

PLANNING

Elicitation

Find 2-3 people to interview as target users. Target users are people who currently use a tool like flockr, or intend to. Collect their name and email address.

Develop a series of questions to ask these target users to understand what problems they might have with teamwork-driven communication tools that are currently unsolved by flockr. Give these questions to your target users and record their answers.

Interviewees:

- Antony Chen: ahtchen2014@gmail.com
- Andy Huang: andyhuang08@gmail.com
- Keanu Bian: keanu.bunny@gmail.com

Problems/Questions:

- What is the biggest challenge you face when using communication tools in team-based settings?
- What do you primarily use as your communication medium for team-work based tasks?
- Is there a specific reason you choose this medium?
- What do you expect from Flockr if you were to use this communication medium?
- Would you consider switching to Flockr? If so, what draws you to Flockr? If not, why not?
- Do you believe Flockr meets your communication needs? If not, what improvements would you make to Flockr if you could add two features.
- Do you have any additional comments or desires for Flockr?

Antony

Q: What is the biggest challenge you face when using communication tools in team-based settings?

The biggest challenge I face when using communication tools in team-based settings is that it is hard for me to use these tools on my phone and usually only works well on my computer or laptop.

Q: What do you primarily use as your communication medium for team-work based tasks?

I primarily use Slack as my primary communication medium for coordinating work-related communication.

Q: Is there a specific reason you choose this medium?

I don't really have a choice in using Slack as it was chosen by my employer but I would probably use it if I was in his position anyway. It's a professional program and offers support for a lot of features such as file sharing.

Q: What do you expect from Flockr if you were to use this communication medium?

I expect Flockr to be very user friendly and accessible in the sense that it can be used on the phone or tablets or other devices other than a laptop or desktop as a laptop/desktop can sometimes be hard to carry around, making it hard to have meetings when travelling.

Q: Would you consider switching to Flockr? If so, what draws you to Flockr? If not, why not?

I currently wouldn't consider switching to Flockr. I believe Slack currently meets my communication needs. Being a newer product, I believe Flockr needs to add more features in order to create its own niche audience or use within the market. For example, Slack and Discord have already established their presence within the business and gaming communication market due to their unique features. Flockr should add unique features to target a unique audience, maybe specific industries.

Q: Do you believe Flockr meets your communication needs? If not, what improvements would you make to Flockr if you could add two features.

I don't believe Flockr could meet my current communication needs. I believe VOIP and video calls are an extremely useful facet of using Slack and is especially crucial in replicating normal social interactions when everyone can't gather in one location. I believe Flockr would benefit from the addition of VOIP calls within channels. In addition, cross-platform or app support for Flockr would be nice. Without cross-platform support, Flockr is currently strictly accessible from browsers on computers or tablets. Transferring Flockr to an app downloadable on multiple devices would make it more accessible for people to use it whenever they need to communicate within their teams, especially when they are on the go.

Q: Do you have any additional comments or desires for Flockr?

No, but I will say that it does seem promising.

Andy

Q: What is the biggest challenge you face when using communication tools in team-based settings?

The biggest challenge that I face when using communication tools is that I'm afraid that during video calls there could be potential privacy issues with the camera recording secretly without me knowing.

Q: What do you primarily use as your communication medium for team-work based tasks?

I primarily use Microsoft Teams as my primary communication medium for coordinating work-related tasks.

Q: Is there a specific reason you choose this medium?

I chose this medium mainly because most of my courses at university are using Microsoft Teams to provide the lectures and hold meetings for tutorials so I've gotten used to Microsoft Teams and use it for team-work based tasks.

Q: What do you expect from Flockr if you were to use this communication medium?

I would expect data encryption of the messages being sent in Flockr as I think that privacy is very important especially when information is constantly online and can be accessed by anyone if not secured. In addition, I would expect all the basic components of any widely used communication medium like being able to send messages, have your own profile, call and video call, etc, along with maybe some unique features that make it special, maybe like inbuilt

Q: Would you consider switching to Flockr? If so, what draws you to Flockr? If not, why not?

