therefore the new block is then added to the blockchain. Those who want to donate some money then they can donate using this system. The data is securely stored in the database and no one can do any changes in the database. In this system, users can donate some funds using proof of work. All transactions are recorded on the blockchain to realize the traceability of funds, which increases the transparency of governments. The lack of transparency in government activities could be solved technically with this blockchain charity system, which could increase the public's trust in government organizations.

C. Scope

We are using blockchain for a charity donation to make it more transparent. So, there are four types of users such as government, NGO, retailer, and users. The user can donate some amount to the NGO and retailer. The Government can see donations for the proposal. The government can approve the lowest proposal. The government can see all users. NGO users can see if work tender is allocated to which retailer. NGO users can add a new work requirement. Retailer users can submit a proposal of work and can see the proposal status. Retailer users can see donations received for proposals.

II. RELATED WORK

Donors have distrust about how donated money is spent. Currently, blockchain technology Is being implemented in several sectors. This paper considers an overview of the implementation of the platform for tracking donations supported by blockchain technology. The System offers transparent accounting of operations donors, charitable foundations, and recipients supported blockchain technology; charitable platforms should provide transparent donation routes, enable public users and donors to trace and monitor where, when, and to whom went resources of charity funds[1].While some elements of the System borrow from existing cryptocurrency and blockchain technologies, we propose alternative incentives for distributed consensus that are better aligned with the applying and promote social good through the stakeholders[2]. The progress of a charity organization informative System using SPL is usually made to make a charity organization informative System with a group of features which will select according to each charity organization's needs[8]. The System that has been developed must be supported by learning strategies for users to be used optimally[3]. With the growth of internet technologies in way of life, a web donation has turned to be a preferable path for several donors. The web has developed to be an important medium for diffusing charity information. The study proposes a trust formation model in online charity information, rooted within the information process theory[4]. Charities are non-profitable organizations established worldwide to profit societies. Generous donors primarily fund them with no direct economic impact on the organizations. Eventually, small organizations like student unions also donate some money to charities for a specific purpose. Thus, the charities have the responsibility to distribute the money to the beneficiaries. The charities also frequently held some activities which vary from small to large, accidental to regular. a variety of them maintain a specific goal, like the donation for education purposes only[5].

III. TECHNOLOGY USED

Blockchain is a distributed decentralized network that provides immutability, privacy, security, and transparency. There is no central authority present to validate and verify the transactions, yet every transaction in the Block chain is considered to be completely secured and verified. Here we are using the Proof Of Work Algorithm. It is the consensus algorithm in a blockchain network. Blockchain technology acquires transparency by removing the centralized node or any third party for processing. It is a sequence of blocks of data linked to each other with different connected nodes which forms the chain-network of blockchain. Distributed blockchain networks are safe against any vulnerability that crackers can exploit in centralized computer system.

A. PROOF OF WORK

Proof of Work (POW) algorithm is used to validate the transaction. It provides security, which prevents fraud, which enables trust. The purpose of this algorithm is to bring all the nodes in agreement, that is, trust one another, in an environment where the nodes don't trust each other. All the transactions within the new block are then validated and thus the new block is then added to the blockchain. The process of verifying the transactions in the block to be added, organizing these transactions in chronological order in the block, and announcing the newly mined block to the entire network doesn't take much energy and time. PoW makes it extremely difficult to alter any aspect of the blockchain since such an alteration would require re-mining all subsequent blocks.

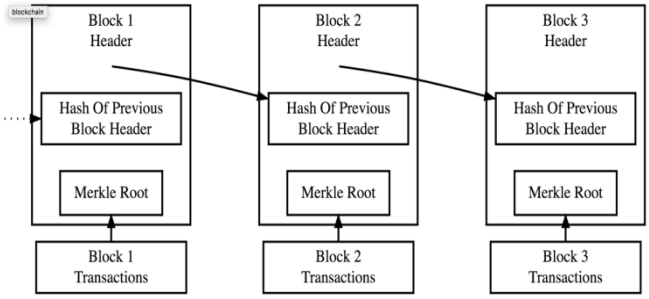

Fig. 1. Proof-Of-Work

It also makes it difficult for a user or pool of users to monopolize the network's computing power since the machinery and power required to complete the hash functions are expensive.

