

CRYPTOGRAPHY IMPLEMENTATION FOR USER DATA SECURITY IN ACADEMIC INFORMATION SYSTEMS USING AES-128 AND DES ALGORITHMS

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ABSTRACT

This study aims to develop a cryptographic implementation to secure user data within the Academic Information System, thereby supporting the teaching and learning process. Additionally, the study will assess the feasibility of this implementation in terms of its security capabilities to protect user data for relevant institutions. This research falls under the category of development research (Research and Development). The research methodology includes the following steps: identifying potential problems, conducting a needs analysis, designing the product, creating the product, validating it with experts, revising the product, conducting usage trials, revising the product again, and finally, mass production. Data collection will be conducted using a questionnaire. The data analysis method employed will be a quantitative descriptive analysis technique, which will be expressed through the distribution of scores and percentages based on predetermined assessment scale categories. The outcomes of this study will result in a security system for user data within the academic information system, utilizing the AES and DES algorithms. Consequently, implementing this user data security system will enhance the protection of user data within the academic information system for teachers, students, and parents or guardians of students.

Keywords: *Academic Information System, AES-128 Algorithm, DES.*

