

Flockr Planning Report

Requirements

Elicitation

This section involves interviewing target users that often use teamwork-driven communication tools such as Discord, Slack, etc. We interviewed three users that use teamwork-driven communication tools. All responses are taken in note form and where specified, added some interview notes.

Interview 1: Dhrumil Sevak (sevakdk3@gmail.com)

Question 1 - Introduction

How often do you use teamwork-driven communication tools such as Slack, Discord or Messenger?

- Target user that regularly uses Discord and is a social media user that uses Facebook, Messenger.

Question 2 - Feature Expectation

Our flockr app is another collaboration and communication tool for teams similar to the likes of Flock, Slack or Discord. Some basic features include creating channels and sending messages to different users. From this brief description, what features do you expect Flockr to have or what features do you want to be included when using Flockr?

From interviewing Dhrumil, responses on what he expected Flockr to have includes:

- Voice chat and facetime to communicate with other people.
- Screen sharing to allow teammates to view members' work on screen and know what they are working on. Screen sharing feature allows ease of collaboration in an online space.

From interviewing Dhrumil, responses on what features that he wants when using Flockr includes:

- Having bots on servers (Interviewer note: For flockr this would be the same as having bots on channels) who will interact with the chat. For example, having meme bots on Flockr; when requested, send a meme. Discord has the same functionality with the bots.
- Integrating a reward system (i.e. channel rank). Acts as an incentive for team members to improve themselves to reach higher ranks.
- Wants a follower or friend system similar to the likes of Facebook and Instagram.
- Private DMs.
- Wants the flockr experience to replicate Discord added with functionalities from Facebook, Instagram, Snapchat etc.
- Live emojis to send as a message.
- Send a recording, or stream a live video in chat .

Question 3 - Privacy Concerns

What are your expectations on how flockr deals with its security. Would you feel that you may have some privacy concerns when using our flockr app?

- Expects all data to be confidential, that is about it. (Interviewer note: Currently, flockr is not very secure due to poor data storage i.e. not using databases and has not been tested on security vulnerabilities as of yet).

Question 4 - Current Problems

Since you describe yourself as a regular social user, what problems do you currently have with the service that you are currently using? In what ways on how you could think it could be made better?

- Discord has a perfect voice chat option, with the ability to make various other subchats moderated by bots. However, when using other team collaborations tools such as Facebook, Messenger, it lacks these functionalities.
- Compared to Discord, other tools lack the ease of a video calling option too.
- Apple's predictive speech function would be cool for chat use. (Interview note: Good point as it helps increase accessibility for all users).
- Using other platforms besides Discord, it lacks the ability to play games integratively with the app. I.e. compared to Discord integration with Steam apps.

Question 5 - COVID-19 Effects

How has COVID affected the way you use team collaboration tools such as Slack, Discord, etc when communicating with your team. Is the communication system that you use has been effective to replace face to face communication pre COVID-19?

- Using more Discord and Zoom during the pandemic.

Question 6 - Issues Faced with Text Based Communication

From this, what are some issues that you faced when communicating with your team through a text based channel?

- The inability to highlight the exact information which the user wants to show to another user. For example, pointing out some features on a website to a teammate, where sharing screen and pointing the cursor or highlighting it is not good enough.

Question 7 - Other Tools

Are there any tools/apps that you use externally in conjunction with flockr/slack/discord? If we did implement the features of those apps within flockr, would you see yourself using it?

- Just Snapchat, Instagram, Facebook and Steam.

Question 8 - Main Discord Features

What are some main existing features on Discord that you often used when communicating with your team?

- Just voice chat.

Question 9 - Challenges using Discord

Do other members of your team feel comfortable to use Discord? If not, can you explain why? Perhaps, they have a hard time learning features or it seems overwhelming?

- Some group members are not comfortable with Discord as it is too hard to use.
- Adding people on discord is a bit more tricky than conventional apps, just using Discord in general is a bit more tricky than conventional apps.
- Not easy to find group chats.

Interview 2: Raymond Wu (raymondwu488@gmail.com)

Question 1 - Introduction

How often do you use teamwork-driven communication tools such as Slack, Discord or Messenger?

- Uses Discord, Facebook, Messenger on a regular basis, at least 2-3 hours everyday.

