COMP1531 DREAMS PLANNING REPORT

Requirements:

Elicitation:

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Participant 2: Anthony Travan
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Participant 3: Tyran Nguyen
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The survey conducted asked participants on importance of three crucial problems the team that would likely be faced by users when using the Dreams software. These were:

- A lack of communication options inside channels and dms:
    - As users can currently only send basic text messages inside channels and dms, the ability to communicate is highly inhibited
    - Other forms of communication include voice calls, video conferences and the ability to structure messages into dot points.

- A lack of organisation options inside Dreams:
    - Organisation is important as it allows for increased efficiency when communicating and collaborating.
    - Organisation tools include adding a calendar and the ability to schedule stand-up meetings in advance.

- A lack of collaboration options inside channels and dms:
    - Again, as users can only send basic text messages, the ability to collaborate is significantly inhibited.
    - Other options to include this include sending pictures and documents.

In addition to this, participants were also encouraged to bring up other problems that were impeding their user experience inside Dreams.

Q1: Communication problems:

In your opinion and experience, how much of a problem is the ability to only communicate *
through simple text messages inside a channel or direct message?

○ Extremely problematic

○ Problematic

○ Mild inconvience

○ Slight annoyance

○ Not an issue

ANSWERS:

USER	RESPONSE (A)
Alessia	Problematic
Anthony	Problematic
Tyran	Extremely Problematic

Why do consider this a problem / non-problem ? *

Long answer text

ANSWERS:

Alessia:

Hard to communicate and removes face to face interactions

Anthony:

There are times when text and direct messaging cannot do justice to the content being discussed, and the conversation requires video or vocal stimuli in order to properly iterate whatever is being said. It also adds layers of convenience and personality

Tyran:

Direct message, although relatively fast, is very restrictive in terms of communicating difficult concepts or ideas that diagrams or images can clearly convey. Voice calls and video conference calls also allow for instantaneous communication, whereas direct messaging may take more time, in the sense that the person receiving the message may not see it until later. It is also much easier to communicate with video calls in group projects, as direct messaging with groups can get complex and bogged down, reducing productivity.

Q2: Organisation problems:

In your opinion and experience, how much of a problem is a lack of specific organisational features inside a communication and collaboration tool, such as Dreams? *

◯ Extremely problematic

◯ Problematic

◯ Mild inconvience

◯ Slight annoyance

◯ Not an issue

ANSWERS:

USER	RESPONSE (A)
Alessia	Extremely Problematic
Anthony	Problematic
Tyran	Mild Inconvenience

Why do consider this a problem / non-problem ? *

Long answer text

ANSWERS:

Alessia:

Most systems like this are used as coordination platforms for teams to work on.

Anthony:

Organisational features provide an additional potential to place emphasis and organise ideas in a way that helps and aids understanding

Tyran:

Organizational features allow for a clearer and more efficient workflow for all members involved with communication and collaboration tools. Whilst it may not be necessary to have such features, it is greatly beneficial to ensure people are on task and up to date in collaborative projects.

In your opinion and experience, how much of a problem is the ability to only collaborate through *
text messages

◯ Extremely problematic

◯ Problematic

◯ Mild inconvience

◯ Slight annoyance

◯ Not an issue

ANSWERS:

USER	RESPONSE (A)
Alessia	Problematic
Anthony	Extremely Problematic
Tyran	Extremely Problematic

Why do consider this a problem / non-problem ? *

Long answer text

ANSWERS:

Alessia:

Programs like this have been used in the past year for learning or work purposes in which case people need to be doing things like sharing documents, images of work and maintaining as much cohesion amongst a range of people working remotely as possible

Anthony:

Some conversations require the transfer of images for context or data through documents. Being unable to send an image from a holiday, attach a pdf of an assignment and send an Excel spreadsheet can really deter from the feasibility of a communication platform, as it forces one to look for alternative platforms that can accommodate for these desires

Tyran:

Text is restrictive, many concepts and ideas can much more easily be conveyed in files, images, etc. The sharing of files needs to be implemented as it allows multiple people to work on a file and allow for a much more streamlined collaborative effort. You could imagine how much more tedious tasks would be if files were to be hand-delivered on USBs to other members, as opposed to through the cloud.

Apart from the above issues, what other problems do you believe inhibit your user experience when using Dreams?

Long answer text

ANSWERS:

Alessia:

No

Anthony:

The inability to screen share can really negate from the usability of communication platforms for work or practical purposes

Tyran:

A poor design interface that is too complex or too bland, must be accessible to all.

All three participants had a general consensus on the severity of the stated problems, but also held differing views on additional issues. It is because of this that the rest of the report is focused exclusively on the three stated issues.

