

PLANNING REPORT

Thu09 Grape Group 3

[Requirements] Elicitation

1: Bud Truong Bud.truong23@gmail.com	2: Justin Lu justinlu1201@gmail.com	3: Nathan Long ebzonspam@gmail.com	4: Raymond raymondsoedargo@gmail.com
---	--	--	--

Q1) How often do you use a communication tool like Flockr?

1. 2-3 Days
2. Daily
3. Weekly
4. Daily

Q2) What is the average team size you find yourself working in when using communication tools like Flockr?

1. 3-5
2. 4
3. 15
4. 4

Q3) When working in a team, do you ever use more than one tool to communicate? If so, name the tool(s)

1. Yes - Messenger, Discord
2. Microsoft Word & Messenger
3. Microsoft Teams and Messenger
4. Messenger

a) If YES to Q3, why? (What features does one have that the other doesn't etc.)

1. Voice and video calling
2. Construction Project
3. Ability to add a variety of multimedia embedded into the program, with viewing support
4. Messenger - helps get a more immediate response

Q4) What are some challenges you often find when trying to work/communicate as a team?

1. It is not enough for text messaging to explain something and ideally video calling or voice calling with the ability to share screens would be better.
2. Networking Issues, Scheduling team meetings
3. Meetings where everyone can stay for the whole duration
4. Scheduling meeting, getting an immediate response

Q5) Given the current features of Flockr, are there any additional features that you may find beneficial or useful when it comes to elevating teamwork and communication?

1. The ability to tag other users in the channel and set individual reminders for users of the channel.
2. Collaboration on files - Allowing members access to a single Word document
3. Metrics such as when users accessed or viewed messages/documents sent
4. Being able to ping a person on another platform

Elicitation Summary: From the survey and its responses, we have collected a variety of problems and suggested features that would benefit a user's Flockr experience. A common problem with team-work driven communication and its tools is the difficulty of scheduling meetings to collaborate with team members. This is important to the interviewee's because there are challenges and limitations when relying on messaging to explain and discuss ideas as well as review progress. We also found that Flockr is missing basic features from other applications like Messenger such as tagging, information as to when a message has been viewed, and voice/video call features which all improve the interviewee's collaboration experiences.

[Requirements] Analysis & Specification

User Stories & Acceptance Criteria

EPIC 1: Improving Network issues

User Story 1:

As a daily user, I want to be able to work offline so that if any network issues arise I can still be productive

- In a channel, the previous 50 messages are stored and can be accessed offline
- If a user is having network issues, this will be displayed in their 'active status' so other members are aware (user story 3)
- If files are uploaded - users can select documents that they may want to work on offline

EPIC 2: Improving effectiveness and ease of communication (when messaging)

User Story 2:

As a collaborator, I want to have voice/video calling features so that we can discuss and explain ideas more clearly

- Ability to share screens - only one user can share a screen at a given time
- At the top of the page or bottom right of a channel - audio and video symbols are displayed
 - A user in a channel can initiate a call which sets audio/video to active status for other members to join
- During a call - users have the ability to share their screen, continue to type messages

User Story 3:

As a daily user, I want the ability to see a member's active status to get a more immediate response

- An active status is displayed below (integrated) with the profile image
 - Green - active - browser is open
 - Red - inactive for longer than 1hr
 - Orange - poor connectivity (network issues)
 - Grey - offline
 - Time - if recently active <1hr
- Active status only viewable to members that share a channel

User Story 4:

As a team member working in a large group, I want the ability to tag other users in a channel so that it is easier to address members

- In messages use the @ feature before a handle to tag
- Tags appear in a different colour as links to user profile
- 'For me' search feature - in each channel that user is a part of collects messages the user has been tagged in
- If the user being tagged has not read the message after a set period of time then an email is sent

User Story 5:

As a team member, I want to be able to see if others have viewed messages so that I know if important information is received by members of my team.

- The user clicks on a message to view the list of members in the channel that have read a certain message.

- Presented in small text underneath the message “Seen by: ..” for 5 seconds

User Story 6:

As a team member, I want to be able to reply to a particular message so that the conversation is clearer when occurring asynchronously.

- Reply icon on each message (next to the time)
- When the ‘response message’ is sent the original message is displayed above
- Users can reply to themselves

EPIC 3: Tools to improve organisation & project management

User Story 7:

As a collaborator, I want to be able to view other members schedules/timetables so we can set meetings where everyone is able to make the entire duration and ensure all group members are aware of tasks for maximum productivity

- Under the user profile page, there will be a timetable tab/banner
- Permission for viewing other Flockr members timetables is given only if members are in a channel together.
- Users can add, remove ‘busy’ hours
- On channel page ‘generate timetable’ feature that compares members timetables for common times that are not occupied
 - A new timetable is returned highlighting the shared ‘free’ hours
- A user in a channel can add/remove a meeting to the shared channel timetable

User Story 8:

As a team member, I want the ability to set reminders for myself and others in a channel so that everybody can stay on top of their tasks within the schedule

- Being able to set reminders to complete and the expected completion date and time
- Being able to view the reminders on the main page of a channel
- Reminders appear when a user first navigates to a channel they are a part of
- Users can delete or mark reminders as complete. Once marked as complete -> they are removed

User Story 9:

As a collaborator, I want a tool to record meeting minutes so that the group can stay organised and members know their assignments.

- Meetings tab on the channel that stores all minutes - most recent is displayed in full at the top
 - Previous meetings are collapsed with Title and Date
 - +/- icon allows user to expand/collapse a previous meeting
- Before a meeting: A user can create a new meeting/minutes document - fill in boxes for Topic/Date/Agenda
 - The meeting will be added to the user profile timetable
- During/After Meeting: User can fill out assignments

User Story Summary: Based on the elicited problems about Teamwork-driven communication and recommendations for Flockr, we have chosen to generate Use Cases for User Story 2, 7, 8.

Use Cases

Use Case 1: Timetable Feature

Use Case	Compare timetables - find common hours that all members are free
Goal in Context	Users in a channel can view each other's timetables. The application can also automatically compare timetables to find common 'free' hours to help plan meeting times.
Scope	Message and collaboration tool -> Organisational tool
Level	Primary Task
Preconditions	User is a registered member of the Flockr application User has filled out their 'busy' hours on their profile timetable
Success End Condition	A new timetable is generated that shows all the shared 'free' hours between members of a channel
Failed End Condition	No timetable is generated showing common 'free' time slots. More difficult to plan meeting times
Trigger	User in channel selects 'generate channel timetable'
<p>Success Scenario</p> <ol style="list-style-type: none"> 1. Flockr asks the user to log in 2. User logs in and goes to profile -> timetable 3. Flockr gives the user access to add, remove their 'busy' hours 4. User fills out 'busy' hours for the week - unless already pre-set for a number of weeks 5. The user navigates to the channel page they are a member of 6. The user selects 'generate timetable' 7. If all members have a timetable filled out, Flockr compares and returns a timetable of the same format showing common free hours <p>Further Steps</p> <ol style="list-style-type: none"> 8. The user selects a time slot for the meeting 9. Flockr sends meeting message to all group members to approve 10. All members approve of time with REACT ID 1 (thumbs up) 11. Once all members in a channel have approved, Flockr automatically adds meeting time to 'busy' hours of all members timetable 	

Use Case 2: Reminders Feature

Use Case	Able to list and view reminders
Goal in Context	User can make reminders for themselves and others on their tasks as well as view them
Scope	Reminders tool
Level	Primary Task
Preconditions	User is a registered member of the Flockr application User is a member of a channel User has tasks to make into the reminders
Success End Condition	User is able to list and schedule their tasks into the reminders User is able to view their reminders on the screen while the Flockr app is running
Failed End Condition	No reminders will be required to fill in and the reminders are empty
Trigger	User in channel selects 'make a reminder'
<p>Success Scenario - Setting reminders in channels/ other members</p> <ol style="list-style-type: none"> 1. Flockr asks the user to log in 2. The user navigates to the channel page they are a part of 3. The user selects 'make a reminder' 4. User inputs the task, the expected date completion, and assignee (can be anyone in the channel) 5. Flockr adds the task into the 'reminders' component 6. Every time the user goes to the channel the reminder was set in, the reminder shows up 7. When the task is complete the user can mark the reminder as complete OR if the task is no longer required to be completed, the user can delete the reminder 	

