



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 5, May 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

 9940 572 462

 6381 907 438

 [ijrset@gmail.com](mailto:ijrset@gmail.com)

 [www.ijrset.com](http://www.ijrset.com)

# Fund Distribution System

Sanjana Kumavat<sup>1</sup>, Srushti Kharmare<sup>2</sup>, Samruddhi Bhise<sup>3</sup>, Pratiksha Bhargude<sup>4</sup>

Department of Computer Engineering, NESGOI, Pune, India<sup>1,2,3,4</sup>

**ABSTRACT:** Agriculture is the primary livelihood factor in the growth of India's economy. One of the significant challenges faced by the Government of India in the agriculture sector is to increase the delivery of subsidies by re-engineering the existing process. One of the solutions initiated by the government of India on 1st January 2013 with the highest priority is called a Direct Cash transfer scheme under the Direct Benefit Transfer (DBT) scheme. It involves crediting subsidies (cash/payments) directly to the farmer's account. However, the major problem associated with this scheme is that the government subsidies do not reach all the eligible farmers due to corruption, delay, intermediaries, and other reasons. The present direct cash transfers system's major drawbacks such as (key loopholes are) lack of proper auditing, inability to track subsidy, and inadequate digital banking infrastructure especially in rural areas. In this regard, the disbursement of direct cash transfer scheme is addressed benefitting the farmers directly via Blockchain Smart Contracts technology thereby ensuring transparency, de-duplication, reduced delays, and reducing instances of fraud in the existing government subsidy delivery system. We aim to develop a blockchain-based smart contracts prototype model called a single-window approach for automating farmer's subsidies and eliminating middlemen. The automated model will be fast, transparent, and immutable by reducing the complexities faced by Indian farmers.

**KEYWORDS:**Blockchain, Fund distribution system, Firebase, NPM, Hash Key, DBT(Direct Benefit Transfer)

## I. INTRODUCTION

Blockchain is the most common name in today's competitive and fast-growing world. But sadly very few know about technology. Some of us call crypto-currencies like Bitcoin, Ethereum as blockchain, others find that this works with blockchain policy and so on. . To make things clear in your mind let us first highlight the topic. The concept of Blockchain was put forward by 'Satoshi Nakamoto' in his white paper. And you are a person who is thought to be a fraud who invented the development of bitcoin.

A smart contract can be explained as a set of rules which is intended to digitally facilitate the transfer of digital currencies or assets between parties under certain conditions. Smart contract is secure computer program having self-verification, self-executing and tamper resistant properties .Smart contracts are used for exchange of value without need of third party. The smart contract helps you exchange money, property, shares or anything of value in a transparent way avoiding the services of middleman. The smart contract runs in EVM. Solidity programming language is used to implement smart contracts

Blockchain is a way of recording information in a way that makes it difficult or impossible to change, distort or alter records. Also called Digital ledger, which is a ledger that is kept by financial institutions to keep track of records. In the same fashion blockchain is actually a digital ledger that is kept in a separate and distributed location. Each block in a blockchain is linked to another that forms a series of networks, hence the term "Blockchain". Each block has specific information such as the number of tasks and each time a transaction the record is updated to a network of participants. This way you store data in the most widely distributed method is human (DLT) which means "Distributed Ledger Technology".

This approach ensures that data integrity is maintained throughout the network. Today in this age of technology and digitalization the world is digital in every respect. Technology has completely changed the way people see the world or the world and has led to the transformation of humanity in a way that has never been seen before. India is one of the world's largest democracies with over 1.3+ billion people, with the majority of the population lagging behind economically. The Government of India and the Regional Government roll out various policies and schemes on a large scale for the benefit of the economically disadvantaged.

Sometimes the Agency and the Provincial Government issue policies and programs that many citizens are unaware of and their benefits are not available to citizens. In cases where there is a conflict between national policies and the policies

of the Institutional Government to close this gap and find and follow the best citizen program to reap the benefits of these Government Schemes, Fund Tracker (State and Central) will be implemented. blockchain method.

## II. RELATED WORK

In this section, we briefly review the related work on Government Fund Tracking System

**X. Li, F. LvL [1]** proposed an system using "A Blockchain-Based Solution for Enhancing Security and Privacy in Smart Factory" the authors propose an imaginative blockchain-based IOT engineering to help fabricate an increasingly secure and solid IOT framework. By examining the deficiencies of the current IOT design and the benefits of the Block-chain innovation. We decay and redesign the first IOT design to shape another, multi-focus, incompletely decentralized engineering.

**H. XuI [2]** proposed an system using "Blockchains for Supply Chain Management: Architectural Elements and Challenges towards a Global Scale Deployment" The authors provides, through its technique, an itemized examination of the square chain fit in the inventory network industry. It characterizes the particular components of square chain that influence store network, for example, versatility, execution, agreement instrument, security contemplations, area proof and cost.

