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Project

Report On

"Blockchain-Cloud File Sharing: Secure and Decentralized Data Management"

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Research Topic: "Blockchain-Cloud File Sharing : Secure and Decentralized Data Management"

Proposed Research Topic and Introduction

A cloud file system is a storage system that allows for shared access to file data. Users have the ability to create, delete, modify, read, and write files. Cloud file sharing is a service that allows multiple users to access a common set of file data. Cloud file sharing security is managed through user and group permissions, allowing the admin to tightly control access to shared file data.

Users can easily share files with one another by using our blockchain-based application and the cloud-based file sharing method. As a result, this system enables users to easily and effectively store and share files via cloud networks. When we upload data to the cloud, we typically lose control of it, introducing new security risks to the integrity and confidentiality of our data. For sensitive and private data, security is a major concern. The user can specify who has access to which resources based on certain attributes or roles using authorization or access control policies.

Literature Review

Blockchain technology has been widely adopted in various industries, including finance, healthcare, and supply chain management. In the context of cloud file sharing, blockchain technology has been used to provide secure and transparent file sharing.

Several studies have examined the use of blockchain technology in cloud file sharing. For example, a study by Goyal et al. (2018) proposed a blockchain-based cloud file sharing system that uses smart contracts to manage file access. Another study by Li et al. (2019) proposed a blockchain-based cloud file sharing system that uses a decentralized identity management system to authenticate users.

Blockchain Applications in Cloud File Sharing

Blockchain technology has several applications in cloud file sharing, including:

1. **Secure File Sharing:** Blockchain technology can be used to provide secure file sharing by encrypting files and storing them on a decentralized network.
2. **Transparent File Access:** Blockchain technology can be used to provide transparent file access by using smart contracts to manage file access.
3. **Decentralized Identity Management**: Blockchain technology can be used to provide

decentralized identity management by using a decentralized identity management system to authenticate users.

4. **Immutable File Storage:** Blockchain technology can be used to provide immutable file storage by storing files on a decentralized network that is immutable.

Security and Privacy Concerns

Blockchain technology has several security and privacy concerns, including:

1. **Scalability:** Blockchain technology is still in its early stages, and scalability is a major concern.
2. **Regulation:** Blockchain technology is still largely unregulated, and there are concerns about its use in cloud file sharing.
3. **Security Risks:** Blockchain technology is not immune to security risks, including hacking and fraud.
4. **Privacy Concerns:** Blockchain technology raises several privacy concerns, including the use of personal data and the potential for surveillance.

Objectives of Study

- To design and implement a blockchain-based cloud file sharing system with enhanced security and privacy.
- To evaluate the performance of the proposed system in terms of security, privacy, and scalability.
- To identify the challenges and limitations of using blockchain technology in cloud file sharing.

Area of Study

This study will focus on the design and implementation of a blockchain-based cloud file sharing system with enhanced security and privacy.

Research Methodology

1. **Literature Review:** A comprehensive review of existing literature on blockchain technology and cloud file sharing.
2. **System Design:** Design and implementation of a blockchain-based cloud file sharing system with enhanced security and privacy.
3. **Performance Evaluation:** Evaluation of the performance of the proposed system in terms of security, privacy, and scalability.
4. **Case Studies:** In-depth case studies of blockchain-based cloud file sharing systems.

Strengths and Concerns

Strengths

1. **Comprehensive Literature Review:** A comprehensive review of existing literature on blockchain technology and cloud file sharing.
2. **Novel System Design:** Design and implementation of a blockchain-based cloud file sharing system with enhanced security and privacy.

Concerns

1. **Limited Scalability:** The proposed system may not be scalable to handle a large number of users and files.
2. **Regulatory Concerns:** The use of blockchain technology in cloud file sharing may raise regulatory concerns.

References

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