Use Case 3: Video/Voice Calling Feature

Use Case	Video/voice calling feature
Goal in Context	Users are able to communicate verbally through the features instead of just messaging
Scope	Video/voice calling tool (icon)
Level	Primary Task
Preconditions	User is a registered member of the Flockr application User is a part of a channel User desires to video/voice call other members Other user(s) must agree to pick up the call Must have a working microphone or any device to input the sound For video calls, a working camera must be used
Success End Condition	Users are able to voice/video call between each other
Failed End Condition	Users are unable to voice/video call between each other
Trigger	User(s) press the video/voice calling icon
Success Scenario: <ol style="list-style-type: none"> 1. Flockr asks user(s) to login 2. User(s) goes into a channel they are part of 3. User(s) briefly chat amongst each other if they want to start a video/voice call 4. User(s) agree and one of them press the video/voice calling icon 5. Other user(s) accept the call 6. Flockr asks for access to the microphone (and video camera for video calls) to users 7. Users accept the access 8. All users part of the call are now communicating amongst each other through video/voice call 	

[Requirements] Validation

Rating from 0 (does not improve) to 10 (improves to the highest extent) was given by each Interviewee for each Use Case along with a comment.

Use Case 1: Timetable (9/10)

Interviewee 1: (7.5/10)

This would greatly address the challenge of finding a time for collaborative group work but relies on the fact that everyone must plan their weekly busy hours and free time in advance which may become tedious after many weeks. Also, someone's availability may change in the time between a meeting being booked and actually happening.

Interviewee 2: (10/10)

Collaborative timetabling would be a great feature considering there are not that many services out there that offer this service. There's always an issue surrounding group members having trouble deciding on common meeting times due to the fact that everyone has their own business to attend to. Such a feature would greatly work to help teams be more productive and efficient

Interviewee 3: (9/10)

This feature could easily boost a team's efficiency and productivity as everyone is able to see each other's availabilities and collaborate much more effectively

Interviewee 4: (9/10)

In dealing with difficulty when scheduling meetings, I think the first one is particularly nice, as there aren't any other apps that do it and maybe relevant for collaboration. Having a feature like this would definitely improve both collaboration and also getting more immediate responses from teammates by knowing when they might be busy.

Use Case 2: Reminders (7.5/10)

Interviewee 1: (10/10)

This would address the issue of work responsibilities between individual members as each member would be held accountable for their work by reminders.

Interviewee 2: (8/10)

These could be quite useful considering that these will consist of many tasks specific to the group that could be assigned to yourself or the entire group. By providing this, members can see an overview of the tasks that must be completed and therefore gain a better perspective on what they need to do.

Interviewee 3: (5/10)

There are many, many other alternatives to reminders out there whether it be mobile or online. I would say the only main advantage for this would be that there is a group reminders which could help with helping everyone stay on track

Interviewee 4: (7/10)

This second one wouldn't be as beneficial for communication on computing projects since we already have git lab boards and such. However, for other projects that don't have access to git, having reminders appear would be motivating and useful to stay on track.

Use Case 3: Voice/Video Calling (6.25/10)Interviewee 1 (9/10):

Provides a more efficient and effective means of communication overall as questions can be clarified immediately via voice chat, work can be discussed without the delay of typing and individual work can be reviewed.

Interviewee 2 (7/10):

This feature could provide more efficiency in a way that Flockr is your one-stop for all these services. However, there are still many more developed and experienced alternatives

Interviewee 3 (5/10):

Again, there are many many alternatives to video/voice calling online which have already been established and renowned for their service.

Interviewee 4 (6/10):

Similar to the second one, the third one isn't a major issue for my personal experience with team collaboration as for meetings there are zoom and stuff. But if Flockr has these features, I guess it would be helpful to have everything accessible in one place.

Validation Summary:

Use Case 1 had the best response, describing the problem of effective communication caused by difficulty scheduling meetings with a reasonable solution. Since not many other platforms have this solution, all interviewees found this to be a feature that would improve Flockr.

Use Case 2 also received a good response, being able to remind fellow users in a channel what tasks have been assigned to them and what needs to be done. Some responses also highlighted how a reminders feature may only be useful if it is oriented towards users working in a group, this can be done through a shared reminders list in each channel.

Use Case 3 received a relatively worse response, the concept of video/voice calling team members to improve teamwork and collaboration. These responses praised the feature being included due to the fact that Flockr would have all the necessary tools to boost team collaboration all in one application. However, other responses reflected the reality of there being many other alternatives for voice and video calling that have efficient and developed features.

[Design] Interface Design

In order to solve problems concerned with effective teamwork, management, and collaboration when using team-driven communication tools, due to their high acceptance in Validation, capabilities for the Timetable (Use Case 1) and Reminders (Use Case 2) feature will be defined by the Interface Design.

