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STATE GOVERNMENT FUND ALLOCATION & TRACKING SYSTEM OVER BLOCK CHAIN

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Abstract

The state government working involves a large number of transactions activities towards various operations throughout the state. This includes new actions, initiatives, projects, granting contracts, farmer schemes, and so on. One of the most challenging factors that top governments face is low-level corruption which at times is hard to follow and denies the state progress. As a result of the current system, tracking is very problematic and this provides needy people with a service that is sometimes difficult to track, which deprives them. In this case, we use block chain which enables cryptography and transaction security at every stage while maintaining transparency so that every transaction is backed up with proof of its authenticity. Hence, we present a framework that uses block chain innovation and a full-proof fund transfer system. Block chain contains growing list of records called blocks. Cryptographically hashed data, a timestamp, and recent transactions are included in each block.

Keywords: block chain, cryptography, transaction, hashing, timestamp, authenticity, security, transparency

I INTRODUCTION

Blockchain is one of the technologies that have created a disruptive change in several industries. Currently, Blockchain is getting used in numerous places and there are more applications of Blockchain yet to be discovered and implemented. Blockchain is characterized by its decentralized nature, the integrity of the information stored within the chain, and its openness. Due to these characteristics, another area in which Blockchain can be used is to release funds for government projects. Governments have to cater to an enormous number of responsibilities of a state. The working of state governments involves numerous

transactions towards various operations that require to be applied throughout the state. This includes new projects, repair, and maintenance work, awarding contracts, paying off government employees, farmer schemes, and so on. A serious hurdle that the highest government faces is the low-level corruption that's sometimes impossible to trace, which deprives the state of progress. Tracking it's a really difficult task because of the present system.

Blockchain is touted for its capability to reinforce the trust and ease of information-based exchanges among people and associations. The innovation offers a guarantee when deliberately applied within the proper settings. Customarily, associations working their own, singular IT frameworks trying to group must pander to difficulties including compromise of data, recognizing a solitary wellspring of truth, and provoking establishment. Blockchain innovation tends to those difficulties by giving a specialized establishment that underpins the execution of shared business forms, such that no single substance controls the complete framework. Government incorporates a characteristic need to assemble, support, and ensure open trust in data and frameworks. In such kinds of situations, blockchain may help to boost this trust.

II LITERATURE SURVEY

A Blockchain-Based Framework for Fraud Detection:

• Corruption or frauds has become common terms which are associated with government bodies working across the globe. It often leads to several social and economic problems, if remain unchecked.

• Increase in the rate of corruption adversely affects the development of any country. The government funds or money which is intended for the welfare of the public goes in the pocket of greedy officers. This research work is aimed to reduce corruption or frauds using blockchain technology.

• To establish our framework, we have worked on a generic scenario in which a government has various schemes running for the welfare of common people and the funds are disbursed through a layered architecture of government passing through various organisations. Non-transparency, poor management of government records, delay in verification process can lead to corruption in various schemes at various levels.

• Blockchain being a transparent, immutable and decentralized mechanism is found to be a mightier technology which can help fighting corruption in the experimental generic scenario.

Government Fund Distribution and Tracking System Using Blockchain Technology:

• Governments need to cater to a huge number of responsibilities of a state. The working of state governments involves huge number of transactions towards various operations that need to be carried out throughout the state. This includes new projects, repair and maintenance works, awarding contracts, paying of government employees, farmer schemes and so on.

• A major hurdle that the top government face is the low level corruption that is sometimes impossible to track which deprives the state progress. Tracking it is a very difficult task due to the current system. Here we propose a smart system to track funds allocated to the state government as they travel through the government process at each stage. We here make use of blockchain technology to secure the transactions at every stage while maintaining transparency in every transaction sealing every transaction with proofs as the funds move ahead.

• Blockchain, originally block chain, is a growing list of records, called blocks that are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. In this project researcher use Blockchain Algorithms for security like AES for Encryption and Decryption By design, a blockchain is resistant to modification of the data.

• In this paper we propose a system to track funds allocated to the government as they travel through the government process at each stage using Key pair generation algorithm, Metadata file decryption and Data verification algorithms. This system uses block-chain technology to maintain the transparency & security at every stage as the funds move ahead. This system allows us to maintain the crystal clear record with all users who are connected in the chain to transaction the data on a need to know basis.

• The system makes use of encryption to secure transactional data using hash values to maintain a block of transactions in a chain manner, which is maintained & verified by every node involved to verify the transaction and save the data in a transparent form within the government. The system allows for a full proof, secure & authentic fund allocation & fund tracking system help to form an incorruptible government procedure.

Blockchain for government fund tracking using Hyperledger:

• Blockchain is one of the technology that has created a disruptive change in many industries. Currently, Blockchain is being used in several places and there are many more applications of Blockchain yet to be discovered and implemented. Blockchain is characterized by its decentralized nature, integrity of the data

stored in the chain and its openness. Due to these characteristics, another place where Blockchain can be used is to release government funds for a project.

• Usually when a project is allocated funds, there is no knowledge as to how these funds are being used and a large part of it is never shown in records due to corruption.To solve this problem, a system has been proposed using Blockchain to provide the transparency. This paper also gives a description about a prototype which was developed using Hyperledger Composer. It then discusses the future development of this prototype and finally, concludes with the applicability of Blockchain.

III EXISTING SYSTEM

In this paper, the writer attempted to discover the ability of block chain technology to decrease embezzlement which can also additionally arise for the duration of the fund's switch of government schemes. Also discovered 8 appropriate traits of any virtual fund switch method which incorporates a sequence of layers. To make certain equity on this form of the virtual method the writer has proposed to apply block chain-based technology through the usage of mathematical model transaction traits to officially make certain equity at all levels. This system also can be audited through common human beings to trace the cash flow of any schemes, making the system absolutely obvious and fair.

Disadvantages

1.In the past, government funding has relied on traditional centralized systems, which are vulnerable to corruption and lack transparency.

2. The drawbacks include difficulties in tracking funds, identifying a single source of truth, and ensuring secure and tamper-proof transactions.

IV PROBLEM STATEMENT

The initiative tackles the widespread problem of low-level corruption in government funding procedures. Such corruption impedes advancement and the effective use of public funds, and it is frequently difficult to identify. Government funding has historically been based on antiquated, centralized systems that are opaque and prone to corruption. The disadvantages include challenges with money tracking, locating a single point of truth, and guaranteeing safe and unchangeable transactions. The project presents block chain technology as a solution to these problems. It makes use of the inherent qualities of block chain technology, such as

decentralization, transparency, and immutability, to offer a more reliable and safe way to handle government projects and funding.

V PROPOSED SYSTEM

To combat these issues, the project introduces block chain technology. It leverages block chain's inherent features like decentralization, transparency, and immutability to provide a more secure and accountable system for managing government funding and projects. A blockchain is a decentralized, distributed and public digital ledger that is used to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the consensus of the network.

Advantages

• Consensus processes ensure that each transaction within the block is truthful and accurate by validating and agreeing on all transactions within the block.

• Block chain technology provides decentralization by allowing members of a distributed network to participate.

• There seems to be no single point of failure, and an individual user cannot manipulate the transaction record

VI IMPLEMENTATION

***New Organization Signup*: -** In this module, a new organization can sign up to participate in the system. Organizations typically provide their details, including name, contact information, and other required credentials.

After sign-up, the organization is registered in the system and gains access to their account for further interactions.

2. ***Organization Login:*** - Registered organizations can log in using their credentials. This action grants them access to their accounts within the system.

Once logged in, organizations can perform various functions like viewing transaction history and adding or requesting funds.

3. ***View Transaction:*** - This module allows organizations to view transaction records related to their account. They can check details of past transactions, including fund allocation and expenditure.

4.State Government Login: - State government officials and administrators log in to the system using their respective credentials.

This login enables them to access a broader range of functions, including adding funds to the system, allocating funds to specific projects, viewing transaction records, and managing organizations.

Add Amount: - State government users, after logging in, can add funds to the system. This process typically involves specifying the amount, funding source, and other relevant information.

- The added funds become part of the total available for allocation to various projects.