Analysis and Specification – Use Stories and Cases:

Communication problems – (lack of *Video and voice calls)*

Alessia:
As a Dreams user, I would like to be able to voice call my colleague, as it allows for a clearer form of communication than messages.

Anthony:
As a Dreams user, I would like to be able to call my friends, as it allows the receiving end to comprehend my ideas better and connect with them on a more personal level.

Tyran:
As a Dreams user, I would like to be able to video call my colleagues, so that I can have access to an immediate and more feasible form of communication.

User Acceptance Criteria:
- The call button is placed at the top right corner.
- When pressed, the call button will prompt a pop-up containing a choice of a voice or video call.
- Any user in the call can add any other user in the same channel/DM to the call.

Use Case

- Use Case: Initiate a call (video/voice)
- Goal in Context: user of UNSW dreams can connect with a fellow Dreams user through a video or voice call
- Scope: The application (UNSW dreams)
- Level: Primary task
- Preconditions: Both the caller and the receiver are in the same channel
- Success End Condition: returns to channel
- Failed End Condition: return to channel
- Primary Actor: The user of UNSW dreams
- Trigger: user triggers call function

MAIN SUCCESS SCENARIO

1. Application asks user for username and password
2. User enters username and password
3. Username and password authenticity is validated
4. User joins a channel (if not already in one)
5. User requests a Call to another member in the channel
6. The receiving member accepts the call request
7. Either the user who initiated the call or the user who receives it ends the call
8. User who initiated the call return to the channel he initiated the call from

Organisation problems- (not having the ability to Schedule meetings)

Alessia:
As a Dreams user, I would like to be able to pre-schedule a meeting, as it helps me primarily in organising group projects and other collaborative tasks.

Anthony:
As a Dreams user, I would like to be able to pre-schedule a meeting, as it helps me organise my day better, and notifies all members of that meeting at an early time.

Tyran:
As a Dreams user, I would like to be able to pre-schedule a meeting, as it ensures that everyone is up to date with the tasks provided.

User Acceptance Criteria:
- There is no limit on the number of meetings a user can schedule.
- The time selection is in "24-hour format" style.
- The organiser of the meeting can invite as many members as they want.
- Only the user who prescheduled the meeting can invite other members to the meeting.

Collaboration problems – (not having the ability to send pictures / documents)

Alessia:
As a Dreams user, I would like to be able to send pictures and other documents, as it allows me to share information easily between me and my colleagues remotely while maintaining maximum cohesion.

Anthony:
As a Dreams user, I would like to be able to send pictures and other documents, as it allows me to conveniently deliver documents of any type without the use of my Email.

Tyran:
As a Dreams user, I would like to be able to share documents, so that I can deliver my ideas more clearly and increase the overall efficiency between colleagues when working in a collaborative project.

User Acceptance Criteria:
- The user can share one type of document at any given time (pdf, JPEG, etc….).
- When sending pictures, the user can send more than one photo at a time by holding and dragging across the required pictures.
- The share attachment button located next to "send chat" button will allow the user to decide what type of document to share.

Validation:

Communication problems – (lack of *Video and voice calls)*

Alessia:

Yes, it is also useful for increasing personal contact and clarity.

Anthony:

Implementing the feature described would allow users the capacity to call their friends and peers and coordinate distinct dialogues into a single conversation, which resolves any desires to share conversations with a large group. Adding multiple users with the potential for voice or video chat allows for the personal touch that can only be conveyed through seeing or hearing a real human being, as opposed to text.

Tyran:

Yes, the user criteria and story adequately solve the problem

Organisation problems- (not having the ability to Schedule meetings)

Alessia:

It would be useful, however I do not consider it that important as there are a variety of easy ways around this problem, such as agreeing upon a meeting time via the message system.

Anthony:

Having the ability to organise an unlimited number of meetings throughout the day means coordinating personal schedules with peers is a breeze. Flexibility comes in being able to invite as many desired participants as necessary and notifications ensure everyone is on the same wavelength.

Tyran:

Yes, the user criteria and story adequately solve the problem

Collaboration problems – (not having the ability to send pictures / documents)

Alessia:

Yes, sums it up brilliantly.

Anthony:

Being able to send multiple images at a time allows for conversations to evolve rapidly and provides more context to conversations. Sharing is important, and not having to deviate to an alternative platform to continue a conversation really adds to the usability of the service and its convenience for users

Tyran:

Would like to see multiple file type sharing capabilities as opposed to one type of document at any given time. Would save user time from having to create zip files, etc. Otherwise, suitable

Design:

Interface Design:

Communication problems – (lack of video and voice calls)

The endpoints are focused upon setting up the basic requirements for having a voice/video call system in the Dreams application. These include starting a call, inviting users to a call, leaving and ending a call and toggling audio and camera settings within a call.

