

Planning for Future Problems

Elicitation:

1. What are the core functions you believe are essential to communication tools?
2. What do you believe is currently lacking from applications that are restricted to text; which allow for virtual communication?
3. Aside from text based message channels and direct messaging are there any other ways you would prefer communication on an application?
4. What qualities are key in group communication
5. What are your favourite features of teamwork-based communication tools such as mircosoft teams?
6. Do you have any more recommendations to improve a teamwork-based communication software?

Name	Email	Responses
Amadeo Putro	amadeo.putro@gmail.com	<ol style="list-style-type: none">1. Text messaging.2. Higher level communication methods.3. Face to face video calls.4. Able to share photos and videos of current position.5. Ability to collaborate.6. n/a
Luis Colinares	luis.colinares@gmail.com	<ol style="list-style-type: none">1. Text messaging, calls, screen sharing2. Translating emotion and adding sentiment in text.3. Audio and video calls.4. Conferencing and organisation.5. Screen sharing and screen control.6. n/a
Pocholo Sangalang	Z5257011@ad.unsw.edu.au	<ol style="list-style-type: none">1. Immersiveness and ease of use.2. More ways to offer real time communication.3. Voice and videochat4. Scheduling.5. Remoate desktop and screen sharing.6. More integration with mobile devices.

The app seems to be very limited in its utility regarding users ability to communicate in sentiment and emotion. A possible solution to the current problems made aware by this questionnaire is to include audio and visual communication modes. The questionnaires have given a consensus that textual forms of communication alone is not enough to promote teamwork. They have shown that regarding communication, it would be much more intuitive to involve forms of video and/or audio conferencing. Furthermore, it would be pertinent to include ways to be able to schedule tasks as well as share documents, photos and other forms of media with others.

Analysis & Specification - Use Cases:

User Story 1:

As a leader of a student group, I would like other members to see and hear me while i speak, so I am better able to express my emotions and create deeper understanding within my team when needed.

Acceptance Criteria:

- The application should involve a means of video chat.
- The video chat implementation should be capable of one to one and group meetings.
- Video and audio chats should be toggleable so that users have the choice to exclusively turn on voice or video.

User Story 2:

As a member of a team, when chatting with the other members I often want to show them the photos and videos of the work I have completed, so that I can show my progress and ask for help with certain problems which are too hard to describe.

Acceptance Criteria:

- The application should have photo and video sending.
- The photo and videos should be able to be sent on channel messages and dms.
- Users should be able to comment and react to photos sent by others.

User Story 3:

As a team member, I want to be able to send links to my work and documents, that I have saved as web links and PDF files on my computer. I would like to collaborate with my group members on certain documents but they will need to open these files in the same format.

Acceptance Criteria:

- The application should be able to send hyperlinks.
- The messaging should allow for PDF files.
- The messages should be able to send PDF's and Hyperlinks in DMs and Channel messages.
- They should be able to be opened as their designated format, i.e PDF.

USE CASE: (emotion and sentiment)

Goal: The goal of this use case is to add features to UNSW treats which enables uses to communicate to a higher degree by the inclusion of features which promote increased emotion and sentiment in conversation.

Scope: They system that is being considered black-box is the messaging features of the current website. Including both channel messages and dm messages.

Preconditions: We expect that when users send message there is a lack of tonality and emotion which reduces sense of urgency or importance of specific topics.

Success End Conditions: If successful the user will understand to a deeper level the intentions of messages passed on by other users.

Failed End Condition: If unsuccessful users will be confused and wont understand these emotional signals and will find no use in the video and audio calling.

Primary Actor: Group member working on a team project.

Trigger: The group member calls another team member to brief them on the parts of their project due very soon.

