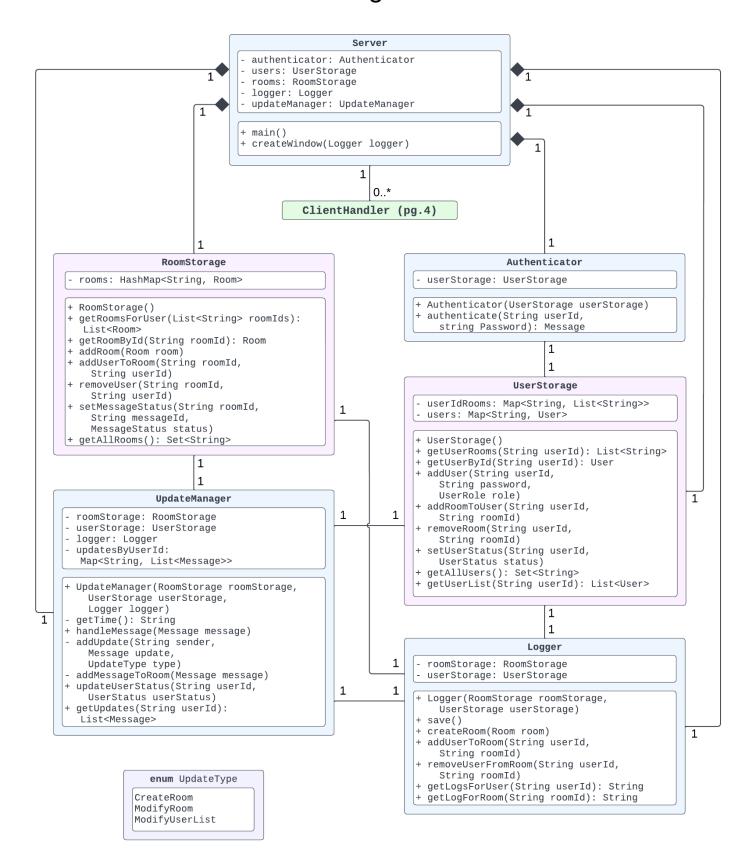
Design Document

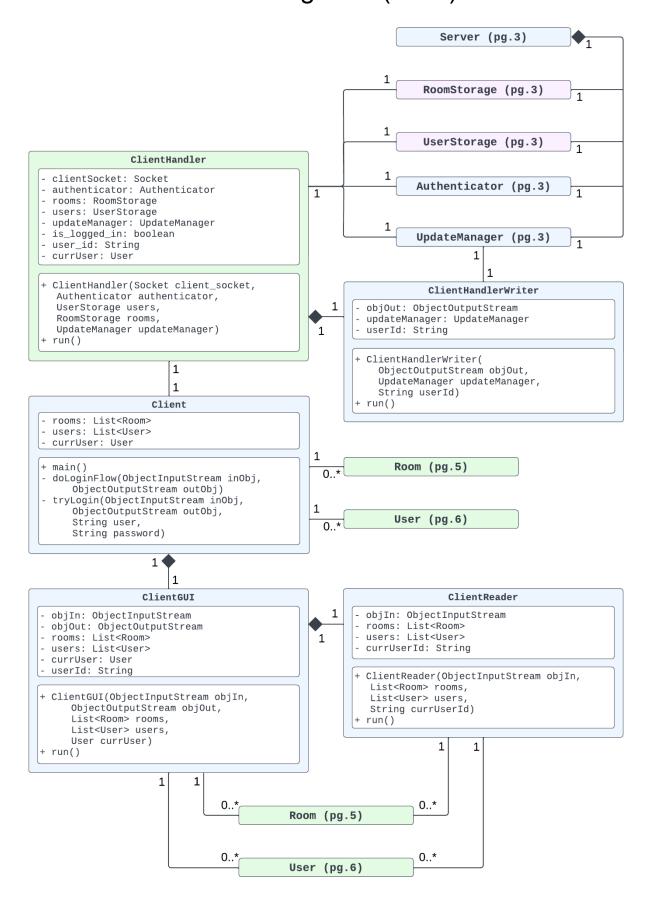
Group 4 - Communications
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UML Diagrams





```
RoomStorage
- rooms: HashMap<String, Room>
                                                             Server (pg.3)
+ RoomStorage()
+ getRoomsForUser(List<String> roomIds):
  List<Room>
+ getRoomById(String roomId): Room
+ addRoom(Room room)
+ addUserToRoom(String roomId,
    String userId)
+ removeUser(String roomId,
    String userId)
+ setMessageStatus(String roomId,
    String messageId,
    MessageStatus status)
+ getAllRooms(): Set<String>
                       1
                       0..*
                    Room
                                                                        ChatHistory
                                                   1
                                                         messages: List<ChatMessage>
- id: String
- title: String
- creationDate: Date
                                                 1
                                                        + ChatHistory()
- users: List<String>
                                                        + getMessages(): List<ChatMessage>
- chatHistory: ChatHistory
                                                        + getMessagesFromUser(String userId):
- empty: boolean
                                                          List<ChatMessage>
                                                        + addMessage(ChatMessage message)
+ Room(List<String> users)

    setMessageStatus(String messageId,

+ Room(List<String users, String title)
                                                             MessageStatus status)
+ Room(File file)
+ isEmpty(): boolean
                                                                               1
+ getId(): String
+ getTitle(): String
                                                                               0..*
+ getCreationDate(): Date
+ getUsers(): List<String>
                                                                        ChatMessage
+ addUser(String userId)
                                                        - id: String
+ removeUser(String userId)
                                                        - timestamp: Date
+ addMessage(ChatMessage message)
                                                        - sender: String
+ getMessages(): List<ChatMessage>
                                                        - contents: String
+ getMessagesAsArray(): String[]
                                                        - status: MessageStatus

    setMessageStatus(String messageId,

     MessageStatus status)
                                                       + ChatMessage(String userId,
+ toString()
                                                            String contents,
                                                            MessageStatus status)
                                                        + ChatMessage(String userId,
                                                            Date timestamp,
                                                            String contents)
                                                       + ChatMessage(String line)
                                                        + getId(): String
                                                        + contents(): String
                                                       + getTimestamp(): Date
                                                       + getSender(): String
                                                       + getStatus(): MessageStatus
                                                       + setStatus(MessageStatus status)
                                                       + toString()
```

```
UserStorage
- userIdRooms: Map<String, List<String>>
                                                             Server (pg.3)
- users: Map<String, User>
+ UserStorage()
+ getUserRooms(String userId): List<String>
+ getUserById(String userId): User
+ addUser(String userId,
    String password,
    UserRole role)
+ addRoomToUser(String userId,
    String roomId)
+ removeRoom(String userId,
    String roomId)
+ setUserStatus(String userId,
    UserStatus status)
+ getAllUsers(): Set<String>
+ getUserList(String userId): List<User>
                       1
                       0..*
                    User
                                                          enum UserStatus
- id: String
                                                       Online
- password: String
                                                       Offline
- status: UserStatus
                                                       Away
- role: UserRole
                                                       Busy
+ User(String id,
     String password,
     UserRole role)
                                                           enum UserRole
+ getId(): String
+ getPassword(): String
                                                       Normal
+ getStatus(): UserStatus
                                                       IT
+ getRole(): UserRole
+ setStatus(UserStatus status)
```

