[Requirements] Elicitation

Summary

In this section, two target users were interviewed to better understand paint points related to team-driven communications. A series of questions were given out to these users, and below is a recorded transcript (of the most important parts). Then, the most prominent problems for these users were chosen and then a proposed solution was created for them.

Interview - User 1

Name: Yang Yang

Email: yangyangjiang2002@gmail.com

Engineer: First off, are there any general concerns you have at this moment?

User: I'm not comfortable with how anyone can just send anything and I'm not able to make a complaint if another user perhaps bullies other users.

Engineer: How would you feel about a system where we can report other users. Along with bullying, what other concerns do you have about the messages? For example, off topic messages?

User: That sounds good. Well off-topic messages are ok. What I'm concerned about is when students start being inappropriate with each other. Perhaps some way of moderating inappropriate language and behaviour to prevent all of this. I know owners can delete messages, but they aren't always going to be constantly moderating the chat.

Engineer: Just building on ownership as I can see you have a concern for user interaction. How do you feel about the ability to have multiple owners overseeing a single channel?

User: The one thing I find strange is how there isn't one "main" owner. In a way the person who created the channel can get demoted as an owner then removed from the channel. I feel there should be levels of ownership. There should also be some way to report owners too, say if they were to abuse their power.

Engineer: Regarding some more concerns with how other users interact, would you perhaps like something to have better privacy of your information.

User: Yes, I can see that any user can easily just look at my profile and see my email. I don't want that information to be seen.

Engineer: Let's talk more about the profile. What would you say the worst thing about the user stats are?

User: I find it quite frustrating how the stats just show everything. If I just joined 1 channel and sent a bunch of messages, it would scale quite weirdly. I want to have the ability to select what stat to see. Oh, it would also be great to select the specific month of my stats.

Interview - User 2

Name: Anna Issac

Email: anna2003issac@gmail.com

Engineer: Let's start with messages, are there any general dislikes you have?

User: I suppose it would be better if there was more than just the like reaction. Like all the emojis.

Engineer: Yes, we can create more reactions. Building on that, h

ow to you feel about the current level of interaction with messages?

User: I find it annoying how I can't just reply to specific messages. It makes communication difficult to understand exactly what someone may be referring to.

Engineer: So to make communication better, you want to reply to a specific message and for others to be able to see what message it is that you replied to, is that correct?

User: Yes, and to add to that, it would be very good if I were to be notified if someone replied to my message.

Engineer: then would you also perhaps like to see all the replies to a message?

User: Yes, that too. Also, one thing more thing that would be helpful is if there's some way of voting. I find that it can be tedious when wanting to say find what majority wants with something, such as setting a time for meetups.

Engineer: Right so when creating these votes, would you want to create options for the people voting?

User: Yes, and also, I would want to be able to create my question so people know what they are voting for.

Initial solution proposal

From the interviews, the pain points of users that stood out the most related to moderating user interaction, moderating messages, message interaction and a polling system. Below are brief descriptions for our proposed solutions to these problems.

Reporting users: A user can report another user. In the report they may leave a message of a description of their report, an any supporting images.

Moderator bot: Allow creators of channels or dms to have the option of having a bot for their messages. This bot will be able to detect inappropriate language and send out warnings to users, as well as notifications to the owner of the channel.

Message reply: A user can reply to other users or even their own message (we may treat this as the "older message"). The older message will show any replies to that message. The newer message will show the message of the older message as well as what the reply to it was.

Polls: Anyone within a channel or dm may create a poll. They can select however many options they want in the poll and then write a poll question. Other users withing the channel or dm may vote for any options within the poll, and they may also vote for more than one option – but cannot vote for the same option more than once.

[Requirements] Analysis & Specification – Use Cases

Summary
Four user stories have been generated, based on the interviews of the previous sections. From these, two use cases were then generated.

User Story 1
As a student, I want the option of messages to be moderated with initial warnings being given and notifications to owners if users are required to be removed so that it prevents bullying and off-topic discussions.
Acceptance criteria:
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- At any time a global owner, channel or dm owner by add or remove a moderating bot for their messages
- A user who sends any inappropriate message will be notified with a warning
- The warning will be a message through a dm by a bot, and it will show how many warnings they have had for that specific channel or dm
- A user with 3 warning for a channel or dm will be notified to the owner of the channel or dm
- A user with 7 overall warnings for all channel or dms will be notified to a global owner

- A user's number of warnings stay the same even if a message bot is removed from the channel or dm

User Story 2
As a student, I want to be able to report another user so that if bullying, spams or an abuse of power were to occur, I know that user will get either a warning or removed from Seams.
Acceptance criteria:
- Any user may report any other user
- In the report, the user my write a message that details their complaint
- In the report, the user may add images as supporting evidence for their report
- In the report, the user can select from option types as "bullying and/or harassment, spam, abuse of power, other"
- When a report is made, a notification will be sent to all global owners
- All global owners can access reports and its details

User Story 3
As a student, I want to be able to reply to a message and also be notified if someone were to reply to my message, so it I can be able to as well as see other people replying to a specific message that was said
Acceptance criteria:
- When a user replies to a message, they are able to see the old message text
- If a user's message is replied to, they are able to see it in the notifications
- Any user (within that channel or dm) can see all the replies to a message