USE CASE

- Group member logs into his account on Teams.
- Group member navigates to the channel related to the project.
- Group member types a message saying that we need to look over the issues in this report.
- UNSW Teams verifies that he is an authorised user of the channel.
- UNSW Teams sends this message to the other members of the channel.
- Group member attaches a PDF document in a message stating that this is the project report, and then sends the message.
- UNSW Teams verifies that he is an authorised user of the channel.
- UNSW Teams sends this message to the other members of the channel.
- Other members open the PDF in the channel.
- Other members respond with reactions and messages to say they are ready.
- UNSW Teams verifies these members are authorised users.
- UNSW Teams sends these messages to the channel.
- Group member selects start call.
- UNSW Teams asks the user if they would like an Audio call, Video and voice call or to cancel.
- Group member asks to do a voice and video call.
- UNSW Teams begins the call.
- UNSW Teams sends a notification to members of the channel that the call has begun.
- UNSW Teams asks if the other members would like to accept or decline.
- Other members ask to accept the call.
- UNSW Teams asks if they would like to join as audio only or with video and audio.
- Other members ask to join as video and audio.
- UNSW Teams hosts video call.

Validation:

Amadeo Putro	The use case scenario is able to capture the scope of the problems found previously. But possibly scheduling the meeting beforehand would be more intuitive for collaboration.
Luis Colinares	The use case scenario properly fulfils what's missing from the application. The only thing that could be used to improve this use case is the implementation of screen sharing especially regarding to the PDF document.
Pocholo Sangalang	The use case scenario covers the issues quite well but a way to all view the document simultaneously would be better.

Interface Design:

message/sendPDF/v1 When a dm or channel message is being sent if the message contains a PDF, create a openable PDF document.	POST	Body Parameters {messageId} Return Type if No Errors {}	Exceptions: 400 Error: - Message ID is invalid.
message/sendHyperLink/v1 When a dm or channel message is being sent if the message contains a HyperLink, create a openable HyperLink in the message.	POST	Body Parameters {messageId} Return Type if No Errors {}	Exceptions: 400 Error: - Message ID is invalid.
call/schedule/v1 Create a scheduled time for when a call starts for a channel.	POST	Body Parameters {authUserId, ChannelID, dmId} Return Type if No Errors {callId}	Exceptions: 400 Error: - Auth user is invalud - Auth user is not part of channel - Auth user is not part of Dm - Channel Id and DM id are invalid.
call/unschedule/v1 Unschedule a scheduled call.	DELETE	Body Parameters {callId} Return Type if No Errors {}	Exceptions: 400 Error: - callId is invalid.
call/audio/v1 Begin a call in a dm or channel that is audio only.	POST	Body Parameters {userId, ChannelID, dmID} Return Type if No Error { callId }	Exceptions 400 Error - User ID is invalid. - User is not part of channel. - User is not in dm. - Channel and DM id are invalid.
call/video/v1 Begin a call in a dm or channel that is audio and	POST	Body Parameters {userId, ChannelID, dmID}	Exceptions 400 Error - User ID is

video.		Return Type if No Error { callId }	invalid. - User is not part of channel. - User is not in dm. - Channel and DM id are invalid.
call/mute/v1 While in a call turn off audio.	POST	Body Parameters { callID } Return Type if No Error { }	Exceptions 400 Error - callId is invalid.
call/unmute/v1 While in a call turn on audio if the audio is turned off.	DELETE	Body Parameters { callID } Return Type if No Error { }	Exceptions 400 Error - callId is invalid.
call/videooff/v1 While in a call turn off video.	POST	Body Parameters { callID } Return Type if No Error { }	Exceptions 400 Error - callId is invalid.
call/videoon/v1 While in a call turn on the video if the video is turned off.	DELETE	Body Parameters { callID } Return Type if No Error { }	Exceptions 400 Error - callId is invalid.
call/sharescreen/v1 Send a video feed of the users screen to other members in the call.	POST	Body Parameters { callId } Return type if no Error {screen video}	Exceptions 400 Error - callId is invalid.
call/end/v1 If a call is running end the call.	DELETE	Body Parameters { callID } Return Type if No Error { }	Exceptions 400 Error - callId is invalid.

Conceptual modelling - state diagrams:

