**Use Cases**

1. **Client Use Cases**
   1. As a user, I can log in to the messaging system through a GUI client application by providing my username and password.
   2. If the username and password is not correct, the system will tell me “Invalid username/password” and prompt me to log back in.
   3. Once I’ve logged in, I can see all the conversations I’m participating in.
   4. I can find other users on the system to send messages to.
   5. I can create a group message with multiple participants.
   6. I can send messages directly to another user.
   7. I can send messages to a group of users.
   8. I can receive messages for any conversation I am a part of
   9. I can log out of the system.
   10. When I log in, I can see all the messages in all the conversations I am a participant in, including messages sent while I was logged out.
   11. As an IT user, I can request to see a list of all conversations and the participants of each conversation on the system.
   12. As an IT user, I can request to see the contents of any conversation on the server.
   13. As a user, if my network connection breaks, I am logged out of the server and prompted to sign back in.
2. **Server Use Cases**
   1. When the server receives a new message, that message is logged to the appropriate conversation’s log file.
   2. When the server receives a message from a user, the server forwards the message to all participants in the conversation to which the message is being sent.
   3. When the server receives a message for a recipient who is logged off, it will forward the message to the recipient when they log in.
   4. Upon a new login request, the server will request a username and password from the user.
   5. After receiving the username and password, the server will compare the password to the password of the requested user if it exists.
      1. If the password matches the password of the provided username, the user is signed in to the system.
      2. If the password does not match the password, or if the username does not exist in the system, the server refuses to log the user in.
   6. When a client requests to view a conversation, the server validates that the user is in fact an IT user.
      1. If the validation is successful, the server sends the contents of the conversation to the IT user.
      2. If the validation fails, the server does not respond to the invalid request.