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(57) Abstract :

A blockchain-based decentralized storage system (100) comprising a plurality of nodes (102) distributed across a blockchain network (106) and a processing unit (104) in communication with the plurality of nodes (102), and operatively coupled with a blockchain ledger. The system (100) is configured to obtain data packets from one or more users (110) and split the obtained data packets into more than one fragment and distribute the more than fragments among the plurality of nodes (102). Further, the system is configured to receive a request from at least one of the one or more users (110) and retrieve, based on the received request, the data packets by integrating the more than one fragment from the plurality of nodes (102). Furthermore, the system (100) is configured to maintain integrity by verifying the stored data packets and ensure data security and access control within the decentralized storage system (100).

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