"GOVERNMENT FUNDS ALLOCATION AND TRACKING SYSTEM USING BLOCKCHAIN TECHNOLOGY"

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Abstract- India, a fastest growing economy in the world has a great potential in attracting the global customers and adapting to new technologies and changes. Digitalization has a great capability which in turn improve and enhance the connectivity in nearly every sector of its economy. But at times the distribution of these approaches is uneven among few sectors of government. Adapting to the latest growing technology will in turn help in bringing the great value and a drastic change in the mode of operations/work for the large group of people out there. Blockchain is one such technology. Due to its feature like decentralized approach, secure, immutable, tamper proof nature it is being adopted by each and every sector globally. Funds in India, on the contrary, is a heated topic and various schemes issued in public interest are allotted tons of money as funds. Due to the lack of transparency, Block chain can be used to bridge that gap and to provide the fully secure, immutable environment for funds tracking.

***Key Words*: Blockchain, HyperLedger, IPFS, Blockchain applications.**

Published in IJIRMPS (E-ISSN: 2349-7300), Volume 11, Issue 3, May-June 2023

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INTRODUCTION

Blockchain the word heard generally in the present serious and quickly developing world. But tragically not many are totally mindful about the technology. Some of us allude the digital forms of money like Bitcoin, Ethereum to be the blockchain, some sees that as these chips away at the guideline of blockchain and so forth. To make things clear to you we initially put some light on the subject. The possibility of Blockchain was advanced by 'Satoshi Nakamoto' in his white paper. He is likewise the assumed pseudonymous individual behind the improvement of bitcoin as well.Blockchain is a component of keep data in a way that makes it troublesome or difficult to change,tamper or on the other hand alter the records. It is additionally alluded to as the Advanced record, same as the record kept up with by monetary establishments for monitoring records.In comparable style blockchain is basically computerized record which is kept up with in a decentralized and conveyed climate. Each block in a blockchain is connected to each other shaping a chain of networks,that's the reason the name "Blockchain".Each

Block has specific data like number of exchanges furthermore, every time an exchange happens the record gets refreshed in members peer network. This approach to putting away information in decentralized way is frequently alluded to as (DLT) which means "Appropriated Record Technology". This component guarantees that honesty of the information is kept up with

All through the organization. Today in this time of innovation and digitization the world is getting advanced in each aspect. Technology has totally fundamentally impacted the manner in which individuals see a world or nation and has driven mankind to advance like never before. In this paper we will talk about the idea of blockchain and its execution for the public authority supports following. India is among the biggest vote based

systems worldwide with 1.3+ Billion populace, a significant segment of populace is financially backward.The Legislature of India and the Express Government's issues various approaches and plans on a huge scope for the financially lower-class populace to benefit from it. On occasion the Middle and the State States issue a few strategies and plans which most residents know nothing about and the advantage of it isn't profited by the residents. There are situations where there are conflicts in the State approaches and Center Government arrangements to survive this hole and to find and track the best plan for the residents to profit advantage of these Administration Plans, Asset Tracker (State and Focal) is to be made utilizing blockchain strategy.

LITURATURE SURVEY

Blockchain for government fund tracking using Hyper ledger

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.

Track-to-Track Association by Coherent Point Drift

In this letter, we propose a probabilistic method, called the coherent point drift (CPD) algorithm, to address track-to-track association with sensor bias. In the CPD method for a pair of sensors, the local tracks of one sensor are represented by Gaussian mixture model centroids, and the local tracks of the other sensor are fitted to those of the first sensor by maximizing the likelihood. An expectation-maximization algorithm is proposed to find the correspondence matrix between the local tracks. Experiments illustrate the effectiveness of our method.

Online Multiple Object Tracking Based on Open-Set Few-Shot Learning

How to make an online tracking model effectively adapt to newly appearing objects and object disappearance as well as appearance variations of target objects from few examples is an essential issue in multiple object tracking (MOT). Learning target appearances from few examples is a few-shot classification problem, while identifications of newly appearing objects and object disappearance has the aspect of open-set classification. In this work, we regard online MOT as open-set few-show classification to address both learning from few examples (few-shot classification) and unknown classes such as new objects (open-set classification). Specifically, we develop an embedding neural network, called VOFNet, consisting of convolutional and recurrent parts, to perform open-set few-shot classification. The convolutional part constructs a feature from an example of a target object and the recurrent part determines a representative feature of a target object from few examples. Then VOFNet is trained to provide effective features for open-set few-shot classification. Finally, we develop an online multiple object tracker based on the combination of VOFNet and the bipartite matching. The proposed tracker achieves 49.2 multiple object tracking accuracy (MOTA) with 28.9 frames per second on MOT17 dataset, which shows a significantly better trade-off between the accuracy and the speed than the existing algorithms. For example, the proposed algorithm yields about 3.17 times faster speed with 0.99 times lower accuracy than recent existing MOT algorithm [1].