Name & Description of Route	HTTP Method	Data Types	Exceptions
video/call/start/v1 Creates a video call in the selected channel or DM. If the video call is in a channel, dm_id is set to -1, otherwise, if the video call is in a DM, channel_id is set to -1. Multiple calls may be held in the same channel/DM. Returns the ID of the video call.	POST	**Parameters:** (token, channel_id, dm_id) **Return type:** {call_id}	**Raises InputError when any of:** • The channel_id or dm_id that the video call is being started in is invalid **Raises AccessError when any of:** • User starting the video call is not a member of the channel/DM it is in • User starting the call is already in another call • User's token is invalid
video/call/invite/v1 Adds the user with ID u_id to the video call indicated by call_id. The user is instantly added to the call. Each user can only be in one active call at a time.	POST	**Parameters:** (token, call_id, u_id) **Return type:** {}	**Raises InputError when any of:** • call_id is not a valid video call • call_id is a call that has already ended or is currently scheduled • u_id is not valid ID

			Raises AccessError when any of: • Authorised user is not a member of the channel/DM that the video call is in • User being invited is not a member of the channel/DM that the video call is in • User being invited is currently in another call • User's token is invalid
video/call/leave/v1 Given a call_id, the user is removed from the call they are currently in.	POST	**Parameters:** (token) **Return type:** {}	Raises AccessError when any of: • User is not currently in a video call • User's token is invalid
video/call/end/v1 Ends the video call that the user is currently in. The video call will also end if there are no users in the call. Returns the duration of the call in HH:MM:SS format and also returns a list containing the handle_str of the users who joined the call.	DELETE	**Parameters:** (token) **Return type:** {duration, users_in_call}	Raises AccessError when any of: • User is not the person who started the call • User's token is invalid
video/call/audio/v1 Enables the user to mute/unmute their audio in the call. If the user is currently muted, they will be unmuted. If	PUT	**Parameters:** (token) **Return type:** {}	Raises AccessError when any of: • User is not currently in a video call

the user is currently unmuted, they will be muted.			• User's token is invalid
video/call/camera/v1 Enables the user to share/unshare their video. If the user is currently sharing their video, their camera will turn off and their video will not be shared. If the user is not currently sharing their video, their camera will turn on and their video will be shared.	PUT	**Parameters:** (token) **Return type:** {}	**Raises AccessError when any of:** • User is not currently in a video call • User's token is invalid

Organisation Problems – (not having the ability to schedule meetings)

These routes are an extension of the voice call routes previously detailed, as they now allow users to schedule calls at a time in the future, invite users to scheduled calls and cancel scheduled calls.

Name & Description of Route	HTTP Method	Data Types	Exceptions
video/call/schedule/v1 Schedules a call at a future time in a chosen channel/DM. If it is in a channel, dm_id is set to -1. If it is in a DM, channel_id is set to -1. [u_ids] is a list of the ID's of the users who are being invited into the scheduled call. time_start is the scheduled start time of the call, entered as a date and time in 24 hour format.	POST	Parameters: (token, channel_id, dm_id, [u_ids], time_start) Return type: {call_id}	Raises InputError when any of: • The channel_id or dm_id that the video call is being scheduled in is invalid • Time start is a time in the past Raises AccessError when any of: • User scheduling the video call is not a member of the channel/DM it is in • A user being invited to the scheduled call is not a member of the channel/DM it is in • User's token is invalid
video/call/schedule/invite/v1 Invites a user into a scheduled call. Can only be requested before the scheduled call starts.	POST	Parameters: (token, call_id, u_id) Return type: {}	Raises InputError when any of: • call_id is not a valid video call • call_id is a call that has already ended or is currently in progress

			Raises AccessError when any of: • Token does not belong to the user who created the scheduled call • User being invited is not a member of the channel/DM that the scheduled call is in • User's token is invalid
video/call/schedule/cancel/v1 Cancels a scheduled call that the user created. Calls can only be cancelled before they are scheduled to begin. Invited users are notified of the call's cancellation.	DELETE	Parameters: (token, call_id) Return type: {}	Raises InputError when any of: • call_id is not a valid video call • call_id is a call that has already ended or is currently in progress Raises AccessError when any of: • User is not the person who originally scheduled the call • User's token is invalid