Question 2 - Feature Expectation

Our flockr app is another collaboration and communication tool for teams similar to the likes of Flock, Slack or Discord. Some basic features include creating channels and sending messages to different users. From this brief description, what features do you expect Flockr to have or what features do you want to be included when using Flockr?

- Typical responses include voice chat, screen sharing, playing a game together.
- Want an app with features mainly similar to Discord.
 - Notably; voice chats, AI bots that moderate chat, creating sub-channels within channels, spell check and setting custom status.
- Allow to send images, video recordings.
- Stream a video or screen share from the user's PC.
- Facebook's hold, record and send audio feature.

Question 3 - Privacy Concerns

What are your expectations on how flockr deals with its security. Would you feel that you may have some privacy concerns when using our flockr app?

- Emphasis on confidentiality and ensure that data is not sold to third parties.

Question 4 - Current Problems

Since you describe yourself as a regular social user, what problems do you currently have with the service that you are currently using? In what ways on how you could think it could be made better?

- Using Discord initially can be confusing and daunting. For instance, adding a friend.
- Discord feels better to use on PC whilst other platforms such as Messenger are better on mobile phones. This is probably due to ease of accessibility and user friendly UI.
- Can be daunting to see several channels when joining a server, can't decide what to do.

Question 5 - COVID-19 Effects

How has COVID affected the way you use team collaboration tools such as Slack, Discord, etc when communicating with your team. Is the communication system that you use has been effective to replace face to face communication pre COVID-19?

- Zoom/Microsoft Teams for group meetings and classes during COVID-19 for university.
- Such apps are not top-notch for replacing face to face communication, due to problems such as internet issues and mainly usability. For instance, not knowing how to join a classroom in Microsoft Teams, how to enable reminders, or how to use other applications within Teams.

Question 6 - Issues Faced with Text Based Communication

From this, what are some issues that you faced when communicating with your team through a text based channel?

- Difficulty includes having a harder time helping out teammates through text rather than face to face or video calling.
- Messages in channels can get easily spammed, thus makes it hard to find previous messages. Though Discord has a pin option, users forget to regularly use it.

Question 7 - Other Tools

Are there any tools/apps that you use externally in conjunction with flockr/slack/discord? If we did implement the features of those apps within flockr, would you see yourself using it?

- Use Instagram, Snapchat, Facebook along with Discord. Other apps provide functionality to upload photos and recordings, set profile status, and overall connect better with people. So definitely yes, an app with Discord like features topped with external features from other social media apps is something I look forward to.

Question 8 - Main Discord Features

What are some main existing features on Discord that you often used when communicating with your team?

- Voice chat, text channels, screenshare.

Question 9 - Challenges using Discord

Do other members of your team feel comfortable to use Discord? If not, can you explain why? Perhaps, they have a hard time learning features or it seems overwhelming?

- Other team members found using Discord a bit difficult at first. Moreover, they still find usage for Discord a bit more tricky than conventional social media apps. This is primarily because the user interface for conventional social media apps is more intuitive and easy to use than Discord.

Interview 3: Khemant Bisht (khemantbisht@icloud.com)

Question 1 - Introduction

How often do you use teamwork-driven communication tools such as Slack, Discord or Messenger?

- Regularly uses Slack, Microsoft Teams, Messenger for university group projects.

Question 2 - Feature Expectation

Our flockr app is another collaboration and communication tool for teams similar to the likes of Flock, Slack or Discord. Some basic features include creating channels and sending messages to different users. From this brief description, what features do you expect Flockr to have or what features do you want to be included when using Flockr?

- Basic feature expectation from Khemant included video call, pinned messages, easily accessible by new users, the ability to create channels that are hidden.
- Must have basic functionalities to communicate with team members such as text messages, video and voice call.

Question 3 - Privacy Concerns

What are your expectations on how flockr deals with its security. Would you feel that you may have some privacy concerns when using our flockr app?

- Data should be kept private. The service should not be easily hackable by third parties.

Question 4 - Current Problems

Since you describe yourself as a regular social user, what problems do you currently have with the service that you are currently using? In what ways or how you could think it could be made better?