IV. PROPOSED SYSTEM

A. USERS INVOLVED

In this project, the system model has been presented in this section. The users of the application are classified on the basis of their roles viz. User(Donor), NGO, Contractor, Government official.

- **NGO:** These are the NGOs or charities in need of resources. They will be able to publish their requirements on their panel charity system.
- **Contractor/Retailer:** These are the entities who pitch their senders and quote the price. The Contractor with the most optimal solution with lowest price selected by the government official.
- **User (Donor):-** They are the entities who will view the requirements published by various NGO and the accepted tenders choose to donate as per the capabilities and reference to the cause.
- **Government Official:-** This entity will authenticate the requirements published by the NGOs and validate the smart contract. Only after authentication by the government will the user be able to donate.

V. METHODOLOGY USED

A. PROCESS FLOW

In the process flow of the system, the Government first adds NGOs to their panel. After adding, NGOs can log in to their panel.
(i)Added NGOs who need resources are submitted their work requirement through the NGO panel of the charity system. (ii) Government will see work requirements added by NGOs and approve their work. (iii)After the government's approval Contractor will see NGO requirements on their panel and submit their relevant and efficient bid through their panel which contains ID, tender details, tender price through their panel. (iv)Government will see added tenders bid in their panel and can approve efficiently with lower price bid as per NGOs work requirement. Here the Bidding process will be carried out. (v)Users who want to donate a fund amount to NGO will

log in into their respective panel and see the donation requirement of the NGO, their work price and accordingly the user is able to donate an amount as per their convenience. (vi)Blockchain is carried out in the User donation section for maintaining transparency that the user's amount goes into the right place and tampering of data will be detected in the system.

B. BIDDING PROCESS

In the Bidding process, contractors will offer prices for NGO works and the Government can approve the effective and lowest price work.

The execution starts from the government's end. Government has to register all the NGOs and retailers in the system. Once the Government adds NGOs and Retailers to the system then both are able to login into the system. Now if any NGO wants some funds for some activity like providing computers to some schools then the NGO will add their project on the platform. After the addicting project on the platform by the NGO then the government will approve that project if it is as per the standard and as per the policy of the government. Once the government approves the project then at the same time the project will be available for the retailer to quote their price. Now retailers can log in to their system and see the project approved by the government. Retailers start submitting their costs for the work. After the deadline for the cost submission ends then the government can review all the bids submitted by the retailers. After reviewing bids the government approves the project to any one retailer. Meanwhile, users can register on the portal. After login by the user, he can see the list of projects approved by the government. Users can see the project details and donate as per their capacity.