Currently I wouldn't switch to Flockr as it lacks the ability to hold meetings, video calls and share screen features that are super helpful in team-work based projects. Especially since currently we are in a global pandemic, it is difficult to meet with people physically and with team based projects, the ability to meet online is very important for communication which is not solved in Flockr.

Q: Do you believe Flockr meets your communication needs? If not, what improvements would you make to Flockr if you could add two features.

Apart from messaging, Flockr doesn't really provide any communication needs that are better than all the other current programs available such as Microsoft Teams, Zoom, Skype and Discord that all have the ability to video call, share screen. So in light of this, I believe that the features that should be added to Flockr should be video call capabilities that are not too intensive on the hardware and has security measures that keep private information or ensure there is no third party program recording through the webcam and share screen capabilities so that people can interactively work and present information to others in the team.

Q: Do you have any additional comments or desires for Flockr?

If the Flockr can implement these changes, I might have a look at using this communication medium instead.

Keanu

Q: What is the biggest challenge you face when using communication tools in team-based settings?

I think my biggest challenge with communication in a team based setting is

Q: What do you primarily use as your communication medium for team-work based tasks?

Discord.

Q: Is there a specific reason you choose this medium?

A lot of my group members already had Discord so it was an easy and accessible way to communicate with each other. Being able to quickly create a new channel, invite people to it and customise it is also a very useful feature, along with the unlimited functionality provided by Discord bots that can basically do anything you please inside the channel space. Though, the most important reason for using Discord was the simple voice and video call system.

Q: What do you expect from Flockr if you were to use this communication medium?

For a team-based project, I would expect that I would be able to send and receive instant messages of formats such as text, image or document, be able to create group chats or channels and invite team members to them as well as privately message people, be able to set up my own private account with a profile photo and be able to voice and video call with team members at my discretion.

Q: Would you consider switching to Flockr? If so, what draws you to Flockr? If not, why not?

I would not consider switching to Flockr, as I do like the simplistic nature of the program, but I don't think it has enough functionality to support my needs. For example, there is no option to share anything but text which is disadvantageous when trying to complete assignments or helping my friends with homework. Having to switch to a different medium to send or receive an image would be quite inconvenient. In addition, there is no option to directly message someone without creating a new channel, which I believe should be an built-in feature of the app. Most of all, there is no voice or video call option, which I feel is essential for any communication medium.

Q: Do you believe Flockr meets your communication needs? If not, what improvements would you make to Flockr if you could add two features.

I don't believe Flockr meets my communication needs, mainly because it has no voice or video call feature and it is quite limited in use compared to other mediums. Two features I would add would be voice and video calling and being able to send non-text messages, such as images, gifs, emojis and files. Personally, voice and video calling is essential for any communication medium, as it allows for a higher level of interaction and contact between group members. The

ability to send messages other than text is also quite important as it makes it easier to express and explain key ideas.

Q: Do you have any additional comments or desires for Flockr?

A share screen feature would also be pretty cool, so people can show what they are currently doing, present to others within the group and can ask for help with any problems.

Analysis & Specification - Use Cases

Once you've elicited this information, it's time to consolidate it.

*Take the responses from the elicitation and express these requirements as **User Stories**. Document these user stories. For each user story, add User Acceptance Criteria as notes so that you have a clear definition of when a story has been completed.*

Once documented, generate at least one use case that attempts to tell a story of a solution that satisfies the requirements elicited. You can generate a visual diagram or a more written-recipe style, as per lectures.

User Stories

Antony

As a registered user, I want to be able to use Flockr across all my devices, including my phone, laptop and PC with consistently high quality, ease of use and all the same features to be more convenient.

- Can download and open a 'Flockr' app on my phone.
- The Flockr app has the same or more features than the web version.
- The Flockr app is as easy to use as the web version.

As a registered user, I want to be able to easily video call with team members in Flockr so that regular team meetings can be done easier.

