



IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 9, Issue 5, May 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.488

 9940 572 462

 6381 907 438

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 www.ijirccce.com

A Survey on Public Fund Management using Blockchain

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ABSTRACT: There are different types of issues that are currently there in the traditional public donation system which can be fixed using Blockchain technology. Such issues are Information verification, Privacy and Data breach, Security concerns, Control over the donators' data. Blockchain-based public funding platforms ensure greater privacy and allow donors' right to donate freely. Distributed ledger technology enables users to make transactions privately as only the sender and recipient know about the transaction's contents. Blockchain enables people to express their opinion without the risk of fraud.

KEYWORDS: Blockchain, privacy concern, Algorithm, fund, CNN, GAN, PRNU, Applications

I. INTRODUCTION

Blockchain, sometimes called Distributed Ledger Technology (DLT), makes the history of any digital property unchangeable and visible through the use of local power and cryptographic hashing. Blockchain is a technology that allows transactions to be grouped into blocks and recorded. Social media using Blockchain technology can provide us with data breach solutions, spread rumors, and can give users the ability to control their data. It will provide transparency, consistency, and security to users. Blockchain technology is a proprietary program and can provide users with privacy and filtered content. The main goal of this event, however, is to create a data block consisting of government and financial information and place them all in a decentralized network. You can log in to a data block by using a private key. It should only be granted to the owner of the data block and assigned to public authorities. Shared data blocks are chained in an environment where only sequential access is used, otherwise, it does not allow you to get data. In this way, the information will be saved, which are any kind of fraud, and it will be embedded in security.

It will help you to protect your data from any kind of abuse. Blockchain is a system for the capture of information in a way that makes it difficult, if not impossible, to modify, hack or cheat the system. It's essentially a digital ledger of transactions that can be copied and shared across the network of computers that are on the Blockchain. It can also be used for storage by the general public, confidential, donations, information in such a way that it will be secure and that it is kept up to date by the person who has donated the amount to the government as well as an open system.

II. APPLICATIONS

In this paper, I have coordinated Public fund management and privacy concern using Blockchain identification strategies into the accompanying three general purposes:

- Healthcare sector
- Education sector
- NGO

Healthcare Sector

The proposed system can be implemented in Health and social care. Because it is a big donation in health and health care, and there are no donors who know how their donations are being used. However, with the help of its donors, and to know that their money is being spent.

Education Sector

The proposed system can be implemented in the Training process. Education is the foundation for the development of the youth of the country. The industry is asking for donations. They are the people who would like to donate to the track and the evidence for their contribution. With the help of its donors, you can trust the recipient.

NGO

The proposed system can be implemented in the latter. The maximum of the donor to donate to non-governmental organizations. Based on the use of the proposed system, the donor community to trace and proof of this is, what, when, where, and how much they have given to it.

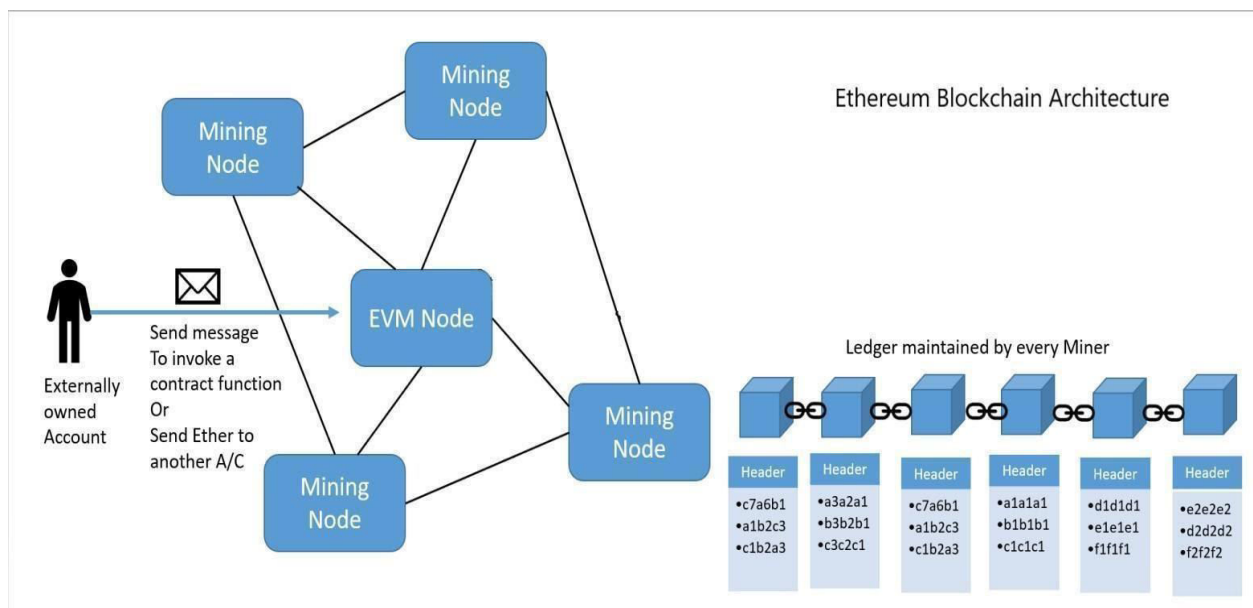


Figure I. I Ethereum Blockchain Architecture

The above image describes the simple architecture of the Ethereum blockchain. A transaction is made and sent to a minor node to verify its authenticity, if the block of that transaction is authentic then it will be added to the network else it will be discarded.