- Using several applications and switching between them such as Zoom, Microsoft Teams and Slack, it can be really confusing to know which feature belongs to which app.
- For Zoom, permissions can be hard to work around. For example, Zoom does not allow messages to be easily saved. So when the host closes the meeting suddenly, if the user needs to refer to something in the chat, the user is unable to do so.
- For Microsoft Teams, interface navigation can be really confusing (Interviewer note: Khemant stated that the reason is because he does not use Microsoft Teams regularly). Perhaps, the UI could have been made more simplistic.
- For Slack, it is a really good app for text based communication. However, video calling should be integrated or more explicitly known to users (Interviewer note: Khemant was unsure if Slack even has a video calling option since it is not shown explicitly).

Question 5 - COVID-19 Effects

How has COVID affected the way you use team collaboration tools such as Slack, Discord, etc when communicating with your team. Is the communication system that you use has been effective to replace face to face communication pre COVID-19?

- More online communication. No in person communication anymore since COVID-19.
- Zoom, Slack and Microsoft Teams have been effective to replace face to face communications. Each app has its own strengths when using it.

Question 6 - Issues Faced with Text Based Communication

From this, what are some issues that you faced when communicating with your team through a text based channel?

- Group members are not as liable when compared to face to face communication. Teammates can easily ignore messages.
- Some group members have bad internet and thus it is harder to communicate with them.
- Harder to collaborate without a sharing screen option.
- For Zoom and Microsoft Teams, it is difficult to find and organize messages. Slack has the perfect option to allow users to have messages in threads. This allows messages to be organised and easy to find. For example, all resources can go under a single message thread.

Question 7 - Other Tools

Are there any tools/apps that you use externally in conjunction with flockr/slack/discord? If we did implement the features of those apps within flockr, would you see yourself using it?

- Unsure. May confuse users with too much functionality.

Question 8 - Main Slack, Microsoft Teams and Zoom Features

What are some main existing features on Slack, Microsoft Teams or Zoom that you often used when communicating with your team?

- For Slack, message threads are mainly used to organise messages.
- For Microsoft Teams and Zoom, both of those apps are a good way to communicate with a group. Teams for more of a small group whilst Zoom for meetings. Mainly used for voice and video calls.
- Mainly used Slack for text based communication/resource collating whilst Zoom/Teams for video communication.

Question 9 - Challenges using Slack, Microsoft Teams and Zoom

Do other members of your team feel comfortable to use Slack, Microsoft Teams or Zoom? If not, can you explain why? Perhaps, they have a hard time learning features or it seems overwhelming?

- Group members are usually quick to adapt to new communication platforms. Slack message thread can be hard to use at first but can be a powerful tool for communication.
- Members are hesitant about using their camera for meetings. Instead, video calls are more of a voice call.

Interview Summary

- Uses voice chat and text messages for team collaboration.
- Screen sharing was essential to share issues with other team members.
- From Discord users, bots were mainly focused on a key feature.
- Integrating a reward system (i.e. channel rank).
- follower or friend system similar to the likes of Facebook and Instagram.
- Better messaging systems such as threads, private messages, better searching methods, allow messages to be saved.
- Send a live recording/ images to chat.
- Data must be confidential.
- Increase accessibility for all users i.e. UI, simplistic features.
- Initial learning difficulty to start using a communication app.
- Text based challenges include group members can easily ignore messages, harder to collaborate without sharing screen features, bad internet.
- Different communication apps has their own strengths i.e. Discord for PC, Messenger for mobile, Zoom/Discord for video/voice call, Slack for text based communication.
- Members are hesitant about using their camera for video meetings.
- Due to COVID-19, they note that online communication became more prevalent.

Analysis & Specification - Use Cases

From the interviews above, we identified three main scenarios which includes:

- Private DMs to other flockr members
- Channel bots
- Voice Chat option
- Ability to create message threads

User Story 1

As a team member that uses flockr as a communication tool, I want to send a direct message to another team member so that I can talk privately about their work or query them on specific topics if needed.

User Acceptance Criteria

- On the flockr, a user is able to click on a person's name, either through their message or the member list
- Each name can be clicked on and expands into the direct messages of the person that was clicked on
- Messages from friends pop up as a notification with a sound while on the app, clicking on the notification will take you to the messages with the friend
- You can mute (You won't hear message notifications from the person), block (The friend can no longer send you messages and is removed your name is removed from their friend list) and remove messages (Only the ones you have sent) from the direct messages with a friend
- You can add more flockr members into a direct message, which creates a new group chat

User Story 2

As a team member that uses flockr as a communication tool, I want to have bots on a channel so that I can easily automate tasks.

User Acceptance Criteria

- There will be three bots available at the start (more can be added if required or more specifications are given).
- One will be a bot that censors curse words and has the power to kick people out for continual spam or cursing (It can take away messaging privileges).

- Second bot will add a ranking system to a server, ranks will be based on how much a person is on the server, the bot will track this and accumulate this to a person's rank on the server.
- Third bot will be a music bot that searches on YouTube (using YouTube's search) for a video and plays the video's audio for all the people in the channel
- Bots can be added via command `"/add_bot_[name of bot]"` into the channel's messages and can only be done by the owners of the channels

User Story 3

As a team member that uses flockr as a communication tool, I want to be able to create a message thread so that messages can be easily organised in a channel and I can easily collate resources under a single message.

User Acceptance Criteria

- Message threads are like comments for a particular message
- To access the message thread, there is an option (icon) next to the message reacts
- The icon will be a chat bubble, clicking it will open up a panel on the right hand side of the screen where messages can be sent
- The messages in the thread behave like normal messages, with the ability to delete, edit and react
- This mechanic can be used by anyone (owner or member), the threads are only visible to people in channel which the message was sent in

User Story 4

As a team member that uses flockr as a communication tool, I want an option to have a voice call in a channel so that I can verbally communicate with my team members.

User Acceptance Criteria

- The voice channels will be placed on the left hand side of the chat on the channel
- A channel can have multiple channels
- A channel upon creation will always have a voice channel named "general"
- Channel owners are able to create and name new voice channels as well as remove voice channels
- Voice channels can only be accessed by members inside the channel
- To join a voice channel, a user will have to click on the voice channel name

- The voice channels will show what users are in the voice channel with their name and profile image
- Once joined into the voice channel, there will be an icon of an end call button which will exit the user from the voice channel
- Users can change the volume of members' sound inside the voice channel by clicking on their name which will reveal a slider which increases or decreases the volume

Use Case 1: Direct messaging a team member

Goal in Context

An engineering team is collaborating on a project and they need to communicate with each other in order to work effectively. The group decides to split their efforts with the project with two people working on one task. One person is trying to communicate with their partner about their task.

Scope

Flockr app, online

Level

Primary

Preconditions

The team already has a pre established Flockr accounts and channels set up. Messages have been sent back and forth between the members with meetings having already occurred.

Success End Condition

The group member is able to communicate with their partner and complete their task together effectively.

Failed End Condition

The group member is unable to communicate with their partner, thus no progress is achieved on the task.

Primary Actor

Consumer/user of the app.

Trigger

The user logs into the app and clicks on the group channel, clicks the name of their partner and opens up the messages.

Main Success Scenario

- Step 1. User opens up the app.
- Step 2. Flockr is prompts user to log in.
- Step 3. User accesses the group channel.
- Step 4. User finds their partner's name in the member's list of the channel.
- Step 5. The user clicks on their partner's name and the direct messages pop up.
- Step 6. The user messages their partner about their task together. The partner will receive a notification and a message from the user.
- Step 7. The user receives a message back from their partner confirming the message.
- Step 8. Both partners are able to communicate and complete their task together.
- Step 9. The user then logs off.

Use Case 2: Joining a voice channel for a group meeting

Goal in Context

An engineering team is collaborating on a project and they need to communicate with each other in order to work effectively. The group decides to start their group project with a team meeting to go through the spec together so they are on the same page.

Scope

Flockr app, online

Level

Primary

Preconditions

The team already has a pre established Flockr accounts and channels set up. Messages have been sent back and forth between the members discussing when the first meeting will happen.

Success End Condition

The group member is able to join the voice channel and communicate with their team members discussing the assignment spec in the first meeting

Failed End Condition

The group member is unable to join the voice channel and thus does not know what is happening and what the team is up to with the spec.

Primary Actor

Consumer/user of the app.

Trigger

The user logs into the app and clicks on the group channel, clicks the “general” voice channel with the other group members in it.

Main Success Scenario

- Step 1. User opens up the app.
- Step 2. Flockr is prompts user to log in.
- Step 3. User accesses the group channel.
- Step 4. User finds the voice channel called “general” and sees that their team members are already on the voice channel.
- Step 5. The user clicks on the channel and joins the voice channel.
- Step 6. The user can now communicate with their team members via voice.
- Step 7. The user is able to effectively collaborate and discuss the assignment spec.
- Step 8. The user then logs off.

