Hope Foundation's
International Institute of Information Technology, Pune
Department of Information Technology

(Academic Year:2022-23)

Project Group No: BI-06

Project Title: Decentralized permission based storage system for various type of data using Blockchain

Group Details:

Sr. No	Roll No.	Name of students	Mobile No.	Email id	TE Result
1.	BI21	Om Gosavi	7066643797	omgosavi614@gmail.com	
2.	BI39	Ritu Mahajan	9637437002	rituymahajan@gmail.com	
3.	BI49	Nikita Rathod	8080234284	nikitaratho603@gmail.com	
4.	BI66	Shreyash Sharma	9359517275	shreyashms2501@gmail.com	

Name of Internal Guide:

Signature of Internal Guide:

Mobile No.:

Email id :

(If any)

Name of External Guide:

Signature of External Guide:

Mobile No.:

Email id :

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Project Group No: BI06 **Guide Name: Prof. Prashant M.**

Group members:

Roll No	Name of Students	Project Domain	Project Platform /Software requirement
BI21	Om Gosavi	AIML/Blockchain	1. Blockchain 2. Peer-to-Peer Network 3. Servers 4. Solidity 5. Smart Contracts 6. Logs 7. Cloud Triggers 8. Cloud Storage 9. Cloud Provider
BI39	Ritu Mahajan		
BI49	Nikita Rathod		
BI66	Shreyash Sharma		

Abstract:

In today's world, the simplest way to share data is through the internet. Cloud computing is a technology provided by the internet, which is dependent on large storage providers. These storage providers act as untrusted third parties who manage enormous data stored on the cloud. This data may contain sensitive information that belongs to multiple individuals or organizations. Such types of models may involve security issues like privacy and integrity. In this project, we introduce a prototype of a multi-user system for access control to documents that use the blockchain technology for securing shared data storage. The data owner is allowed to upload the documents on the cloud using Web Portal and the user will request an access link of the document from the owner. Whenever the user tries to access the document using the provided link, a smart contract will be triggered which will send a notification to the owner. The owner will receive the notification to grant permission to the user. The user who has the permission to access a particular document stored on the cloud can only access it. The above operation on the document will be recorded on the blockchain. Owner can always see the logs to find any suspicious operation on the documents. Therefore, the privacy of data is ensured using the smart contracts, immutability property and ledger of blockchain.

We are going to propose a decentralized storage system based on blockchain technology which performs data integrity at the Guardian server to the user, and after verifying valid identity, the user will be able to access the information stored at peer-to-peer servers.

Keywords:

Permissioned Blockchain, Distributed ledger technology, PingER, Decentralized system, Cloud Storage, Cloud Triggers, Smart Contract, Logs, Ethereum, Data Privacy, Data Security, Solidity, Cloud Provider.

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