

PROJECT INFORMATION FORM

1. Team No.: 1

2. Project Title: Secure File Sharing System using Blockchain

3. Team Details:

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4. Problem Statement:

In organizational settings, the need for efficient and secure file-sharing among a consortium of organizations has become increasingly critical. Traditional centralized file-sharing systems lack the required distributed trust and transparency, posing challenges to operational synergies. Additionally, existing solutions encounter issues related to user privacy, particularly in the sharing of encryption keys, and face vulnerabilities such as the potential leakage of confidential information in access control mechanisms.

To address these challenges, there is a pressing need for a solution that provides a secure, transparent, and confidential framework for file-sharing among organizations within a consortium. This solution should overcome the limitations of centralized systems by implementing robust traceable encryption, safeguarding user privacy during key sharing, and fortifying access control mechanisms against the risk of confidential information leaks.

The goal is to propose an advanced file-sharing system that leverages innovative technologies, such as blockchain and distributed file storage, to ensure end-to-end encryption, tamper-resistant storage of file information, and a seamless workflow for secure inter-organizational collaboration. This solution aims to establish a new standard for secure file-sharing, fostering trust, integrity, and confidentiality within the collaborative efforts of organizations.

5. Source of Project (References):

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- [6] S. Wang, Y. Zhang, and Y. Zhang, "A Blockchain-Based Framework for Data Sharing with Fine-Grained Access Control in Decentralized Storage Systems," School of Science, Xi'an University of Technology, Xi'an 710048, China. School of Computer Science and Engineering, Xi'an University of Technology, Xi'an 710048, China. Corresponding author: Yinglong Zhang (ylzhang3550@gmail.com). This work was supported in part by the National Natural Science Foundation of China under Grants 61572019 and 61173192, and in part by the Key Project of Natural Science Foundation of Shaanxi Province of China under Grant 2016JZ001.
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6. Final Outcome:

The outcomes of the project aim to establish a secure and transparent file-sharing framework, leveraging blockchain and distributed storage technologies, ensuring end-to-end encryption, tamper-resistant file information storage, and facilitating secure collaboration within a consortium of organizations.

7. Parameters Considered for Project Evaluation:

- Smart Contract Execution
- Secure Data Storage i.e., Tamper-Proof
- Time-Saving
- Secure File Transfer

8. Development Environment:

Windows OS, VS Code, MySQL, Ethereum Platform and Meta Mask, Web Technology

Signature of Team Members:

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Signature of Supervisor: