# HLD

***High level Design***

The client is built on four main layers :

**Presentation layer**

The presentation layer contain all the necessary functions that allow the program to interact with the user directly throw the GUI all interaction with the user is done by this layer from display and reserving information from the user witch in this point is based on command line interface

**Business layer**

This layer is also called the “logic layer“ and its manage all the logical decisions based on the information given by the other layers ,managing the interaction between the layers and proccing the information giving by it ,to give each layer independence from the other layers allowing adding new layers for more flexibility or upgrading the existing once .

**Persistent layer**

This layer is responsible for the long term storage and managing the file system by storing and retrieving the necessary files giving by the Business layer that are needed to be loaded on to RAM for faster access to the necessary files like the history of the messages or off loading it to long term storage like the loge file.

**Communication layer**

This layer is responsible for the communication between the client and the server that give the client the information necessary to give the user the desired interaction , this layer is provided by the course staff .

## **Terminology**

**Chat Room**

A virtual environment in which users can post their messages and read the messages written by other users.

**User**

A person who interacts with the system

**Nickname**

A familiar or humorous name the user uses to identify himself

**Registration**

The act of recording user details.

**Login/Logout**

The act of signing into and out of the system by the user.

**Message**

The text which the user delivers. Message content is limited to 150 characters.

**Message Frame**

A written communication sent between the users of the system. A wrapper for a message.

## **Requests**

**Send message request**

A send message request is initiated by the user, the request is sent to the server, which assigns the message with a unique ID (GUID) and the server’s timestamp.

**Get 10 messages request**

A get message request is initiated after each “send message request” and potentially can be initiated at any time. This type of request is intended to receive the last 10 messages stored on the server.

**Login**

A login request is initiated by the user, the request is sent to the server as a request to participant in the chat room , which is sent with user ID and password .

**Logout**

A logout request is initiated by the user, the request is sent to the server as a request to disconnect the user form the chat room , which is sent with user ID and password .

## **Actors**

**Users**

A person connected to the chatroom using a client software, for sending and receiving messages. A user is identified by her group ID and a nickname that is unique to her group.