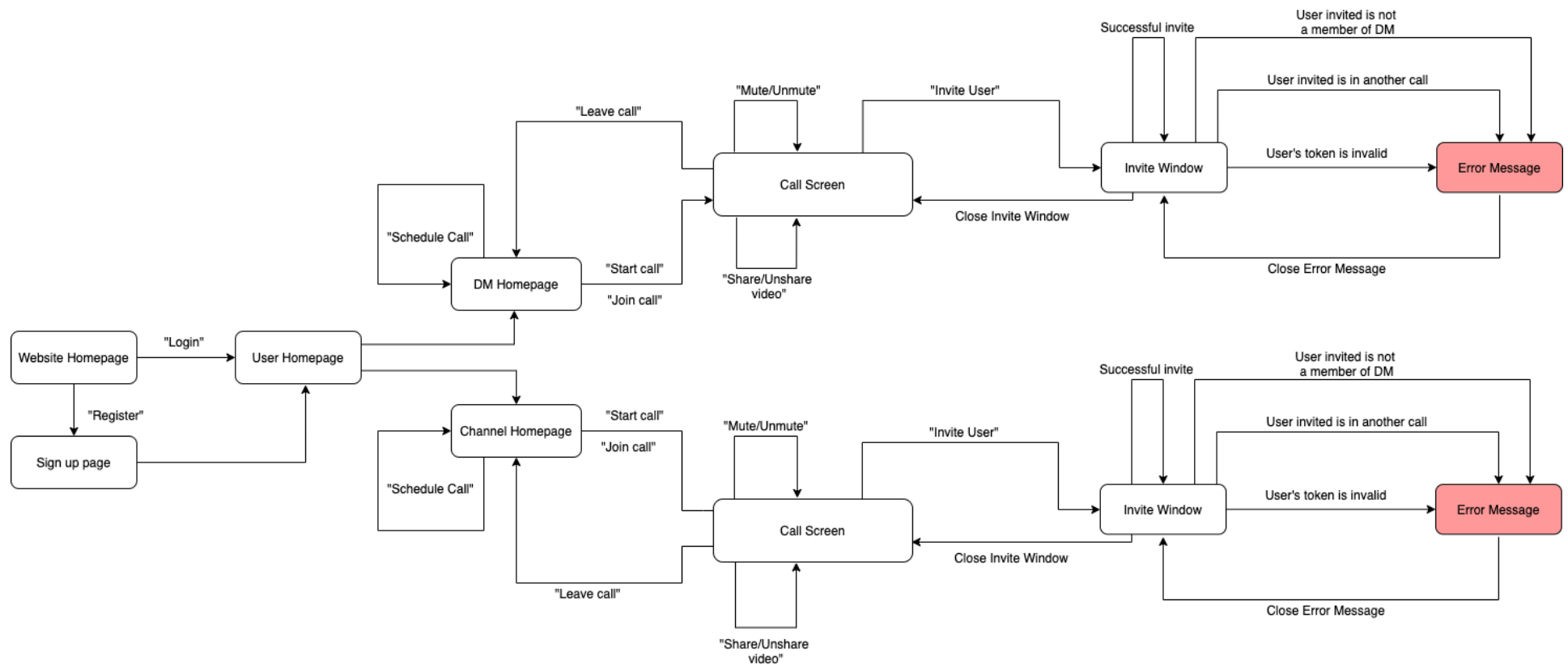## Collaboration problems – (not having the ability to send pictures / other documents)

These routes are endpoints that allow users to send different media to a channel or DM.

Name & Description of Route	HTTP Method	Data Types	Exceptions
content/send/v1 Enables the user to send different types of documents to the channel specified by channel_id. This is treated similar to sending a message, but instead of having a message it contains the document being sent. Documents that can be sent include pictures, word documents and PDF files.	POST	Parameters: (token, channel_id, content) Return value: {message_id}	**Raises InputError when any of:** • channel_id is not a valid channel **Raises AccessError when any of:** • User is not a member in the channel they are sending the content to • User's token is invalid
content/senddm/v1 Enables the user to send different types of documents to the DM specified by dm_id. This is treated similar to sending a message, but instead of having a message it contains the document being sent. Documents that can be sent include pictures, word documents and PDF files.	POST	Parameters: (token, dm_id, content) Return value: {message_id}	**Raises InputError when any of:** • dm_id is not a valid DM **Raises AccessError when any of:** • User is not a member in the DM they are sending the content to • User's token is invalid

Conceptual Modelling (State):

Communication (lack of video and voice calls) and organisation problems (not having the ability to schedule meetings)

Note that due to the nature of the solutions, it is relatively easy to merge these two problems into the one state diagram.

Collaboration problems - (not having the ability to send pictures / other documents)