Message

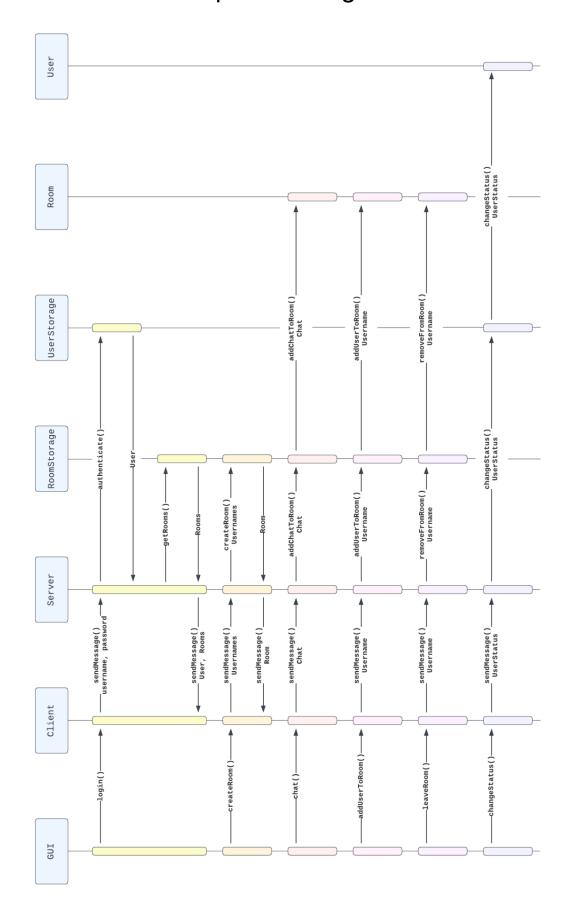
```
- type: MessageType
- users: List<String>
- password: String
- login_status: String
- room_id: String
- user_id: String
- user: User
- user_status: UserStatus
- user_list: List<User>
- contents: String
- rooms: List<Room>
- timestamp: String
```

```
+ Message(MessageType type)
+ setPassword(String password)
+ setUsers(List<User> users)
+ setLoginStatus(String status)
+ setRoomId(String room_id)
+ setUserId(String user_id)
+ setUser(User user)
+ setUserStatus(UserStatus status)
+ setUserList(List<User> user_list)
+ setContents(String contents)
+ setRooms(List<Room> room)
+ setTimestamp(String timestamp)
+ getType(): MessageType
+ getUsers(): List<String>
+ getPassword(): String
+ getLoginStatus(): String
+ getRoomId(): String
+ getUserId(): String
+ getUser(): User
+ getUserStatus(): UserStatus
+ getUserList(): List<User>
+ getContents(): String
+ getRooms(): List<Room>
+ getTimestamp(): String
```

enum MessageType

Login
Logout
NewChat
CreateRoom
LeaveRoom
AddToRoom
ChangeStatus
UpdateUserStatus
GetLogs

Sequence Diagram



Use Case Diagram