Validation

This section notes the comments made by the individuals we interviewed earlier. Their key comments describe the extent to which these use cases would adequately solve their current problems as defined in the elicitation phase.

Key comments by Dhrumil Sevak

- Yes the use case for searching a message in chat is very good
- I like the user stories especially, it encapsulates the primary image I had in mind, plus there are some more creative insights on how Flockr can accommodate my requirements. For example, Bots censoring words and keeping track of ranks
- Moreover, the usability of bots is also perfect as it is very user friendly, a simple command ought to do the trick
- Music bot is something I look forward to as it will help me and my mates really share a sense of place despite being on an online platform. Most of the times, online team-communication applications lack the ability of making people share a sense of place, and I think music bot is a great way of making this ability true
- One problem, while not in a group of mates but office colleagues could be that swearing can be seen unprofessional, and having a bot which can deal with such instances appropriately and issue various warnings is a fantastic idea
- In terms of finding key words in chat, I think you can make a highlight word interface where as I am typing the word, the chat scrolls appropriately and highlights the word as I look for it. A perfect example is google docs and discord highlight word functionality

Key comments by Raymond Wu

- The image I had in mind fits quite nicely in the way Flockr has imagined features
- I love the idea of how rank systems can now be a part of mere team based communication applications as we now can introduce a sense of belonging within the group; maybe competing with a group of mates can be a fun idea, and help us take away the whole issue of not being present in reality to talk, chat etc...
- I also like the role of music bot, it really is a smart idea to introduce that in a group, will definitely help us overcome that team communication app vibe and rather lean to a more natural type of communication with mates

- As a person who just doesn't tolerate swearing in general, I find the mute curse feature excellent, maybe you can connect the rank feature with the warnings given by the curse muter, that way individuals can actually obey chat rules in the hopes of keeping their rank preserved
- One thing I think you should add is the edit message function, I think it's really significant and helpful in many circumstances
- Muting person and individual block is also a great idea, I really like the way functionalities from social media apps like Facebook, Instagram can be put together in one grand app
- I think one important feature this Flockr app implemented was making the whole process of finding people and groups easily, as a user who struggles using Discord, I think I could really enjoy this application
- As a side note, having seen your working Flockr application, I think you can make it a bit more fancy in terms of graphics, colour schemes etc... and talking of colours, keep colour blind individuals in mind
- Now thinking of it, would be great if you guys could add more functionality for disabled individuals. For example, colour blind individuals would help from a friendly colour pallet, etc...
- In terms of an example of the use case, I think it's good. I think one additional feature you can implement is highlighting the actual finding word? For example, as I type in the word to search for, the chat scrolls automatically and highlights the words in the actual chat, exactly like the way Discord implemented it, but I think that's about it

Key comments by Khemant Bisht

- Good use case from what I imagined
- Allowing users to create message threads allow organisation of messages in channels. This can make in more accessible to users
- Voice chat is expected but it seems to lack video calling for now.

Design

Interface Design

This section involves specifying the capabilities of our solution in terms of the problem defined earlier. The following below describe these capabilities as HTTP endpoints for our flockr application.

Data Types

Variable name	Type
rank	integer
points	integer
rankings	List of dictionaries containing the rank, users current points, users handle_str.
bot_id	integer
message_id	integer
is_blocked	boolean
muted	boolean
is_muted	boolean
is_flockr_muted	boolean
note_id	integer
note_list	List of notes, stored by the note_id.

Function Name	HTTP Method	Parameters	Return Type	Exceptions	Description
bot/censor/kick	POST	(token, u_id)	{}	N/A	Censor bot kicks the user from the channel if they have spammed or sworn too much over message.
bot/censor/message	GET	(token, channel_id)	{}	N/A	Censor bot reads the messages/message history in the channels. Immediately censoring swear words.
bot/rank/user	POST	(token, bot_id, u_id)	{rank, points}	InputError when any of: <ul style="list-style-type: none">- The link entered is invalid- The bot does not exist on the flockr- User uses an invalid command	Displays a message showing the user who called the commands rank and points. Returns the current rank and points of the user. Where the user with rank 1 has the most points