- Given that I am a registered user in Flockr and I am in a valid channel,
- When I press the button to open the valid channel,
- Then the system shows me the channel interface which includes a 'video call' button,
- When I press the 'video call' button,
- Then a video call notification is sent to all members of the channel,
- And if they accept, everyone is placed into a separate window with everyone else's videos shown on screen,
- When anyone in the call talks or moves in their camera,
- Then every other member of the call can see and hear them.

Andy

As a registered user, I want all messages and private details to be kept secure whenever I'm using Flockr so I can feel safe about my personal online data.

- All messages are encrypted and can't be read outside of Flockr.
- Only members of the channel in Flockr can access the messages inside the channel.

- Only the user themselves and anyone in a channel they are in can access their personal details.

Keanu

As a registered user, I want to be able to send files to group members easily in Flockr so that I can share important documents with them.

- *Given* that I am a registered user in Flockr and I am in a valid channel,
- *When* I press the button to open the valid channel,
- *Then* the system shows me the channel interface with a 'file' icon next to the 'type messages' bar,
- *When* I press the 'file' icon,
- *Then* the system opens a new window for the 'Documents' file in my PC,
- *When* I select a file stored in my PC,
- *Then* the file is sent to the channel as a message,
- *And* all members of the channel can view and open the file I sent.

As a registered user, I want to be able to send images to group members easily in Flockr to improve and quicken communication to and from other members.

- *Given* that I am a registered user in Flockr and I am in a valid channel,
- *When* I press the button to open the valid channel,
- *And* press the message bar and paste an image or drag a photo from my internal storage into Flockr.
- *Then* the image is sent to the channel as a message,
- *And* all members of the channel can view and open the image I sent.

As a registered user, I want to be able to send private messages to other group members so I can privately chat with people without everyone in the group seeing

- *Given* that I am a registered user in Flockr and I am in a valid channel,
- *When* I press the button open the valid channel,
- *Then* the system shows me the channel interface with a list of members that are part of the channel,
- *When* I press one of the member's names in the list,
- *Then* a new window opens with the member's details and a button to message the individual member,
- *When* I press the button to message the member,
- *Then* a new chat window opens with any previous messages sent to the member,
- *And* options to message the other team member.

Use Cases

Use Case: Server Security Measures

Goal in Context: The messages sent by the user can only be seen by others in the channel but their passwords are kept to the user so that sensitive information of a user is not leaked or shared without permission and used for immoral uses

Scope: Flockr server, user's computer

Level: Summary

Preconditions: The registered user is connected and registered to the Flockr server and has sent messages to a valid channel

Success End Condition: User's messages and personal details are encrypted or encoded so that their information is kept secure and private and can only be seen by members within the channels the user is on

Failed End Condition: Users that are not in a channel with the original user are able to access all the personal information of the user and their messages in channels

Primary Actor: User

Trigger: User sends a message or inputs/updates their personal details into their account in Flockr

Use Case: Hold online meetings (online call or video conferencing)

Goal in Context: Users are able to easily and freely video call other users in a channel in Flockr to communicate and work with other users

Scope: Flockr server, user's computer/phone/tablet

Level: Primary Task

Preconditions: The registered user is connected to the internet and has a computer that can handle video conferencing and online calls

Success End Condition: User is able to video call all members in the channel they are in.

Failed End Condition: User can only send messages and is unable to hold online calls/meetings with other users in a channel

Primary Actor: User

Trigger: User initiates an online video call/meeting within a channel.

Use Case: Using Flockr across different platforms

Goal in Context: Users are able to easily and freely interchange between different platforms such as phone, laptop or tablet on Flockr without limiting functionality

Scope: Flockr server, user's computer, tablet and phone

Level: Primary Task

Preconditions: The registered user has devices other than a laptop or desktop that can connect to the Flockr

Success End Condition: User is able to use Flockr seamlessly from their desktop/laptop to their phone or tablet or any device without losing functionality

Failed End Condition: User can only use the web version of Flockr on their laptop or desktop

Primary Actor: User

Trigger: User opens Flockr on their phone or tablet

Use Case: Send files and images (word documents, PDF's, audio files etc)

Goal in Context: Users are able send files or images onto a channel in Flockr to share resources or information with others as they work on projects