III. TECHNICAL SIGNIFICANCE

- Privacy of information**
 Public funding platforms can be used and controlled by the government, and not the contributors. Blockchain is distributed in the wild, thereby eliminating the control of a single entity or by a third party, and you have full control over the content in the hands of the donor. The decentralized consensus mechanisms like PoW, PoS, etc., that is, his personal life, the protocol, provides high-level donors ' privacy.
- Fake information**
 Public funding platforms that have either ignored it or didn't realize the damage that false information or incorrect information. As a consequence of the inaccurate information and confusion about what the facts are grown, a large part of the time, and it is also the actual information will not be disclosed.

- **Data Breach**

A breach of security, which is a generic term used to describe this day. There are a lot of data breaches over the past couple of years and for the confidentiality of the user's account, of no danger. It is the largest of the companies, the names have been acquired, and the data, which is broken for example.

IV. TOOLS AND TECHNOLOGIES

- **Solidity** - It is an object-oriented programming language used to write smart contracts and Ethereum-based applications. The script is very similar to that of the c programming language, JavaScript, and improves the Ethereum Virtual Machine. It is up to the run-time environment in Ethereum. It is used to build and deploy smart contracts on a blockchain
- **Solium** - level Security, which plays an important role in the development of the tool. For the stability of the code, you have to be confident and to be manipulated. It helps size, reliability, and/or codes and contributes to resolving the security problems, if any, of this code. It is an application that was designed to search for vulnerabilities in the code.
- **Geth** - Is the program that operates as a node on the Ethereum blockchain. Eyes, act as a console to enter commands and perform specific functions. If the default value is not set, it will automatically re-connect to the Ethereum mainnet.
- **Parity** - Post, compilation, is a derivative of the environment that needs to be set up for the execution of contracts on the Ethereum blockchain. An Ethereum client, and that's where Equality comes into the picture. It is a safe way to interact with the blockchain.
- **Blockchain** - is a system for the capture of information in a way that makes it difficult, if not impossible, to modify, hack or cheat the system. A blockchain is essentially a digital ledger of transactions that can be copied and shared across the network of computers that are on the blockchain.

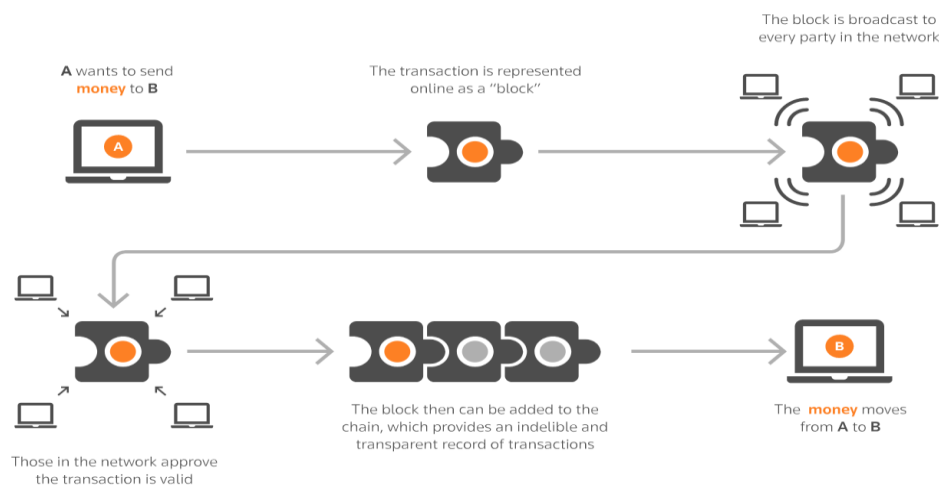


Figure IV. I Working of Blockchain (Example of Money transferring)

Figure 4.1 it explains how the blockchain, with an example of the transfer of money. If a donor would like to receive the funds from the transaction will be marked as a "Block". The block will be repeated on every search block that is already in the blockchain. The blocks will be to validate the next block. While this is valid, the block is added to the blockchain. And, finally, the money will be transferred to the receiving party.

V. CONCLUSION

The blockchain is secure and tamper-proof design, and because the transactions can't be changed after the network has been verified to them. The technology promises to speed up and reduce the cost of operations. Blockchain-based, public fund management system, which will give you extra coverage in addition to the regular funding of the system. It's not going to be a problem of the loss of the confidence of the donors. This is a completely private, and only to the fund, donors can have full rights to the funds. No need for an extra navigation system, a system



of subsidies for fraud detection and prevention. It's hack-proof and completely private, people will have to be able to easily check with the payment, it is very important to the transaction.

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INNO  SPACE
SJIF Scientific Journal Impact Factor

Impact Factor:
7.488

ISSN INTERNATIONAL
STANDARD
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