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SECURE ONLINE PAYMENT SYSTEM FOR INSTITUTE USING BLOCKCHAIN AND CLOUD

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ABSTRACT: Most existing fair payment solutions use traditional electronic cash systems to generate payment tokens, which requires a trusted authority to prevent double-spending. Hence in this paper we have presented a system which doesn't require any third party, safe and secure payment system using blockchain. Index Terms - Blockchain, Cloud deduplication, ethereum, SHA and Secure

INTRODUCTION

In recent years, due to the rapid development of cloud computing and big data technology, more and more enterprises and individuals choose to outsource data to cloud service providers. Many cloud storage systems use deduplication to reduce costs by taking advantage of the redundancy of storing data and avoiding storing the same data multiple times in real life

The Blockchain Technology enables the implementation of highly secure and privacy-preserving decentralized systems where transactions are not under the control of any third party organizations. Using the blockchain technology, exiting data and new data are stored in a sealed compartment of blocks (i.e., ledger) distributed across the network in a verifiable and immutable way. Information security and privacy are enhanced by the blockchain technology in which data are encrypted and distributed across the entire network.

We have SHA Algorithm to generate the hashes in the blockchain and we have defined the class into the class it generate the hash function to determine the previous hash of the block.

After completion of payment by user if the any malicious parts try to do changes in any of the block then that block is detected as corrupted block and we can easily detect the attack and resolve the issue as early as possible. Using Blockchain we can easily perform the transaction under huge security and fare manner.

LITERATURE SURVEY

Since the first introduction of blockchain by the Nakamoto team [12] in 2008, the application of blockchain-based technology has penetrated into various industries, especially those business fields where there are transaction intermediaries,which means that many service businesses will be decen- tralize 3.in this paper, based on the cloud storage encryption scheme, we improve the cloud storage encryption scheme by introducing ethereum blockchain technology, and make fair payment by using ethereum smart contract technology. At the same time, we achieve the role of supervision, track the behavior of data, and realize the decentralized fair payment. Because all access records are recorded in the blockchain.

first considered the payment problem in outsourcing com- puting in 2010. Based on this, they proposed a fair pay- ment scheme based on the segmentation selection protocol and secret sharing protocol. However, this solution is very inefficient for practical applications. Later, the author proposed an improved new payment scheme[3]

Based on game theory and Ethereum smart contract, Dong et al. [17] proposed a protocol to verify the correctness of computation in cloud computing. However, assuming that users are honest; the two clouds cannot collude. On the other hand, in order to improve the transaction throughput and latency in blockchain, the current work mainly focuses on offline payment channels, which can be combined with the payment channel

METHODOLOGY

Proposed system consists of two phases, first is payment using the Blockchain technology and the integrated payment gateway and second being the storage on cloud in real time manner so service provider easily detect any attack on system .

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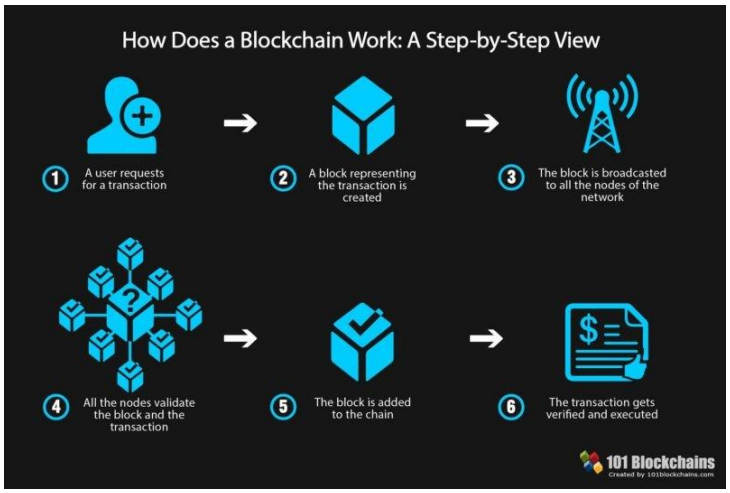

Fig. 1. Block diagram of system

in given system for making any payment by end user we have to first request for the transaction block , i.e that block is genuine or not and we have to pass that block in the chain all the nodes verify based on the smart contracts and the miners that are working on the blockhain they solve complex mathematical puzzle and validate that block. then that block is added in the chain and no one can edit the data in the block and it enable showing the complete data without being copied on the any node after that the data is stored on the cloud and we can monitor it for real time during the payment by end user.