				AccessError when any of: <ul style="list-style-type: none"> - The person does not have the permission to use bot - Invalid token is inputted 	
bot/rank/points	PUT	(token, bot_id, u_id)	{rank, points}	InputError when any of: <ul style="list-style-type: none"> - The bot does not exist on the flockr - User uses an invalid command AccessError when any of: <ul style="list-style-type: none"> - The person does not have the permission to use bot 	Updates the users points every time they send a message. Updating rank when point thresholds are reached. Returns the current rank and points of the user. Where the user with rank 1 has the most points
bot/rank/list	GET	(token)	{rankings}	N/A	Shows a list of the top ranked users in the flockr. Returns rankings list of the top 10 users in the flockr.
bot/music/search/video	POST	(token, bot_id, u_id, video_link)	{}	InputError when any of: <ul style="list-style-type: none"> - The link entered is invalid - The bot does not exist on the flockr AccessError when any of: <ul style="list-style-type: none"> - The person does not have the permission to use bot 	Given a video link, the bot searches for the video online and starts playing it when they join a voice channel
bot/music/channel/join	POST	(token, bot_id, u_id, channel_id)	{}	N/A	Bot joins the channel where the user called the command.
bot/add	POST	(token, u_id, bot_name)	{bot_id}	InputError when any of: <ul style="list-style-type: none"> - An invalid bot is invited - The bot is already added to the flockr AccessError when any of: <ul style="list-style-type: none"> - The person inviting the bot is not an admin or the flocker owner 	Add a new bot into the flockr and reserve appropriate strings for commands. Returns the bot_id which is used to identify what bot is being used.
user/send_private_message	POST	(token, u_id(1), u_id(2), message)	{message_id}	InputError when any of: <ul style="list-style-type: none"> - Message is more than 1000 characters - The user sending the message is blocked by the other user 	Users are able to send direct messages to other users where only the person sending and receiving the message can see. The message_id is a unique identifier for each message.
user/block	PUT	(token, u_id(1), u_id(2))	{is_blocked}	InputError when any of: <ul style="list-style-type: none"> - User is already blocked for the user calling the function 	Given two users, set it so that the user_1 calling the block locally blocks user_2. And direct messages cannot be received from user_2.
user/unblock	PUT	(token, u_id(1), u_id(2))	{is_blocked}	InputError when any of: <ul style="list-style-type: none"> - User is not blocked for the user calling the function 	Given two users, set it so that the user_1 calling the unblock locally unblocks user_2.
message/thread/new_note	POST	(token, channel_id, note)	{note_id}	InputError when any of: <ul style="list-style-type: none"> - Note is greater than max chars (1000) 	Given a message, start a thread from that message where users can post notes. Each note is represented by a unique id (note_id).
message/thread/get_notes	GET	(token)	{note_list}	N/A	Given a message thread, get all the

					notes currently posted and put them into a list. note_list should have the the most recently sent message at the end of the list.
channel/voice/create	POST	(token, u_id, channel_id)	{voice_channel_id}	InputError when any of: <ul style="list-style-type: none"> - Channel name is not within the character limits 	Create a voice channel where users can talk over microphone rather than text, and that bots can also join these voice channels.
channel/voice/join	POST	(token, u_id, channel_id, voice_channel_id)	{}	AccessError when any of: <ul style="list-style-type: none"> - User is not part of the channel 	A user joins a voice channel within a private or public channel
channel/voice/mute	PUT	(token, u_id)	{muted}	InputError when any of: <ul style="list-style-type: none"> - User being muted is not part of the voice channel 	A user mutes themselves not allowing any other user to hear them through voice chat. Returns a muted boolean. Where the user will remain muted until the function is called again.
channel/voice/mute_user	PUT	(token, u_id(1), u_id(2))	{is_muted}	InputError when any of: <ul style="list-style-type: none"> - User being muted is not part of the voice channel 	Given two users, set it so that the user_1 calling the mute locally mutes user_2. So that they cannot hear user_2 in the voice channel. Returns is_muted boolean. Where the user will remain muted until user_1 decides to unmute. If the function is called again, user_2 is unmuted for user_1.
channel/voice/flockr_mute	PUT	(token, u_id(1), u_id(2))	{is_flockr_muted}	AccessError when: <ul style="list-style-type: none"> - Person calling flockr_mute is not the flockr owner or does not have admin permissions. 	Given two users, set it so that the user_1 calling the mute flockr mutes user_2. So that all users in the flockr cannot hear user_2 in all voice channels. Returns is_flockr_muted boolean. Where user_2 will remain muted until user_1 decides to unmute. If the function is called again, user_2 is then unmuted for the flockr.

