Secure File Management System

48430 – C Fundamentals Assignment 3

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2023

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# Introduction

### Goals

This project aims to develop a C program that performs as a compact secure disk. This will include implementing some form of a secure file system that a user can self-manage on their desktop. It must involve the creation and sorting of files, as well as their secure encryption and decryption if need be. This task has been selected as our team believes it is a viable real-world project that a user would be interested in implementing. For the purposes of this project our target user is a wide range of standalone consumers that may be interested in secure file storage for the following reasons.

* Secure encryption of files on public servers
* Encrypting and decrypting backups of files in case of loss
* General data security and protection against malicious software

We also aim to provide an intuitive user interface to support this project to increase the likelihood of its adoption by our customer base.

### Scope

The compact secure disk will allow current users to store compress and encrypt any files of their choosing. This will be reliant on either one or several encryption keys that the user can generate through our program. Through the user-friendly interface can then be decrypted and decompressed at any time throughout operation. The compact secure disk will provide command line arguments to process batches of user files for efficiency. Its features should also allow the user to encrypt or compress files one at a time as well. A search function is also implemented which enables the user to search for key or specific words within the compressed and encrypted files. The program will decrypt and decompress these files and display the key or specific words that the user has searched for. This feature enhances the program's usability and increases its efficiency for the end user.

# Design & Features

### Menu Functions

### File Encryption

### File Compression

### Sorting and Searching Files

# Problems Encountered

# Conclusion