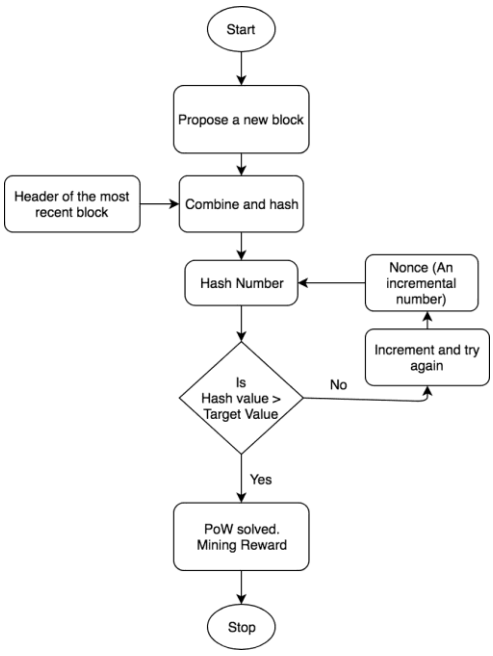

Fig. 2. SHA256 ALGORITHM FLOW

By using the blockchain we have request for the transactions and after that block is created that represent that transaction in the blockchain , data in the block is immutable and we can directly delete that block but not the data in it.
In figure we can see after creation of block that block is sent to every node in the network and each node validate that

GUI is also important part of any system it helps naive users to interact with system easily The cloud storage server S-CSP deploys the server contract ServerContract to blockchain – The client registers in the cloud deduplication system for payment – The cloud storage server S-CSP responds to the client's registration request, authorizes the client, and writes the client's address into the blockchain

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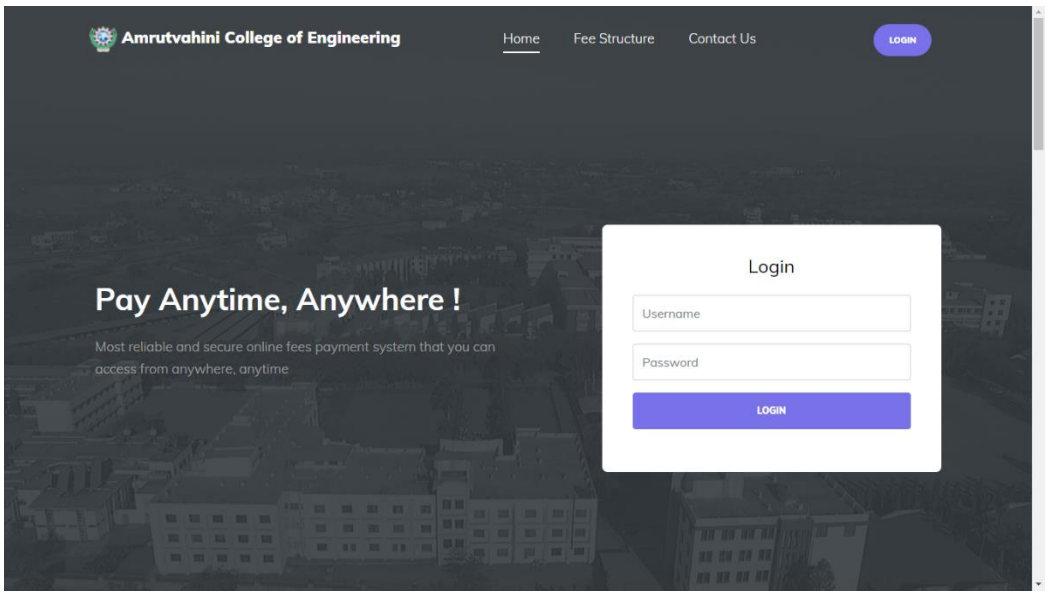

Fig. 2. Graphical User Interface

we have to login to the system by using username and password assigned by the department authority which can be stored on the blockchain

RESULT

This system is implemented by using python 3.6 and flask which generate hashes using SHA256 Algorithm which help for secure payment by user and doesn't allow any changes after once payment done. The proposed system allows to transact the money and allows to not copy any data on node to node and implement real time system.

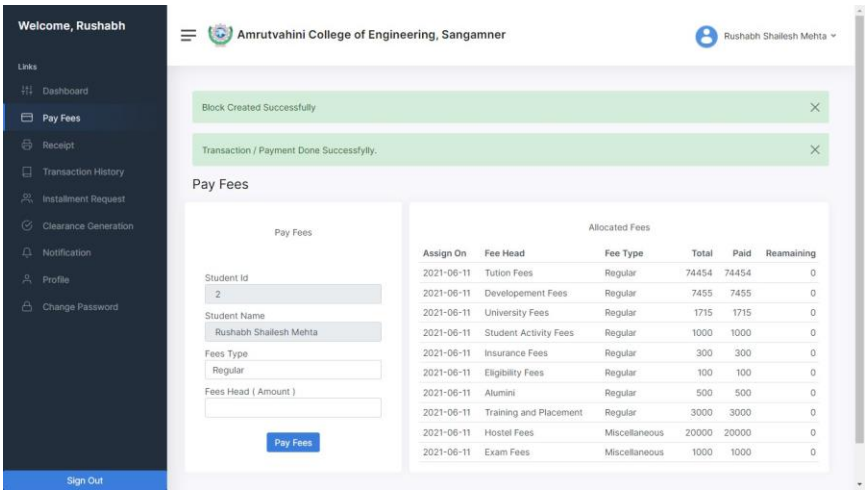

Fig. 4. Block creation and payment

CONCLUSION

In these paper we have Implemented a fair payment system by using Blockchain , which doesn't require any third party in between process and cloud for real time handling of data. this system seamlessly conduct the financial transaction without any fraud or safety issue with the help of blockchain in cloud environment and also it can be improved by using cryptocurrencies.

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