Scope: Flockr server, user's computer/laptop/phone

Level: Primary Task

Preconditions: The registered user is connected to the internet and has a device that can access Flockr

Success End Condition: User sends a file or image to a channel which can be opened by another user in the channel

Failed End Condition: User cannot send a file or image to a channel so other users in the channel cannot access it

Primary Actor: User

Trigger: User uploads a file or image to a channel and sends it

Validation

With your completed use case work, reach out to the 2-3 people you interviewed originally and inquire as to the extent to which these use cases would adequately describe the problem they're trying to solve. Ask them for a comment on this, and record their comments in the PDF.

Comments

Antony

The two use cases did a good job of describing the two biggest problems I currently have with Flockr, being the lack of cross-platform support and lack of a video call function, something which is essential for any communication medium. However, I still want to see something unique from Flockr compared to other mediums, something that will set it apart and popularise it.

Andy

The use case focusing on securing messages and personal profile details was what I wanted to see in Flockr. Even though it's brief, it covers what I wanted to see in a communication medium. One thing I would like to add though is my suggestion that to separate Flockr from competitors, making it light on computer hardware would be big.

Keanu

The use cases based on my comments on the limitations of Flockr were good. The one to send files and images accurately described what I wanted to see and be able to do in the program and this will help a lot with communication between group members. However, I also wanted to see one for private messaging between members of a channel.

Interface Design

Now that we've established our problem (described as requirements), it's time to think about our solution in terms of what capabilities would be necessary. You will specify these capabilities as HTTP endpoints, similar to what is described in 6.2. There is no minimum or maximum of what is needed - it will depend on what problem you're solving.

Solutions

- Meetings using video calls
- Sending media other than msgs;
 - Images
 - Files
- Security
- Multi platform support
- Share screen option in meetings

Function Name	HTTP Method	Parameters	Return Types	Exceptions	Description
meeting/start	POST	(token, channel_id)	{meeting_id}	InputError when any of: <ul style="list-style-type: none">• Channel ID is not a valid channel AccessError when: <ul style="list-style-type: none">• The authorised user has not joined the channel the meeting is being hosted in.• The authorised user is the only member of the channel they are hosting a meeting	Invites users in a channel into a video call meeting. Once invited, users have an option to accept and join or decline. The user who started the meeting automatically joins it once any another user joins.
meeting/join	POST	(token, channel_id, meeting_id)	{}	InputError when any of: <ul style="list-style-type: none">• Channel ID is not a valid channel• Meeting ID is not a valid meeting• User is currently in a meeting• User has not	Given a meeting id, if the user accepts the meeting call, they are placed in a video call with other participants of the meeting.