Additional Data Types

Named exactly timetables	List of dictionaries where each dictionary contains types {u_id, timetable_id, schedule_id}
Named exactly reminders	List of dictionaries where each dictionary contains types {reminder_id, channel_id, u_id, description, time_due}
Named exactly repeats	int
Named exactly description	string

Function Name	HTTP Method	Parameters	Return type	Exceptions	Description
user/profile/timetable/create	POST	{token, u_id}	{timetable_id}	InputError: <ul style="list-style-type: none"> - Invalid u_id AccessError <ul style="list-style-type: none"> - User already has a timetable 	Given a user's token and u_id, creates an empty timetable for the user to schedule tasks. Returns the timetable_id that corresponds to the timetable
user/profile/timetable	GET	{token, u_id}	{timetable_id}	InputError: <ul style="list-style-type: none"> - Invalid UID AccessError <ul style="list-style-type: none"> - If user trying to access u_id timetable does not share a channel together 	Given a user's token, return the timetable of the user with u_id.
user/profile/timetable/add	POST	{token, timetable_id, day, time_start, time_end, is_weekly, repeats}	{}	InputError: <ul style="list-style-type: none"> - Day provided is not valid - time_start/time_end is not in correct format - time_start/time_end are not valid times 	Given a user's token, day, time_start and time_end add a slot in their timetable that corresponds to the parameters give. If is_weekly is True, and the user enters repeats (int) > 1, then the time slot

				<ul style="list-style-type: none"> - Repeats ≥ 1 - Timetable_id does not belong to the user token 	will be automatically added in the user's timetable/calendar for the further number of weeks (repeats) specified.
user/profile/timetable/remove	DELETE	{token, timetable_id, schedule_id}	{}	InputError: <ul style="list-style-type: none"> - Invalid timetable_id - Invalid schedule_id AccessError: <ul style="list-style-type: none"> - Schedule_id does not belong to the timetable_id 	Given a user's token and their timetable_id and schedule_id, the user removes a scheduled 'busy' slot from the timetable. Once they are removed, that slot will be free.
channel/timetable/generate	GET	{token, channel_id}	{timetable_id}	InputError: <ul style="list-style-type: none"> - Invalid channel_id 	Given a user's token and channel_id, the user generates a timetable to schedule any tasks or events. A timetable_id is generated
channel/timetable/addmeeting	POST	{token, channel_id, day, time_start, time_end}	{}	InputError: <ul style="list-style-type: none"> - Invalid channel_id - Invalid day - Time_end comes before time_start 	Given a user's token and channel_id, a time is specified. From that given time, a message from Flockr appears in the channel for all members to 'approve' by thumbs up. Once all members in the channel have approved individual timetables are updated with the meeting slot.

channel/time table/remove meeting	DELETE	{token, channel_id, schedule_id}	{}	InputError: <ul style="list-style-type: none"> - Invalid channel_id - Invalid schedule_id 	Given a user's token, channel_id and schedule_id, the user removes a meeting from the shared channel timetable. Once removed, the slot will be free for all members in the channel the meeting was scheduled for.
channel/add reminder	POST	{token, channel_id, u_id, description, time_due}	{reminder_id}	InputError: <ul style="list-style-type: none"> - Invalid u_id - Invalid channel_id - Header must be between 1-100 characters inclusive - time_due is not a valid date AccessError <ul style="list-style-type: none"> - Token or u_id is not a member of the channel 	Given a user's token and channel_id, the user adds a reminder assigned to the u_id. The description is the name of the reminder that will appear when listed to the user. Once the user adds a reminder, a reminder_id will be generated
channel/rem overreminder	DELETE	{token, channel_id, reminder_id}	{}	InputError: <ul style="list-style-type: none"> - Invalid channel_id - Invalid reminder_id AccessError <ul style="list-style-type: none"> - Token is not a member of the given channel_id - Only owners of a channel have the ability to remove_reminders that are 	Given a user's token, channel_id and reminder_id, the user removes a reminder.

