Submitted by:

Hassan Sanaullah | 2230-0057

Said Hassan Ali | 2230-0159

Muhammad Awais Kamal | 2230-0088

Class: BSCS / Fa-22

Programming Techniques

Ms. Mussarat Fatima

**Messenger**

Project Proposal

SS CASE IT

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**Introduction**

The purpose of this project is to develop a message storing program for a chat application. The program will allow users to register an account, log in, write messages to other users, and view their received messages. The program will store the messages in a file, ensuring that users can access their messages anytime they log in.

**Objectives**

* Implement functionality to store messages and account data in a file.
* Provide options for users to write new messages and view their received messages.
* Provide option for registering a new account.

**Features**

The message storing program will include the following features:

* **Account Registration**
* Users can register an account by providing a username and password.
* The account information will be stored in a file for future login.
* **Login**
* Registered users can log in using their username and password.
* The program will validate the user's credentials and grant access to their account.
* **Message Writing**
* Users can write messages to other registered users.
* The program will prompt the user to enter the recipient's username and the message text.
* The messages will be saved in a file, including the sender's and recipient's usernames and the message content.
* **Message Viewing**
* Users can view their received messages.
* The program will display the messages along with the sender's username and the message content.
* **Invalid Input Prevention**
* The program uses char instead of int for choices to prevent problems in case of non-integer input during choice selection.
* Use of while loop to display invalid input message and ask user for input again in case of invalid user input.

**Implementation Details**

The message storing program will be developed using the C++ programming language. The program will utilize filehandling techniques to store and retrieve messages and account data. The program will have separate functions for account registration, login, message writing, and message viewing. It will make use of data structures, such as structs, to store user account information before writing to a file. Use of constant reference parameters in come functions to avoid unnecessary data changes and unnecessary memory duplication.

**Conclusion**

The message storing program will serve as an efficient and reliable solution for users to manage their chat messages. It will provide a seamless user experience by allowing users to register accounts, securely log in, write messages, and view received messages.