MOTIVATION

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. 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.

PROBLEM DEFINITION

State Governments need to caters 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

AIM & OBJECTIVES

- To design and create a system for funds tracking than existing system.
- To provide security and to have exact data of money use
- To develop a system which will be used by government for keeping track on their money

PROJECT SCOPE

Blockchain is referred to as the Digital ledger, same as the ledger maintained financial institutions for keeping the track of records. Blockchain technology harnesses the distributed software and provides a shared ledger with a single source of truth for the recorded transactions without depending on a centralized entity for trust. Hence, it helps in trust in the digital world using technology. Any tangible or intangible asset can be represented and tracked on a Blockchain network, which brings transparency, increases processing speed and reduces cost. On top of Blockchain, can be automated through smart contracts. Therefore, benefits of Blockchain technology include transparency, security, and efficiency, which make it in enabling a layer of trust over Internet for various applications. Each block in a blockchain is linked to one another forming a chain of, that's why the name "Blockchain". Each block has certain information like number of transactions and every time a transaction happens the record gets updated in peer network.

PROPOSED SYSTEM

FRONT-END PART: We have developed a portal which provides the user to bid for the schemes that have been listed by the government for selling. For the front-end we have used web technologies like HTML5, CSS3 and JavaScript for adding the dynamicity to the portal and handling the logic part. This portal acts as the interface where the sellers (govt. Officials) and buyers (the ones bidding for particular schemes) interact and take the advantage of a full transparent and tamper proof system at their disposal.

BACKEND PART: The backend of our project is fully developed using frameworks based on Blockchain technology like Ganache,Truffle suite. Ganache is actually a personal Ethereal block chain which you can use to run tests, execute commands, and inspect state while controlling how the chain operates.It provides you 10 ethereum accounts with 100ETH each for testing the network. Also each and every transactions taking place in the network is stored in blocks with some details like Timestamp, hash of the block,and other necessary details required to make the ledger complete. Truffle is actually a development environment, testing framework all in one.It is based on Ethereum and allows the smooth and seamless development of DApps i.e. Distributed Applications. With truffle you can compile the smart contracts and deploy them into web applications and using it you can develop the frontend for your applications. The smart contracts are developed using the Solidity language that we have used to set the terms of agreement between the buyer and sellers of the schemes. For the payment gateway we have used the MetaMask which acts as a wallet for your web applications.All the transactions taking place are confirmed using the metamask

PROCESS: Including many projects, maintenance or repairing work and recording employment of the area and many more are included in the role activity of the state as well as central government. A major hurdle that the top government faces is the low level corruption that is sometimes impossible to track which deprives the state of progress. Hence we are going to propose a theory based on the blockchain, which includes the tracking of every other transaction done within the city on the basis of small scale industries or large scale companies. This allows to maintain a crystal clear record with on-demand right to transactional data on a need to know basis

SYSTEM ARCHITECTURE

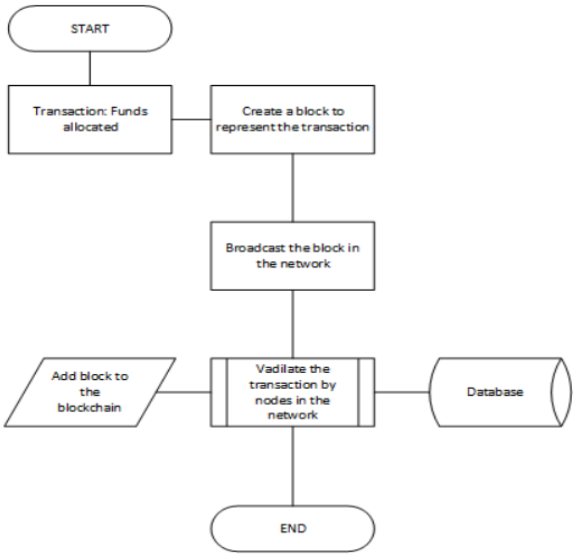
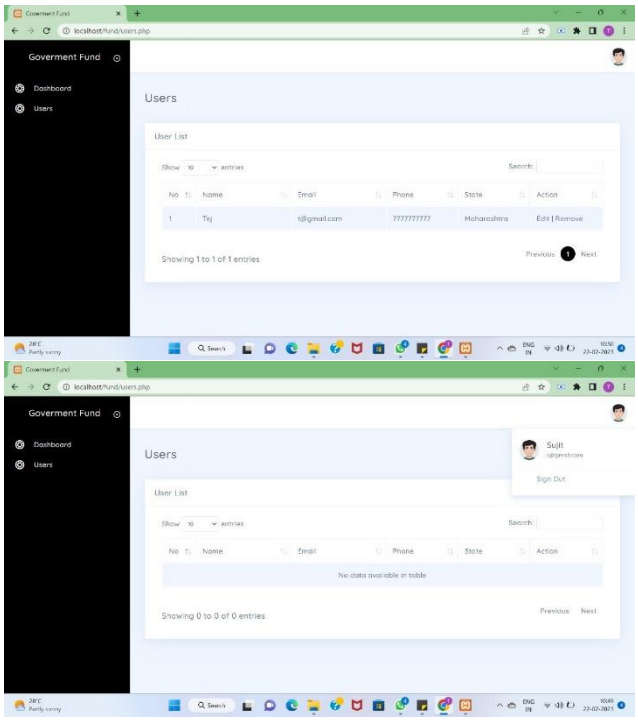


