IMPLEMENTATION OF ADVANCED ENCRYPTION STANDARD (AES) ALGORITHM FOR PAY SLIP DATA SECURITY

(Case Study: Ruminate Coffee & Roastery)

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ABSTRACT

Employee data security, especially financial data such as pay slips, is crucial in the digital era. Pay slips contain sensitive information, including income details and personal data, which are vulnerable to cyber threats. Ruminate Coffee & Roastery, as a company in the food and beverage industry, realizes the importance of maintaining the security of this data to prevent the risk of unauthorized access and information leakage. Therefore, this study aims to implement the Advanced Encryption Standard (AES) algorithm to secure employee pay slip data through the encryption and decryption process. AES was chosen because it has a high level of security with the use of symmetric encryption keys that can only be accessed by authorized parties. This system is built in the form of a web-based application using the PHP framework and programming language, and is supported by a MySQL database for data management. The results of the test show that this AES encryption system is able to maintain data confidentiality and security well, providing access only to users who have the encryption key. The implementation of AES encryption on pay slips not only improves data security, but also builds employee trust and meets personal data protection standards. The proposed system can be relied on as an alternative solution for companies that want to improve the security of sensitive data amidst the growing cyber threats.

Keywords: Data security, Advanced Encryption Standard, pay slip encryption, employee privacy, information security