**X. Zhang [3]** proposed an system using "A Comparative Study on Fraud Detection in Financial Statement utilizing Data Mining Technique" the instructive factors are being use for executing affiliation rule digging for anticipation and three prescient mining strategies in particular Kimplies, Multi-Level Feed Forward Network, Genetic programming for discovery of budgetary misrepresentation. This exploration can forestall false monetary revealing and distinguish it if the executives of the association is fit for executing budget summary misrepresentation in spite of the nearness of against extortion condition.

**JiafuWan[4]** proposed an system using Discovery of Financial Statement Fraud utilizing Data Mining Technique and Performance the authors explain Data mining structure for evasion and uncovering of fiscal summary extortion right now. ordinary progression of information mining. These valuable factors are being utilized for actualizing affiliation rule digging for counteraction mining procedures

## III. PROPOSED METHODOLOGY

Proposed system depicts the blockchain-based fund transfer system using a public-permissioned blockchain network. A public-permissioned block-chain network is a new type of network which fills the gap between the public and private consortium networks to infuse the space by a distributed model. The GUI of the proposed system is designed using AngularJS to communicate across the systems.

We have used the NodeJS Express server to build a blockchain system using hyper ledger fabric and composer. The three users of the system are the Farmer, Government Personnel (Treasury Department), Department of Land Records, or Customer Bank. We propose various assets for the systems, such as Aadhar card number, and subsidy amount. We also propose to write several fund transactions, which is based on Smart Contracts.

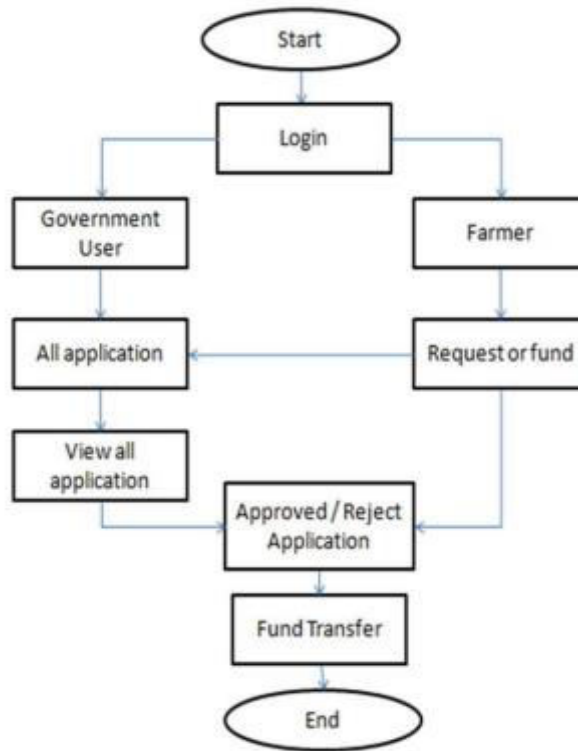


Fig 1. Proposed System Architecture

### Technology Used

#### Blockchain:

A blockchain-based digital government can protect data, streamline processes, and reduce fraud, waste, and abuse while simultaneously increasing trust and accountability. On a blockchain-based government model, individuals, businesses, and governments share resources over a distributed ledger secured using cryptography.

This structure eliminates a single point of failure and inherently protects sensitive citizen and government data. A blockchain-based government has the potential to solve legacy pain points and enable the following advantages:

- Secure storage of government, citizen, and business data
- Reduction of labor-intensive processes
- Reduction of excessive costs associated with managing accountability
- Reduced potential for corruption and abuse
- Increased trust in government and online civil systems

The distributed ledger format can be leveraged to support an array of government and public sector applications, including digital currency/payments, land registration, identity management, supply chain traceability, health care, corporate registration, taxation, voting (elections and proxy), and legal entities management.

How does blockchain work?

There are three basic components of a blockchain: blocks, miners, and nodes.

**Block:** Every blockchain is made up of several blocks, and each block includes data, which is a record of transactions. The crucial point is that the chain is not owned by a single individual or organization.

**Miners:** Miners are assigned with adding new blocks to the chain via a process known as mining. Miners must solve complicated mathematical problems in order to add data to the block. When a block is efficiently mined, the miner is financially rewarded.

**Nodes:** A node connects each block to another block, forming the chain. A node is basically that keeps the copies of the ledger and keeps the network operational.