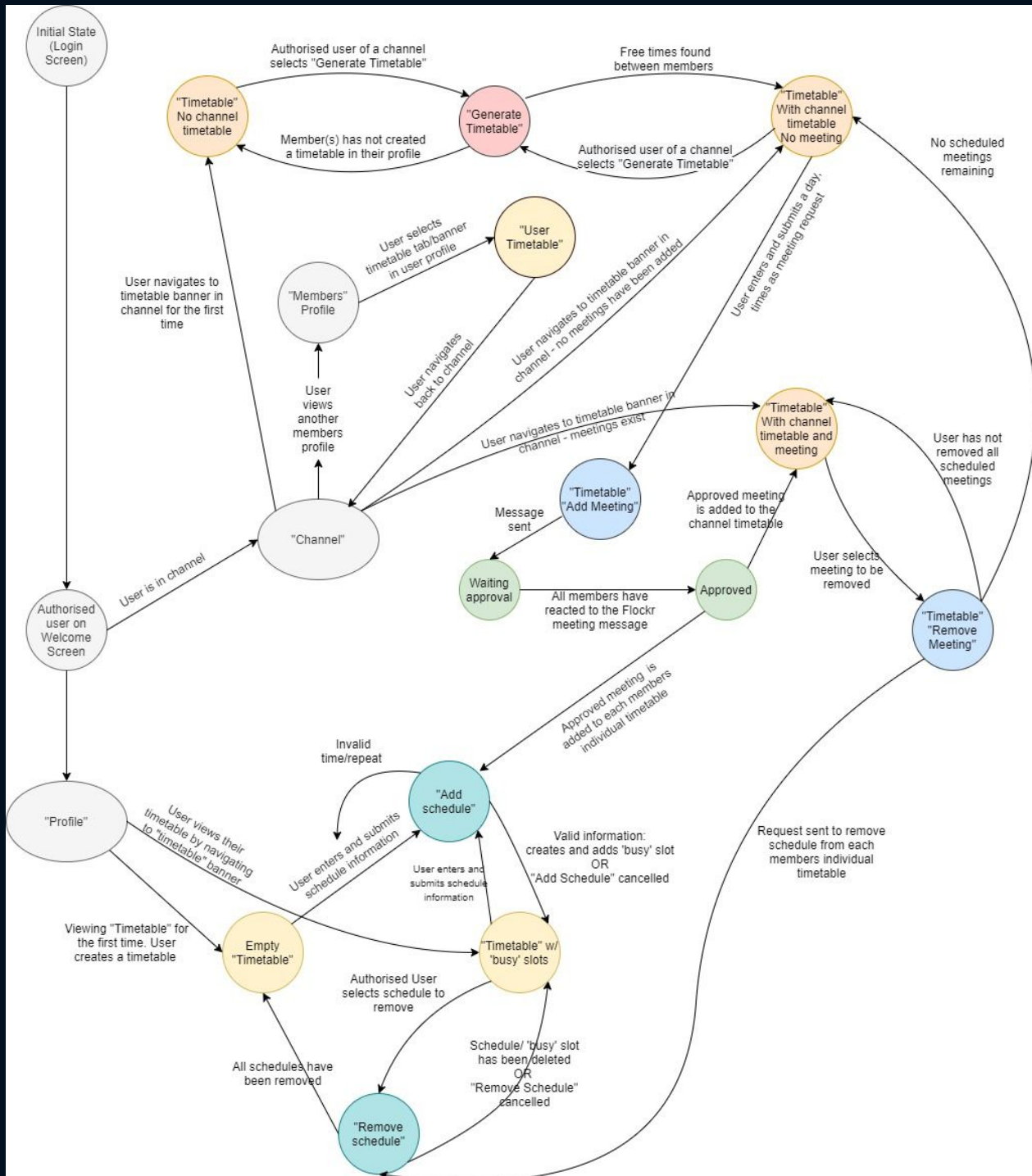
				not assigned to them	
channel/checkreminder	PUT/ DELETE	{token, channel_id, reminder_id}	{}	InputError: <ul style="list-style-type: none"> - Invalid channel_id - Invalid reminder_id AccessError <ul style="list-style-type: none"> - Reminder being complete is not assigned to the user - Reminder_id does not belong to the channel 	Given a user's token, channel_id and reminder_id, the user marks a reminder complete. That reminder gets removed immediately
channel/myreminders	GET	{token, channel_id}	{reminders}		When a user logs in and navigates to the channel they are a part of, a list of reminders assigned to them are displayed with its due date.
channel/viewreminders	GET	{token, channel_id, u_id}	{reminders}	AccessError <ul style="list-style-type: none"> - u_id is not a member of the given channel_id 	For a valid user (token), returns the reminders for the user with u_id, allowing members in a team to view progress of other team members.

Similar to Interface Table described in 6.2, for all functions listed above, an AccessError is thrown when the token passed in is not a valid token.

[Design] Conceptual Modelling (State)

Timetable

This is a state diagram representing how the addition of a timetable feature would affect our application.



Reminders

This is a state diagram representing how the addition of a reminders feature would affect our application.