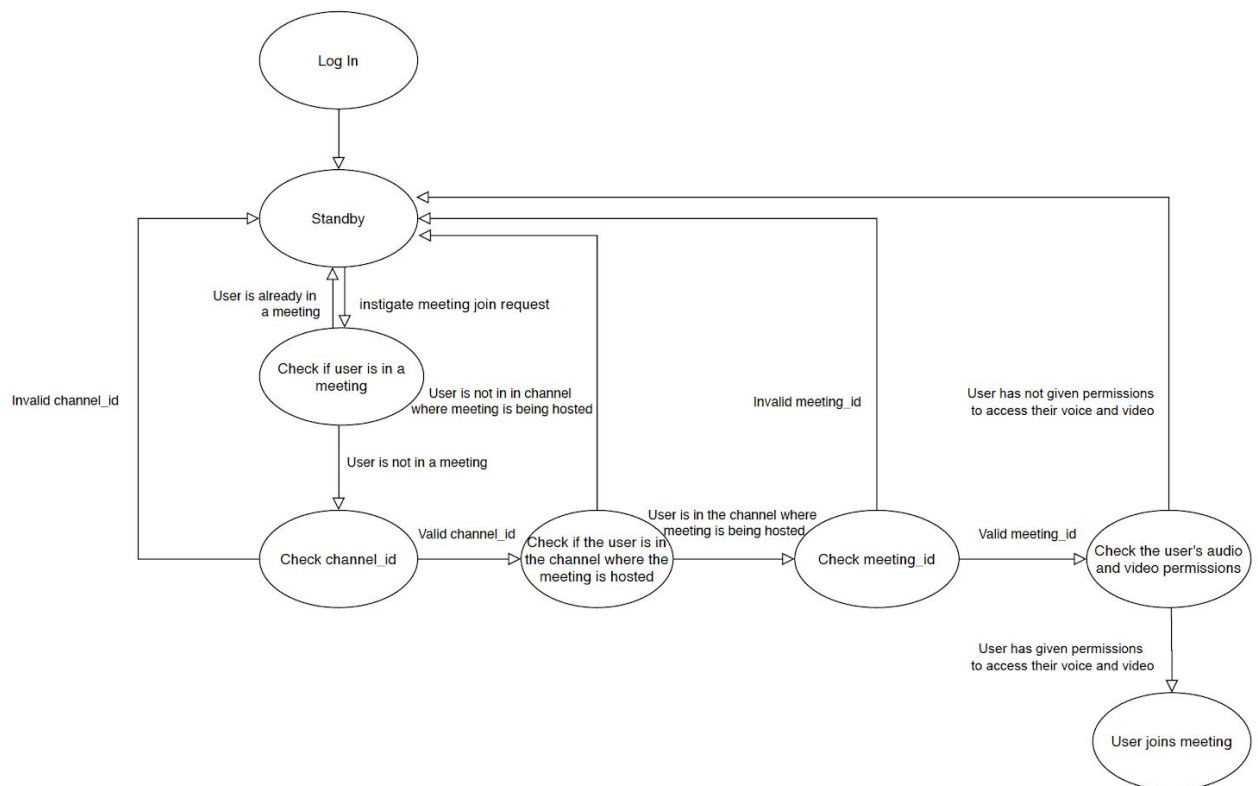
				<p>given permissions to access their voice and video</p> <p>AccessError when: the authorised user has not joined the channel the meeting is being hosted in.</p>	
meeting/leave	POST	(token, meeting_id)	{}	<p>InputError when any of:</p> <ul style="list-style-type: none"> Meeting ID is not a valid meeting <p>AccessError when: the authorised user has not joined the meeting they are trying to leave.</p>	Given the user is in meeting of meeting id, leaves the meeting and closes the video call window.
meeting/share screen	POST	(token, meeting_id, screen)	{}	<p>InputError when any of:</p> <ul style="list-style-type: none"> Meeting ID is not a valid meeting Screen is not a valid user screen User has not given permissions to access their screen <p>AccessError when: the authorised user has not joined the meeting they are trying to share screen to.</p>	Given the user is in meeting of meeting id, shares their specified screen to all other members currently in the meeting.
message/send file	POST	(token, channel_id, file)	{file_id}	<p>InputError when any of:</p> <ul style="list-style-type: none"> Channel ID is not a valid channel File is not a valid file type File is larger than 10mb <p>AccessError when: the authorised user has not</p>	Send a file from authorised_user to the channel specified by channel_id.

				joined the channel they are trying to post to	
message/send image	POST	(token, channel_id, image)	{image_id}	<p>InputError when any of:</p> <ul style="list-style-type: none"> Channel ID is not a valid channel Image is not a valid image type Image is larger than 10mb <p>AccessError when: the authorised user has not joined the channel they are trying to post to</p>	Send an image from authorised_user to the channel specified by channel_id.
security/check	POST	()	{is_secure}	N/A	When the function is called it will go through the Flockr and check if the details of users and whatever the user has sent is encrypted or secured. If the check shows that the data has been encrypted, it will return true or false.

[Design] Conceptual Modelling (State)

Now that you have a sense of the problem to solve, and what capabilities you will need to provide to solve it, add at least one state diagram to your PDF to show how the state of the application would change based on user actions. The aim of this diagram is how to a developer understand the different states the user or application.

Meeting/Join State Model Diagram



Security/check State Model Diagram