One exception: Access Error is thrown whenever the token is invalid.

Purpose Of Functions:

Bots:

Bots are added to the flockr to increase the possibilities of team collaboration as well as management in the flockr with the inclusion of a censor bot. Bots are an optional feature to flockr and are primarily there to serve as fun and cool features of the app. Making users more attracted to flockr because of the ease of use and user friendliness provided by the different bots.

Voice Channels/Private Messages:

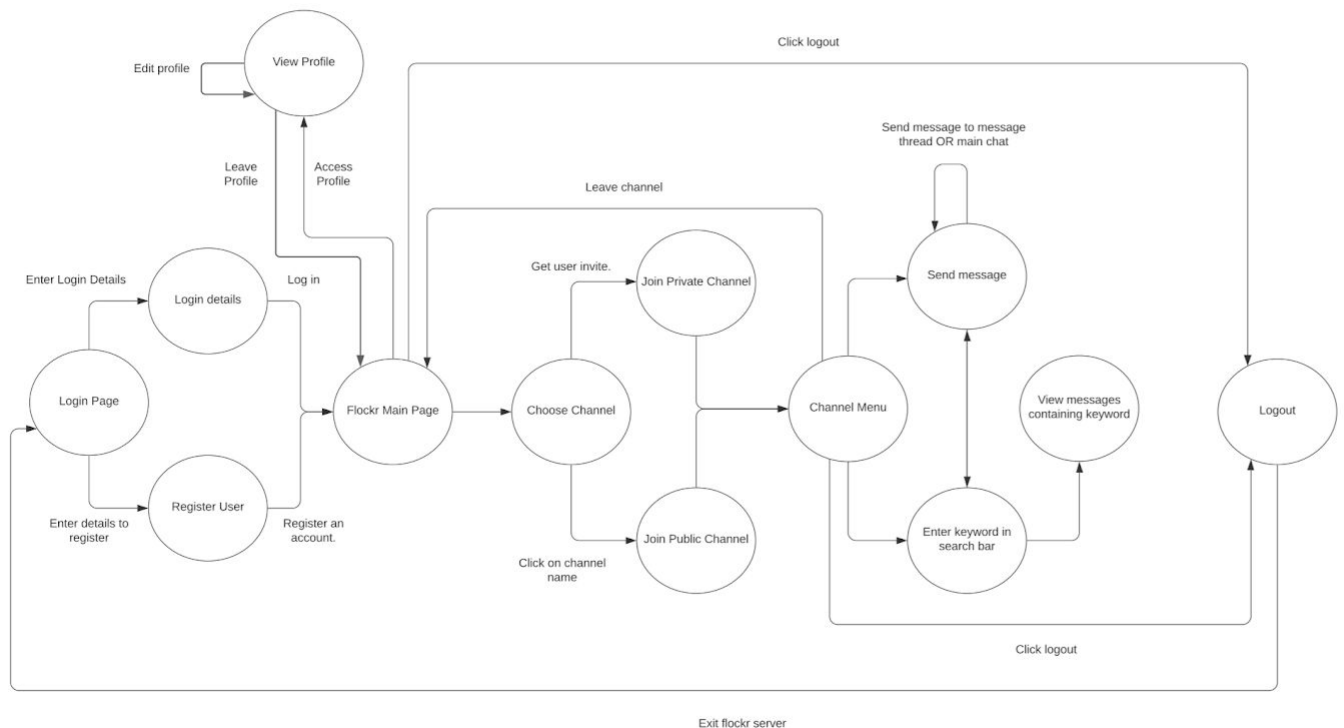
The inclusion of Voice channels will increase the capabilities of communication in a team environment, making it more convenient for teams/users to communicate for long meetings rather than continuously typing out information via messages. Additionally the implementation of a private message feature between two users will allow for a more flexible method of communication, such that groups can communicate in pairs, or ask for assistance from a specific individual without notifying the whole flockr, whilst also keeping a degree of privacy.

Management:

Other features such as mute, mute_user, block, flockr_mute are provided as management tools for both users and administrators of the flockr, such that more professional and controlled discussions can be maintained and conducted.

Conceptual Modelling

State Model: Searching for a message



State Model: Joining a voice channel for a group meeting