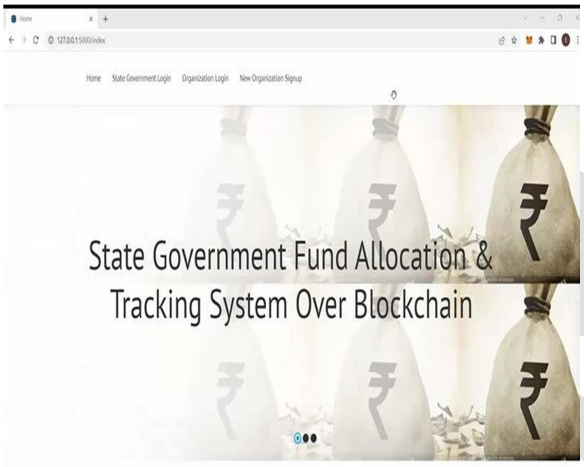
Allocate Fund: State government administrators utilize this module to allocate funds to specific projects or initiatives. They can specify the project, the amount to be allocated, and any associated details.

This process ensures that funds are distributed according to the government's priorities and policies.

7 ***View Transaction (State Government***): - Similar to the organization's view transaction module, state government officials can also view transaction records, but on a broader scale. They can monitor the flow of funds, allocations to various projects, and expenditures within the government fund allocation system.

8. ***View Organization:*** - State government users can access this module to view the details of registered organizations. They can review the information, status, and activities of each organization participating in the fund allocation system.

VII RESULTS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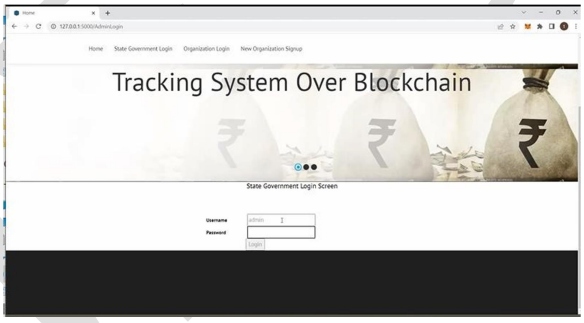
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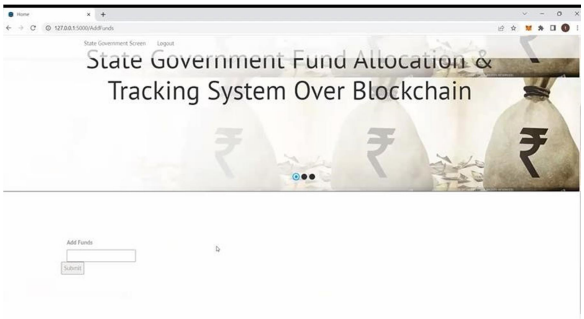
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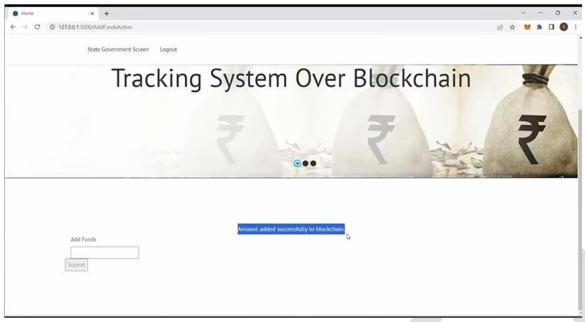
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Add Funds
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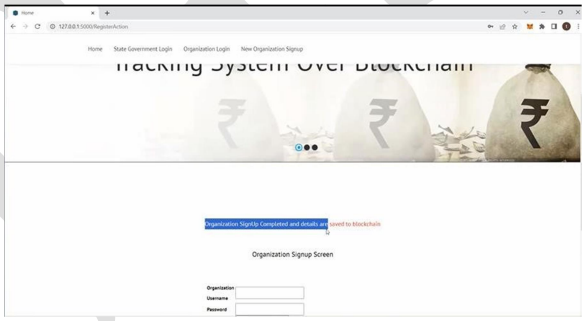
Organization Signup Screen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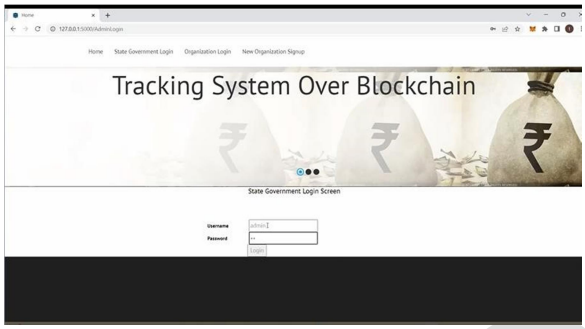
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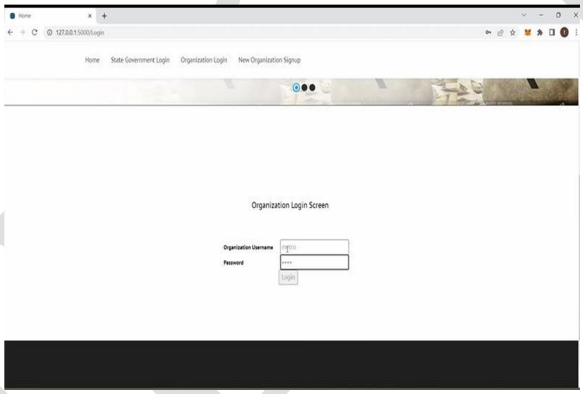
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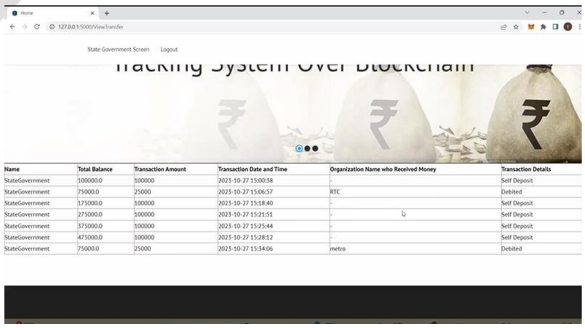
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Transaction Amount
Transaction Date and Time
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StateGovernment 75000.0 25000 2025-10-27 15:06:57 RTC Debited
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VIII CONCLUSION

