

# Use Case Specification

## Use Case ID: UC-01

**Use Case Name:** Login

**Relevant Requirements:** Device is connected to wifi, and has typing/mouse capabilities. Minimal hardware requirements.

**Primary Actor:** General user (does not vary per level of staff) or IT

**Preconditions:** User account exists; system is online

**Postconditions:** User authenticated; role assigned (IT/regular user); chat dashboard displayed

**Basic Flow:**

1. User enters credentials.
2. System verifies credentials.
3. System assigns role (IT or regular user).
4. Dashboard is displayed. If IT role, additional abilities are given in addition.

**Extensions/Alternate Flows:** Invalid credentials → error/warning shown; device lockout after 3 failed attempts. Can be manually allowed to login via IT, or accounts can be locked.

## Use Case ID: UC-02

**Use Case Name:** Viewing logs

**Relevant Requirements:** User was properly assigned IT role and access in UC-01

**Primary Actor:** IT, System

**Preconditions:** IT user exists and properly logged into system that is properly connected to device

**Postconditions:** IT user gets *TEXT or System.out.println()*? Of chosen user's logs, either with another user or in general?

**Basic Flow:** The user IT types into a prompt is chosen, system accesses the logs of the user, and then prints/displays logged chats.

1. The user IT types into a prompt is chosen
2. System accesses chat logs of user
3. Computer prints accessed chat logs

**Extensions/Alternate Flows:**

## Use Case ID: UC-03

**Use Case Name:** Create group

**Relevant Requirements:** User properly logged in and given user role, and has typing/mouse capabilities

**Primary Actor:** User, including IT

**Preconditions:** Properly able to interact with interface, and has other user ID's of other group chat members

**Postconditions:** a chat system that includes and sends/receives messages to all members of the group chat

**Basic Flow:**

1. Click "create group" button
2. Types multiple users to add to group chat and click "create"

3. Group chat is properly initialized  
**Extensions/Alternate Flows:** Invalid user→ error/user ID not found

## Use Case ID: UC-04

**Use Case Name:** Create new user

**Relevant Requirements:** IT user, and has enough info on new user to create them

**Primary Actor:** IT

**Preconditions:** Ready user id/password

**Postconditions:** New user with the given user ID/password, and potentially any metadata and whether they are also IT

**Basic Flow:**

1. IT creates user with information given
2. User is created along with metadata and roles given.
- 3.
- 4.

**Extensions/Alternate Flows:** Existing user credentials already, does not create a new user and warns IT that attempted creating user.

## Use Case ID: UC-05

**Use Case Name:** Send Message

**Relevant Requirements:** Only IT can create users. System supports role assignment and password.

**Primary Actor:** User, including IT

**Preconditions:** Sender logged in; recipient (user or group) resolvable. Sender has permission to message recipient.

**Postconditions:** Message persisted and timestamped. Delivery enqueued to recipient(s); sender sees “sent” status. Event available to logging subsystem (UC-07).

**Basic Flow:**

1. User types message and sends
2. Message is sent through system to targetted users and logged in UC-07

**Extensions/Alternate Flows:** Network/server error → “failed to send”, retry option

## Use Case ID: UC-06

**Use Case Name:** Receive message

**Relevant Requirements:** Real-time delivery (websocket/push). User is online or offline with queued delivery.

**Primary Actor:** User or IT

**Preconditions:** Recipient account exists and is addressable. Message previously sent (UC-05) and accepted by system.

**Postconditions:** Message appears in recipient’s chat view. Delivery/read receipts updated as applicable. Notification triggered (toast/badge/sound) per user settings.

**Basic Flow:**

1. Message is sent to server, and sent to recipient user

2. Recipient user receives notification that a new message from sender user ID
  3. Recipient can read message
- Extensions/Alternate Flows:** Log store unavailable warning of system issue to user; retry later and alert IT. Storage near limit, throttle non-critical logs and alert IT.

## Use Case ID: UC-07

**Use Case Name:** Log message

**Relevant Requirements:** Device that UC-05 is connected to system and internet

**Primary Actor:** System, user (IT included)

**Preconditions:** A message is sent/received (UC-05/UC-06). Logging feature enabled and reachable.

**Postconditions:** Message metadata written to log store with timestamps and IDs. Logs stored in an array for search (UC-02). Failures are captured and alerted to IT.

**Basic Flow:**

1. Message successfully sent and received, and sent to be logged
  2. Message is appended to array to be later retrieved.
- Extensions/Alternate Flows:** No memory available, IT warned and future messaging suspended

## Use Case ID: UC-08

**Use Case Name:** Create GUI

**Relevant Requirements:** Used device has the Swing/JavaFX libraries in its java version installed

**Primary Actor:** Software, upon successful UC-01, with extra if given role is IT

**Preconditions:** UC-01 properly logged in, and software properly starts up.

**Postconditions:** Interface to chat properly begins, and interface for IT is also given, to pull up a user's cha

**Basic Flow:**

1. Logged in successfully, the GUI opens a window that is the chat system.
2. Depending on IT or not, allowed additional features for chat log access and user creation