



Course Title:	Software Design Architecture
Course Number:	COE692
Semester/Year:	W2021

Instructor:	Dr. Faezeh Ensan
-------------	------------------

Assignment/Lab Number:	Lab 2
Assignment/Lab Title:	Lab 2 Part 1: Project Specification

Submission Date:	TBD
Due Date:	TBD

Last Name:	First Name:	Student ID:	Section:	*Signature:
Samaroo	Anand Alexander	xxxxxx021	03	AAS
Patel	Dhaval	xxxxxx575	03	DP

COE692 Lab 2 Part 1: Project Specification

Description of Project: (400 - 500 words)

For our project we have decided to make a chat-based web application that allows users to send SMS messages to each other, create group chats to message multiple people at once, and have the ability to attach files to messages they send. A registration is required for any individual to use the application to message other users. In order to register users must provide their email address, and will then be prompted to select a username, and password which they will use for a secure login. Once registered, users will be able create their own chat rooms in which they can add users to, or remove users from. Once users are in a chat room, they will be able to invite other users to that chatroom. The owner of the chat room will be granted a chat room admin privileges by default, and will have the option to make other users admins in that chat room if they please. Chat room owners can also revoke admin privileges from other users when they please. Registered users can add other registered users as friends to easily find them, send messages to them, and add them to chatrooms. Chat rooms can have multiple users in them, and they all can communicate with each other within the chat room. If two users in a chatroom have not added each other to their friend's list, they will have the option to do so. When sending a message, users will also have the option to attach files to the message that will be sent. When a user receives a message with a file attached to it, they will have the option to download that file. If a user is expressing any kind of inappropriate behaviour on the platform, other users will have the option to report that user. Once a report is sent in, the reported user's account will be flagged. Multiple reports on a single user will result in multiple flags on that user's account. When users are flagged, managers will review that user's account, and determine whether or not that user should receive a ban. At the least, managers will notify users when their account is under review. Depending on the amount of reports, and the severity of the situation, users can face bans as short as 1 hour, and as long as an indefinite ban on their account. On the topic of bans, users who are admins, or owners of a chat room can ban other users from that chat room. The only exception to this is that admins in a chatroom cannot ban the owner of that chatroom. Chat room bans are indefinite, and only the owner of the chat room will have the option to revoke those bans when they please.

Use-Case Diagram: (Might need to edit)



Description of Use-Cases: (60 words per use-case)

Create Account: Users create their account by providing their email address, a username, and a password. They can only make 1 account per email address. Usernames are also unique, therefore no two users can have the same username even if they have different email addresses associated with their accounts.

Secure Login: As a user, a profile with basic information is a must if they wish to communicate with other users. In order to access their profile users must login with their email address, and password that they used to create their account.

Create Chatroom: Users create a chatroom in which they can invite other users to send messages to. When this chatroom is created it will be empty until the user that created the chatroom adds more users to that chat room.

Gain Owner Privileges: Users will automatically be assigned the “Owner” role when they create a chatroom. Owners can add users to the chatroom, remove users from the chatroom, appoint users as admins, take away admin privileges, and ban users from their chat room.

Grant Admin Privileges in Chatroom: In a chatroom with multiple users, the Owner of the chatroom can grant other users access to admin privileges. Admins will be able to add users to the chatroom, remove users from the chatroom, and ban users from the chat room. Admins can only use their privileges for users that are not the owner of the chatroom.

Ban User from Chatroom: Admins and Chatroom Owners can ban users from a chatroom. This will remove the user from the chat room, and deny them access to that chat room unless unbanned. Admins cannot ban Owners from their own chatroom, and when Owners ban admins they will also lose their admin privileges.

Unban user from Chatroom: If a user is banned from a chat room, admins and the chatroom owner can unban that user which will allow them to rejoin the chat. In order for users to rejoin a chat room they must be added to the chat room again by the owner, or server admins.

Join Chatroom: When a chat room owner, or admin adds a user to a chatroom they will now be able to send messages, receive messages, and view messages in that chat room. The chat room will also be visible on the user’s dashboard for when they want to send, or view a message in that chat room.

Leave Chatroom: User will no longer be able to send/view/receive messages in that chat room. The chatroom will also not be visible on the user’s dashboard. Users remaining in the chat room will be notified when a user leaves the chat room.

Send Message: Users send a message to other users. They can be text messages, have links included, or files attached to them. When a message is sent in a chatroom it is sent to all of the users in the chatroom.

Attach File(s): Users can attach files to their text messages to send to other users. They can attach PDFs, documents, powerpoints, executable files, folders, and zip files to messages to be sent to other users in a chatroom.

Display Message: When a message is sent by one user to a chatroom, all users in that chatroom will be able to see the message, and any file(s) attached. It will show the text that has been sent, and will give users that have received the message an option to download any files that were sent with the message.

Retrieve File(s): Users that receive messages with files attached to them will have the option to download that file. When they view the message they will be given the option to download any files sent with that message. If they choose to download files it will be downloaded, and saved in the user's downloads folder on their device.

Remove User from Chatroom: Admins/Owners can remove users from a chat room without banning them. Meaning they can add that user to the chatroom once again in the future. It is similar to leaving a chatroom, except the user being removed has no control over being removed from the chatroom.

Add User to Chatroom: Admins/Owners can add a user to a chatroom that they have made, or are admins in. They can do this by entering the username, or email of the user they wish to add to the chatroom.

Get List of Chatrooms: When a user logs into an account they will be able to get a list of all of the chatrooms that they are currently in, or that they currently own.

Get another user's chatroom: When a chatroom server, or admin adds a user to a chatroom that user will now be able send and receive messages in that chatroom. The newly added user will get information on that chatroom including the members, the admins, and the owner of the chatroom.

Report User: If a user is displaying any kind of inappropriate behaviour, other users will have the option to report that user for their inappropriate behaviour. When sending in reports, users must specify the username, or email of the user they wish to report as well as a reason for reporting said user.

Flag User: When a user gets reported, their account will receive a flag. If a user receives multiple flags, a manager may be prompted to review the flagged user's account. Receiving multiple flags will result in the account being reviewed, and could potentially result in a ban.

Reported Account Review: Once an account has been flagged, managers will have a chance to review that user's account, and recent messages to determine if they need a ban. They will look at reports that other users have sent in about the user whose account is under review, and they will determine if they have displayed any kind of inappropriate behaviour that results in a ban.

Notify User about Account Being Reviewed: When a user is reported, their account will be flagged. Managers can see accounts that have flags on them, and can choose whether or not to review a flagged account. When they choose to do so, they will notify users their account is under review.

Ban User: If a reported user is found guilty, managers can ban that user for a set period of time. It can be as short as 1 hour, and as long as an indefinite ban depending on the severity of the situation. There are no appeals for a ban, and banned users will not be able to access their account as long as the ban period is still active.