Title: Mutable and Immutable Blockchain Architecture: A Fair Comparison of Performance: security, privacy, cost-effective, and resource efficiency.

Description:
We have Mainchain and Sidechain in our proposal. The data in the Mainchain are immutable, whereas the data in the Sidechain are mutable. We use PoS to validate transactions. The Sidechain is a secondary Blockchain linked to the Mainchain. This architecture uses the Sidechain for data deletion and modification requests. Smart Contracts are self-executing contracts deployed on the Mainchain and Sidechain. They automate specific actions based on predefined conditions. The Sidechain data complements the Mainchain data, but it does not replicate it. Mainchain holds relevant immutable core data, including user identities and critical information. Sidechain stores the mutable user data.

Metrics for performance evaluation:

Transaction throughput: The number of transactions that can be processed per second.

Latency: The time it takes for a transaction to be confirmed.

Data confidentiality: The ability to protect sensitive data from unauthorized access.

Resistance to attacks: The ability to withstand attacks such as double-spending, Sybil attacks, and 51% attacks.

Fault tolerance: The ability to continue operating in the face of failures or disruptions.

Transaction fees: The cost of processing transactions.

Energy consumption: The energy required to operate the network.

Computational overhead: The amount of computational resources required to process transactions.

Storage requirements: The amount of storage needed to maintain the blockchain.