User Story 4
As a student, I want to be able to create polls with a question and options so that I can easily tell what majority of people want for a certain thing
Acceptance criteria:
- The user can have a question for their poll
- The user can create options in the poll
- Other users within the channel or dm that the poll was created in can vote in the poll
- Users can vote for more than one option but not vote more than once for the same option

Use Case 1 – Reporting System
STEP 1: User 1 creates a report by inputting the id of User 2, a description stating "this user has been harassing me through dms and sending inappropriate messages", 3 images with each image being a screenshot of the dm and type being "bullying and/or harassment"
STEP 2: User 1 goes to view the report immediately and sees; completion status to be "incomplete" and completion message is empty
STEP 3: (one day later) User 1 views the report and sees; completion status is complete, completion message being "thank you for your report, this user has now been suspended from Seams"

Use Case 2 – Message Replies
STEP 1: User 1 sends a message, "hello world"
STEP 2: User 2 clicks on the reply button to user 1's message
STEP 3: Seams then asks the user to type their reply
STEP4: User 2 enters the message "Goodbye"
STEP 5: A notification is sent to user 1 stating user 2 has replied to their message
STEP 6: User 1 looks back at their message and can see there is one reply and clicks onto the details of that reply
STEP 7: The details of user 2's reply is displayed to user 1 which shows the message "Goodbye"

[Requirements] Validation

Summary
This section focuses on ensuring our solutions has resolved the users pain points. We have recorded their comments in regard to our solutions below.

User 1 – Reporting System
Comments:

- I like how I can report any user and add a description and images to support my report. It's also good that I can have a report type too
- Being able to see the completion status the the message on what has been done is great too
- One thing I would say is important is how a report is completed. So I would say someone with higher power should complete the report – but just make sure that the person completing the report isn't the same person being reported

User Case 2 – Message Replies

Comments:
- Yes replies definitely makes messaging a lot more easier. It's also really good that you can see any replies to a certain message
- One thing I would add is if user 2 makes a reply, I would want to make sure that this is a "new message". So it shows both the original message and their reply as well. A little bit like sharing messages.

[Design] Interface Design

Summary

Replies: This has been developed to resolve the lack of message interaction. This feature also builds on the currently existing features of messages

Report: This has been developed to resolve the event that inappropriate behaviour is to occur.

Input / Output Types

Name	Type
Ending in _id	Integer
message	string
completion_message	string
description	string
Starting with time_	Integer (unix time stamp)
completion_status	Boolean
images	A list containing jpg images
messages	List of dictionaries, where each dictionary contains types { message_id, u_id, message, time_sent, reacts, is_pinned, replies }
replies	List of dictionaries where each dictionary contains {u_id, message} Note: the message here only contains the message of the reply (NOT both the replied to message and reply)

Interface

Name and description	HTTP Method	Data Types	Exceptions
/message/reply A new message should be sent to the same channel/DM identified by the message_id that contains the contents of both the original message and the reply message. The format does not matter as long as both the original and optional message exist as a substring within the new message. Once sent, this new reply message has no link to the original message, so if the original message is	POST	**Parameters:** {token, message_id, message} **Return Type:** {replied_message_id}	**Input Error:** • Length of message is less than 1 or over 1000 characters • message_id does not refer to a valid message id **Access Error:** • message_id is valid but user is not part of the channel/dm that the message was sent to

edited/deleted, no change will occur for the new message.			
/message/viewreplies	GET	**Parameters:** {token, message_id} **Return Type:** {replies}	**Input Error:** • message_id does not refer to a valid message id **Access Error:** • message_id is valid but user is not part of the channel/dm that the message was sent to
/report/create Creates a report given the u_id of the user to be reported. The user may add a description and images. The type_id refers to the type of report which can be; 0, "other" 1, "bullying and/or harassment" 2, "spam" 3, "abuse of power"	POST	**Parameters:** {token, u_id, description, images, type_id} **Return Type:** {report_id}	**Input Error:** • Length of description is over 1000 characters • u_id does not refer to a valid user • type_id does not reger to a valid type
/report/view If the report has been completed, the completion status will be true and false otherwise. If the completion status is false, the completion message will be an empty string "".	GET	**Parameters:** {token, report_id} **Return Type:** {report_id, completion_status, completion_message}	**Input Error:** • report_id does not refer to a valid report **Access Error:** • report_id is valid but user trying to view the report is not the user who created the report
/report/withdraw A user who created a report may at any time withdraw the report. They cannot withdraw a report that has already been completed	DELETE	**Parameters:** {token, report_id} **Return Type:** {}	**Input Error:** • report_id does not refer to a valid report • report_id is valid but completion_status is true **Access Error:** • report_id is valid but the user did not create that report
/report/complete A global owner may complete a report. When completing the report they will give a brief description of the actions taken and the completion status will be set to true.	PUT (or post ??)	**Parameters:** {token, report_id, completion_message} **Return Type:** {}	**Input Error:** • Length of completion_message is less than 1 or over 1000 characters • report_id does not refer to a valid report • report_id is valid but completion_status is true **Access Error:**

			- The user completing the report is not a global seams owner - report_id is valid but the user who is completing the report is the user being reported

[Design] Conceptual Modelling (State)

State Diagram

Below is a state diagram for the reporting system in Seams.