IMPLEMENTATION OF THE DES ALGORITHM TO SECURE STUDENT ASSIGNMENT FILES

(Case study: Tempel 1 Public Middle School)

AKHMAD ROMADHONI
Informatics Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : dhoni.akhmad04@gmail.com@gmail.com

ABSTRACT

The security system in an agency plays a very important role, especially in the educational sector, such as SMP Negeri 1 Tempel, especially for student assignment files, which is a very important aspect to protect sensitive information. This research aims to apply the Data Encryption Standard (DES) algorithm as a solution for securing student assignment files at SMP Negeri 1 Tempel. The DES algorithm was chosen because of its strength in providing effective and efficient symmetric encryption. The implementation of the DES algorithm is carried out through the stages of requirements analysis, system design and testing. The research results show that the DES algorithm successfully encrypts and decrypts student assignment files, ensuring data confidentiality from unauthorized access. In addition, the performance of the DES algorithm in the encryption and decryption process is proven to have sufficient speed to be applied in a school environment. The application of the DES algorithm to student assignment files at SMP Negeri 1 Tempel proves that this method is effective in protecting sensitive data and can be relied upon as an information security solution in educational institutions.

Keywords: Data Encryption Standard (DES), Encryption.