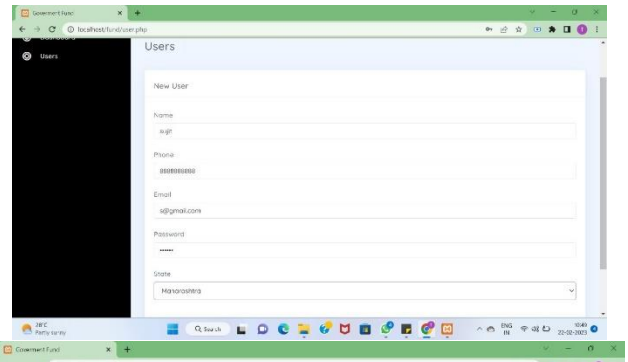
Fig -1: System Architecture Diagram

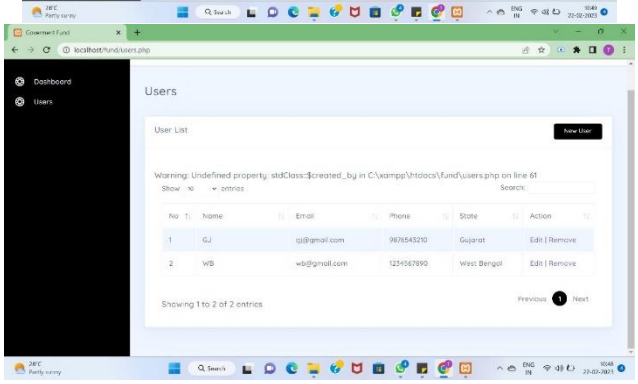
APPLICATION:

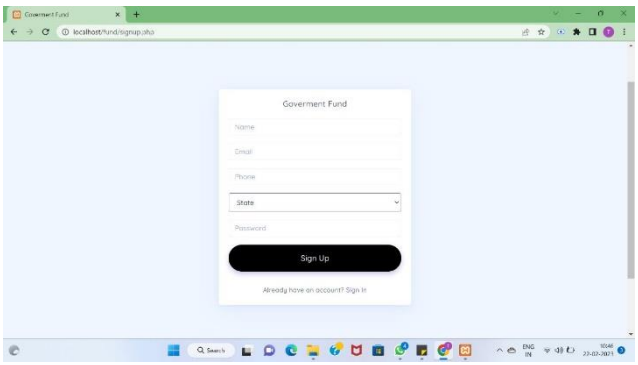
1. Tracking.
2. Security.
3. Banking
4. Government sector
5. Fund Monitoring

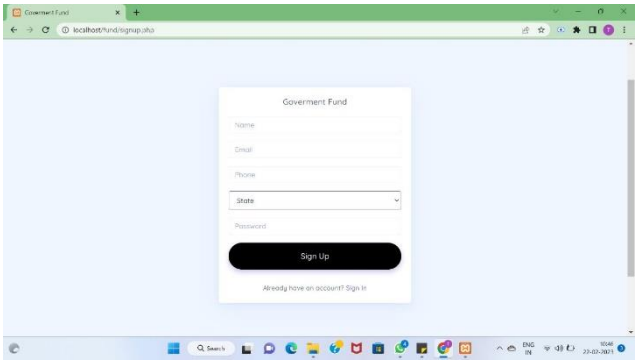
RESULT











CONCLUSION

The features of Blockchain like immutability, tamper-proof, secured and decentralized approach helps in eliminating the security vulnerability of the application. Hyperledger fabric is like other blockchain technologies which has a ledge, uses smart contracts and is a system by which participants manage their transactions. It provides proper governance and access control and can be scaled up whenever needed**.**

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