

Abstract

The inefficiency of traditional administrative processes highlights the need for innovative digital solutions. This study aims to evaluate and compare the performance of blockchain-based and non-blockchain-based business licensing systems to determine which approach offers better efficiency and security. The blockchain system was developed using Hyperledger Fabric with IPFS for data storage, while the non-blockchain system utilized Node.js with the Express.JS framework and MinIO for storage. Testing involved document upload and retrieval operations based on User ID and Document ID. Results indicate that while the blockchain system offers enhanced data integrity and security, it suffers from significantly slower performance, especially in document upload operations. The non-blockchain system demonstrated faster and more consistent response times, suggesting that in contexts where speed is crucial, a non-blockchain approach may be more suitable, despite the security trade-offs.