



**Ministry of Higher Education and
Scientific Research
University of Babylon
College of Information Technology
Department of Information Security**



Study: (Morning)

Secure File: Comprehensive File Security System with Encryption and User Authentication

**A Graduate Project Submitted to the department of Information Security of the
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Abstract

"Secure File" is a robust file security system designed to ensure the confidentiality and integrity of files through encryption and user authentication. In today's digital age, the protection of sensitive information is paramount, and traditional methods of file security are often insufficient. To address this need, Secure File employs advanced encryption algorithms to encrypt files before they are stored or transmitted, making them unreadable to unauthorized users. Additionally, the system incorporates user authentication mechanisms, such as passwords or biometric data, to ensure that only authorized users can access the encrypted files.

The system's architecture consists of three main components: the encryption module, the authentication module, and the file management module. The encryption module uses industry-standard encryption algorithms, such as AES-256, to encrypt files securely. The authentication module verifies the identity of users before granting them access to the encrypted files, thereby preventing unauthorized access. The file management module handles the storage, retrieval, and management of encrypted files, ensuring their availability to authorized users.

To evaluate the performance of Secure File, we conducted a series of experiments using synthetic and real-world data. The results demonstrate that the system provides strong file security without compromising performance. The encryption and decryption processes are fast and efficient, even for large files, and the authentication process is reliable and secure.

In conclusion, Secure File is an effective file security system that provides comprehensive protection for sensitive information. By combining encryption and user authentication, the system ensures the confidentiality, integrity, and availability of files, making it suitable for use in a wide range of applications, from personal file storage to enterprise data protection.