C. SYSTEM ARCHITECTURE

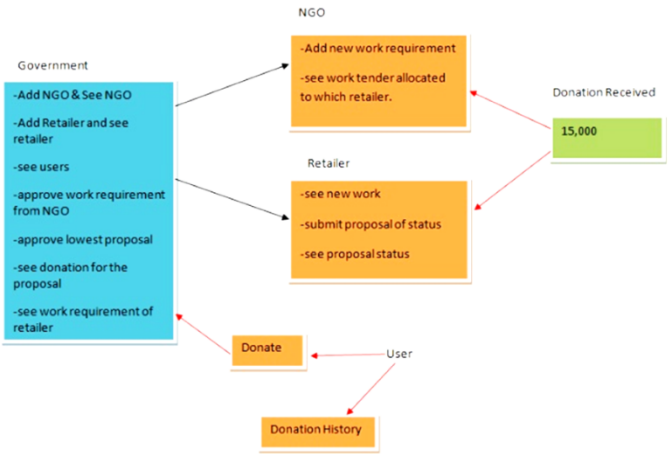

Fig. 2. Architecture Diagram

VI. RESULT

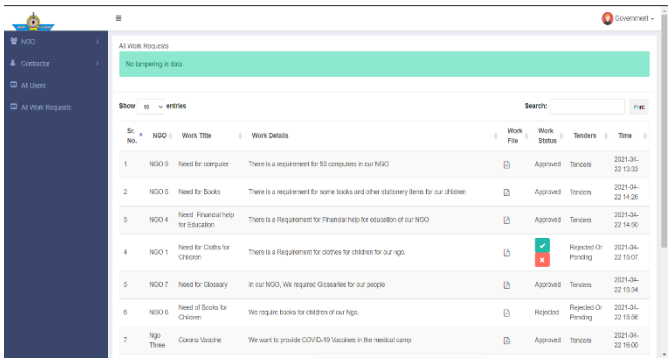

Fig. 3. Work requests of the NGOs

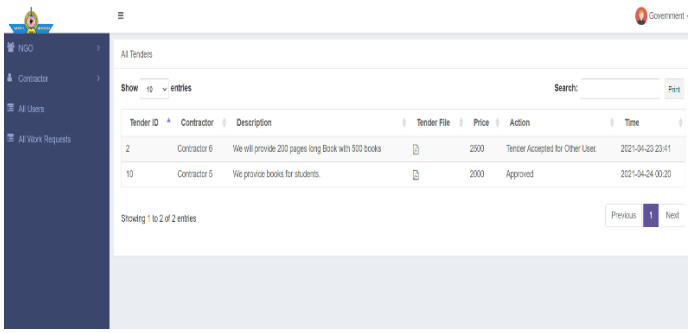

Fig. 4. Tender approval

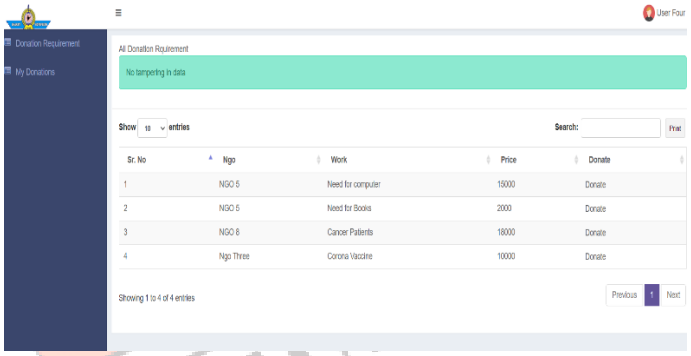

Fig. 5. Donation history

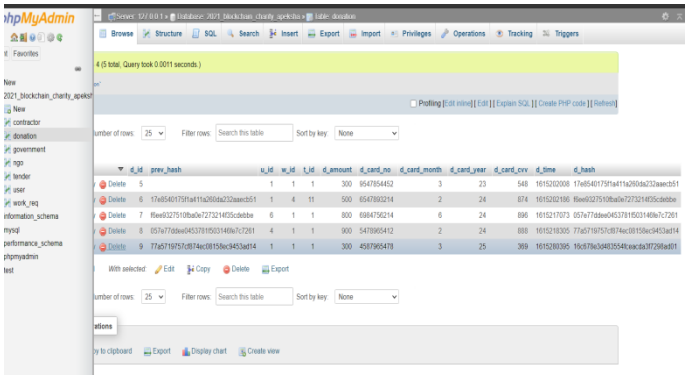

Fig. 6. Database of Donation

VII. CONCLUSION

This Application provides trust between the user and donors. This Application will make the entire process more transparent. We are using blockchain for charity work to make it more transparent. Users can donate some amount to the NGO and retailer. Government can see donations for the proposal. NGO users and retailer users can see donations received. This system helps resolve the trust issues, as people already know what they are paying for and the system will help to solve the problem. This system would facilitate an individual to contribute independently to society using their time and abilities apart from just money, and ultimately this will lead to an increase in hands towards the society.

VIII. FUTURE SCOPE

Blockchain technology has a great future worldwide. An incredible scope of blockchain technology has been observed in the financial field. Blockchain technology helps charities become more transparent. In the future, we may see accountability for the spending of donations tied to smart contracts, enabling donors to donate directly to those best in a position to help.

IX. REFERENCES

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