DEVELOPING PERSONAL DOCUMENT SECURITY SYSTEM USING ADVANCED ENCRYPTION STANDARD (AES-256) CRYPTOGRAPHIC ALGORITHM

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ABSTRACT

Digital document security is crucial for preventing data theft and unauthorized access. This study developed a web-based document security system utilizing the Advanced Encryption Standard (AES-256) algorithm to encrypt securely and decrypt documents. The system is designed for user-friendliness while providing maximum protection for sensitive data. The research methodology includes a literature review, system design, implementation, and black box testing to ensure the system's functionality. The results indicate that the system effectively safeguards documents with a high level of security and facilitates user management of encrypted files. Furthermore, testing demonstrates that the encryption and decryption processes operate efficiently without compromising system performance. Implementing AES-256 has proven effective in maintaining data confidentiality and preventing unauthorized access to personal documents, making the system reliable for enhancing digital information security.

Keywords*: Data Security, Cryptography, AES-256, Document Encryption, Black Box Testing*