In this project, we have to consider about the blockchain applications, we even have to consider the access and privacy challenges though. This allows to maintain crystal clear record with on demand right to transactional data on a need to know basis. The system makes use of encryption to secure transactional data using hashes to maintain a block of transactions in a chain manner which is maintained and verified by every node involved to verify the transaction and save the data in a transparent form within the government. The system allows for a full proof, secure and authentic fund allocation and fund tracking system to help form an incorruptible government process. Even then, with further enhancements, this blockchain model can provide a transparency in all the government transactions. There will be no discrepancies of any kind. Because of the decentralized ledger all the transactions can be verified and cannot be altered. The money that is released can be tracked, anyone and everyone can find out how the money is being used. Such a blockchain will surely reduce the ongoing corruption It will create a huge impact on the economic development of a country.

1. Elevating Transparency and Accountability: Through the incorporation of blockchain technology, the project effectively elevates transparency and accountability in the management of government fund allocation and tracking

2. Empowering Charitable Foundations: Charitable foundations reap the benefits of centralized donation data and automated report generation, leading to heightened transparency and streamlined management of philanthropic activities.

3. Fortifying Security and Integrity: The adoption of blockchain technology strengthens security and resilience against corruption within the government's fund allocation process, instilling public confidence in the system's reliability.

4. Ensuring Data Integrity: The utilization of cryptographically hashed data within the blockchain system serves as a robust guarantee for the integrity and security of transaction information, ultimately amplifying the trustworthiness and credibility of financial records.

• The project successfully enhances transparency and accountability in government fund allocation and tracking through the integration of blockchain technology.

• Centralized donation data and automated report generation benefit charitable foundations, promoting transparency and simplifying philanthropic activities.

• Block chain technology bolsters security and resists corruption in government fund allocation, fostering public trust in the system's integrity.

• The use of cryptographically hashed data in the block chain system guarantees the integrity and security of transaction information, enhancing the authenticity and reliability of financial records.

In this full-proof, secure government fund allocation and tracking system, the allotted funds are tracked at each level until it reaches the beneficiaries. This proposed framework is added to assist the authorities to lessen corruption and offer transparency in all transactions because of the functions of block chain-like immutability, proof of work, and security. It offers the right governance and transparency. It will maintain track of all transactions made. As block chain technology is used the transactions as soon as made cannot be changed and if there's any try of tempering, we can get to recognize approximately that easily. There might be no requirement for the outsider and the exchanges might be regulated all the extra sturdily and transparently. In addition to preventing human errors and delays, it will help eliminate human errors. This framework will make the general public authority framework activities appreciably extra stable and productive. We can nevertheless upload customary schemes from everywhere in the world for fundraising to take it to the subsequent stage for big price range required the humans in need.

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