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A Secure Decentralized Data Storage Framework Using Blockchain Technology

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Abstract: *Cloud storage is one of the leading options to store massive data, however, the centralized storage approach of cloud computing is not secure. On the other hand, Blockchain is a decentralized data storage system that ensures data security. Any computing node connected to the internet can join and form peers network thereby maximizing resource utilization. Blockchain is a distributed peer to peer system where each node in the network stores a copy of blockchain thus making it immutable. In the proposed system, the user's file is encrypted and stored across multiple peers in the network using the IPFS (InterPlanetary File System) protocol. IPFS creates hash value. The hash value indicates the path of the file and is stored in the blockchain. This paper focuses on decentralized secure data storage, high availability of data, and efficient utilization of storage resources. Here is our take on using Block Chain technology as a decentralized data storage system. Wherein we use resiliency attacks to display the benefits of Block chain based decentralized data storage by performing key operations on our proposed decentralized structure.*

Keywords: Blockchain, Data Security, IPFS, Encryption, Smart Contract, Data Storage

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