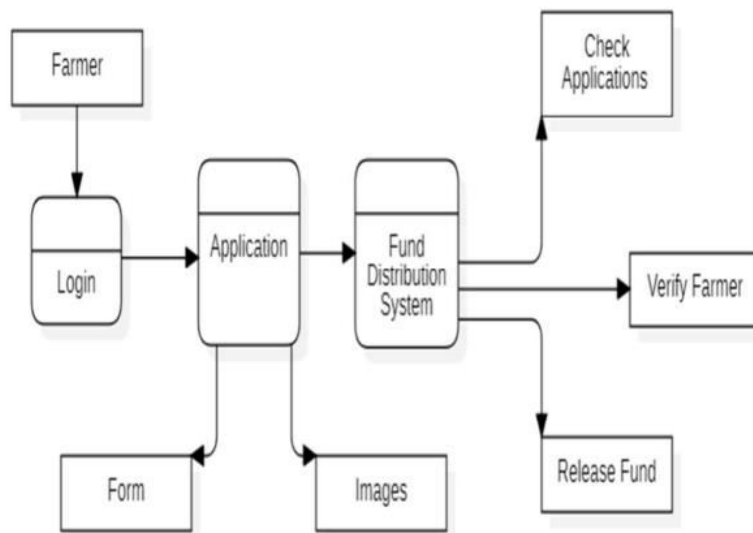
**MD5 Hash Key Generation**

An MD5 hash is created by taking a string of any length and encoding it into a 128-bit fingerprint. Encoding the same string using the MD5 algorithm will always result in the same 128-bit hash output. MD5 hashes are commonly used with smaller strings when storing passwords, credit card numbers or other sensitive data in databases such as the popular MySQL.

This tool provides a quick and easy way to encode an MD5 hash from a simple string of up to 256 characters in length. MD5 hashes are also used to ensure the data integrity of files. Because the MD5 hash algorithm always produces the same output for the same given input, users can compare a hash of the source file with a newly created hash of the destination file to check that it is intact and unmodified.

**IV. WORKING MODULE**

It includes many projects, maintenance or repair work and recording local rental and much more is included in the role of the role of government and central government. The biggest obstacle the central government faces is the low level of corruption that is sometimes impossible to follow which hinders the progress of development. We will therefore propose a blockchain-based theory, which covers the tracking of everything else that is done within the city on the basis of small industries or large companies.



**Fig. 2: Working Model**

This allows for a clear and accurate record of required activity data on a need-to-know basis. The system uses encryption to protect transaction data using hashes to maintain a block of transactions in a series that is maintained and verified by all the involved nodes in order to ensure transaction and data storage transparency. The system allows for a fully-fledged, secure, authentic and authentic fund-sharing system and a fund tracking system to help build a sustainable government system.

The whole process starts with a payer service and ends with a transparent website that is provided to the public. Therefore transaction details such as payer, borrower, amount of payment, why the work was done, are all monitored and stored on the website. In addition a block with action details, is added to the network. After the verification process, a block with transaction details is checked and added to the blockchain network. Work can now be done on the network. All activities and details of activities, published and added to the distributed brochure and will be made available to the public to keep track of transactions.

## V. CONCLUSION

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 blockchain-like immutability, proof of work, and security. It offers the right governance and transparency. It will maintain track of all transactions made. As blockchain 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. 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.

## REFERENCES

1. X. Li, F. Lv, F. Xiang, Z. Sun, and Z. Sun, "Research on key technologies of logistics information traceability model based on consortium chain," *IEEE Access*, vol. 8, pp. 69754–69762, 2020.
2. H. Xu, Q. He, X. Li, B. Jiang, and K. Qin, "BDSS-FA: A blockchainbased data security sharing platform with fine-grained access control," *IEEE Access*, vol. 8, pp. 87552–87561, 2020.
3. X. Zhang, P. Sun, J. Xu, X. Wang, J. Yu, Z. Zhao, and Y. Dong, "Blockchain-based safety management system for the grain supply chain," *IEEE Access*, vol. 8, pp. 36398–36410, 2020.
4. Jiafu Wan, Jiapeng Li, Muhammad Imran, Di Li, Fazal-e-Amin, "A Blockchain-Based Solution for Enhancing Security and Privacy in Smart Factory", *IEEE Transactions on Industrial Informatics* Volume: 15 , June 2019.
5. AntoniosLitke, DimosthenisAnagnostopoulos, Theodora Varvarigou, "Blockchains for Supply Chain Management: Architectural Elements and Challenges towards a Global Scale Deployment", *MDPI* January 2019.
6. P. Joshi, S. Kumar, D. Kumar, and A. K. Singh, (2019) "A Blockchain-Based Framework for Fraud Detection", *Conference on Next Generation Computing Applications (Next Comp)*.
7. SahilSiddharthJambhulkar, VishakhaPrashantRatnaparkhi (2020) "Government Fund Distribution and Tracking System Using Blockchain Technology", *International Journal of Emerging Technologies and Innovative Research*, ISSN:2349-5162, Vol.7, Issue 9, page no.1379-1387.
8. Mohite and A. Acharya, (2018) "Blockchain for government fund tracking using Hyperledger", *International Conference on Computational Techniques, Electronics and Mechanical Systems (CTEMS)*.
9. AbhishekKatore, SanskarChoubey, (2021) "Government Scheme and Funds Tracker using Blockchain", *International Journal of Engineering Research and Technology (IJERT)*, Volume 10, Issue 05.
10. MeghnaVadherShivani Pandey, DarshanaSawant, Hezal Lopes (2021) "State Government Fund Allocation and Tracking System using Blockchain Technology", *International Journal of Emerging Technologies and Innovative Research* ISSN:2349-5162, Vol.8, Issue 6, page no. a455-a459



SJIF Scientific Journal Impact Factor

Impact Factor: 8.423



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details