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Problem

The proposed system addresses several challenges faced by traditional data storage solutions.

First, it addresses high storage costs by leveraging the decentralized IPFS network for a cost-effective solution. Second, it tackles redundancy and data loss concerns in centralized systems by distributing data across the IPFS network, ensuring accessibility even if nodes fail.

Third, it enhances security by combining IPFS's decentralized nature with server-side pinning and user-specific directories, providing a secure data storage platform. Lastly, it improves scalability by utilizing the distributed IPFS network, which easily scales as nodes join.

The system offers an innovative solution to traditional storage challenges by integrating the IPFS network with Firebase, creating a reliable, secure, and cost-effective platform for data management and storage.

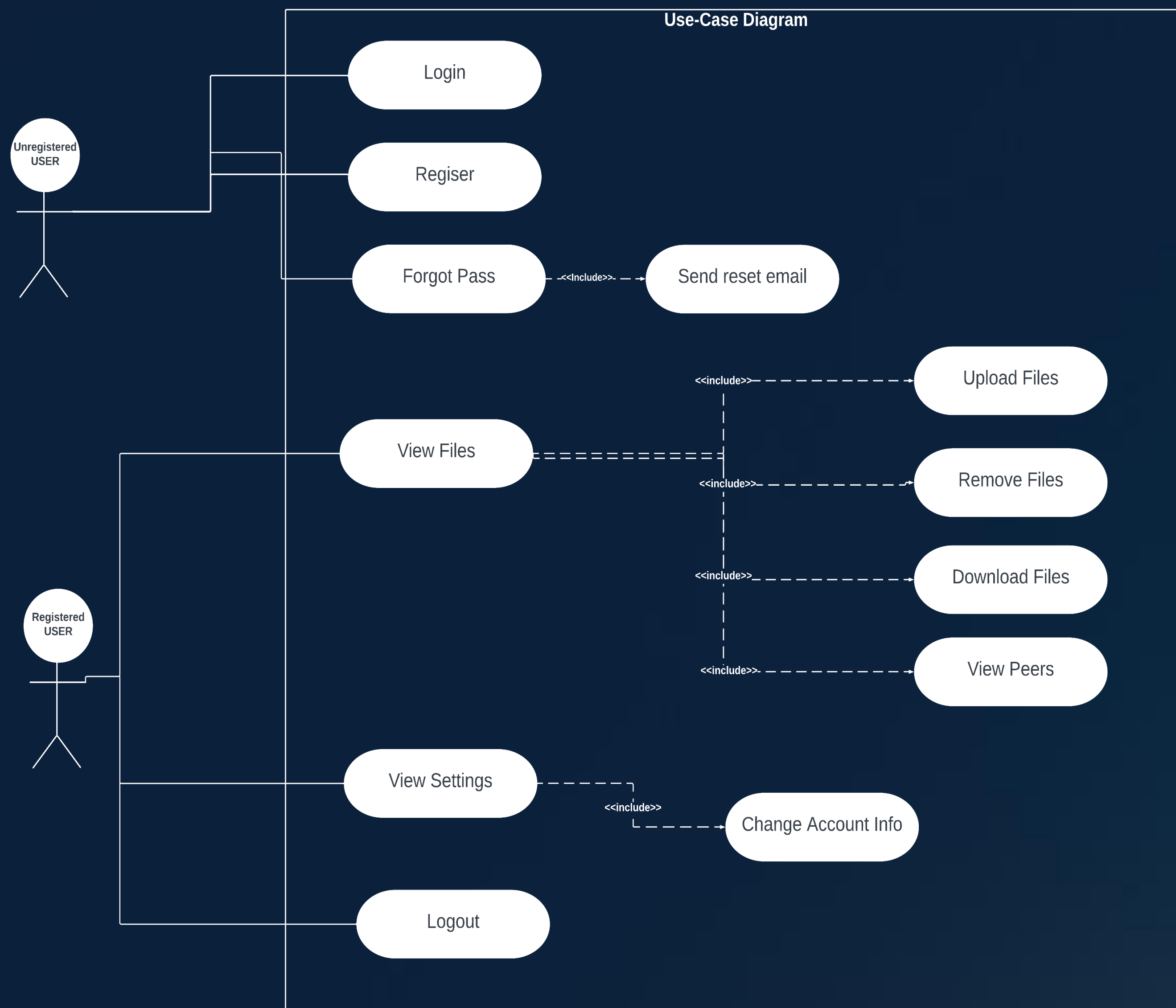
Sequence Diagram



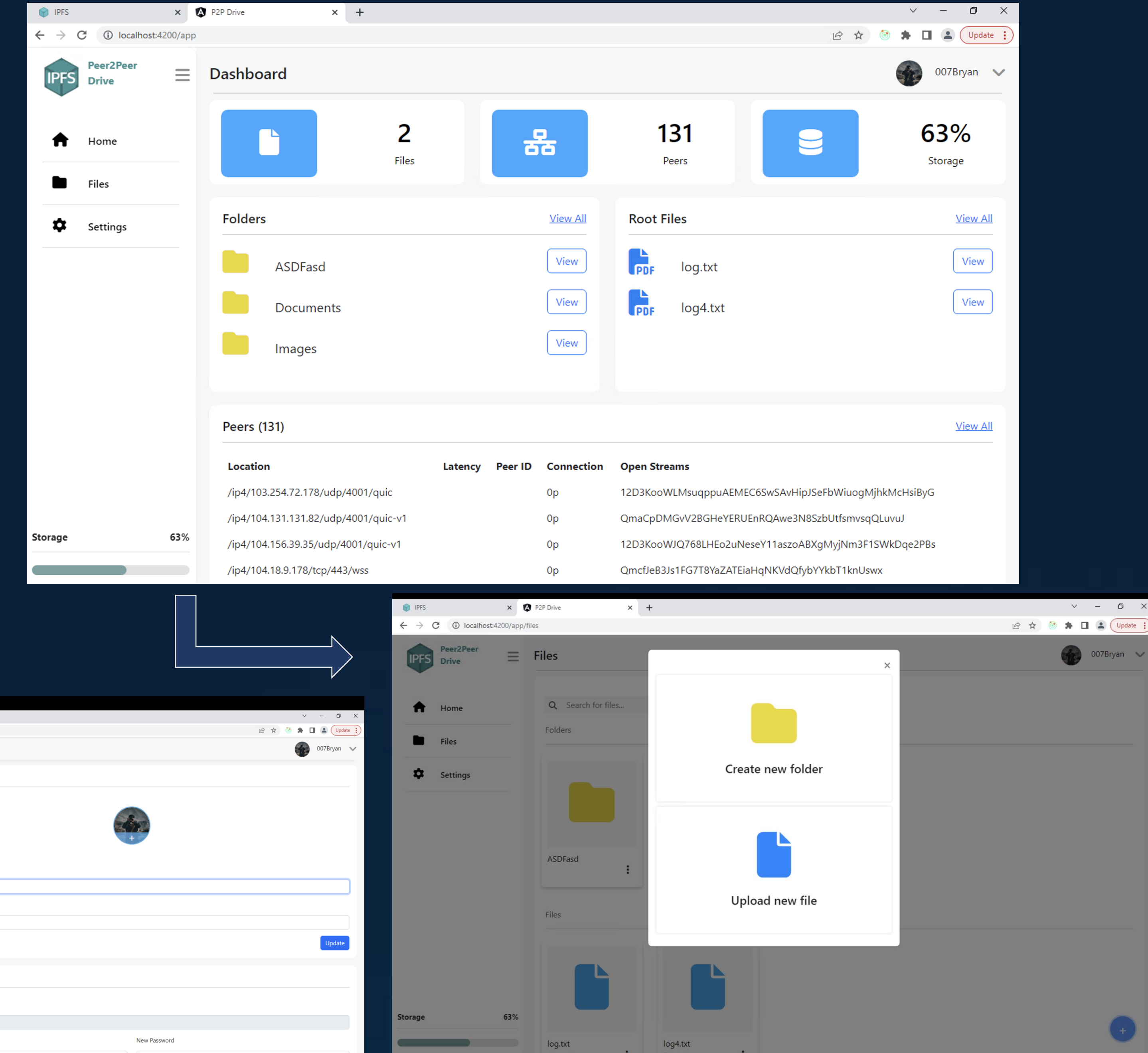
Validation/Verification

- Functional testing:** This involved testing the various functionalities of the system to ensure that they work as expected. This includes testing the registration and login process, directory creation, and file upload and download.
- Performance testing:** This will involve testing the performance of the system under various load conditions to ensure that it can handle increased traffic and usage.
- Integration testing:** This will involve testing the integration between different components of the system, such as the front-end, back-end, and IPFS network.
- User acceptance testing:** This will involve testing the system with real users to ensure that it meets user needs and expectations

Use Case Diagram



Screenshots



Summary

The proposed system leverages Web3 technology to overcome various challenges faced by traditional data storage solutions. It utilizes the decentralized IPFS network to provide a cost-effective alternative for high storage costs. Additionally, it addresses redundancy and data loss issues by distributing data across the IPFS network, ensuring accessibility even in the event of node failures. The system also enhances security through the integration of IPFS's decentralized nature, server-side pinning, and user-specific directories, culminating in a secure data storage platform. Furthermore, it improves scalability by capitalizing on the distributed IPFS network, which effortlessly scales as nodes join. In conclusion, this innovative solution combines the IPFS network with Firebase to create a reliable, secure, and cost-effective platform for data management and storage, harnessing the power of Web3 technolog