REQUIREMENTS & DESIGN PLANNING (SDLC)

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COMP1531 20T3

1 ELICITATION

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1. Do you have any issues with the messages aspect of teamwork communication tools?
   ♦ My friend always sends me long responses but I don't want to reply to the whole message just one part of it
   ■ Messages can be too easily flooded in a large group chat and it's lots of effort to find them in the history.

2. What do you have the most trouble with when communicating in your teamwork communication tool for group work?
   ♦ Not being able to upload certain kinds of file.
   ■ Having a coherent team discussion in the chat.

3. What do you think should be added to your current teamwork communication tool to make it easier for communicating in a group setting?
   ♦ Maybe compressing files that people upload? I'm often on a limited internet connection, it would be nice to only download the "heavy" version only if needed.
   ■ Maybe have a system which allows creating temporary chat rooms to talk with people.

4. Is your internet connection often a source of issues?
   ♦ Oh yeah I now that I think about it, during calls. Maybe having a system which generates subtitles during video calls would be helpful.
   ■ It was bad but I recently upgraded, so I it's not a significant problem anymore for me.

2 ANALYSIS & SPECIFICATION - USE CASES

2.1 Compressing uploaded files

User Story

As a user, I want to share files with people, and have them download a compressed version if possible, so that we limit our data usage and have faster downloads.

Acceptance Criteria

1. A compressed file should be equal to or smaller than the original file.

2. If compressing fails or isn't available, then only the original file is downloadable (it becomes the default option)

3. If compressing fails or isn't available, then only the original file is downloadable (it becomes the default option)

4. If a user tries to download a file while it is being compressed, the user will download the original file.

5. Should be able to send any type of file.

Use Case

Use Case: User uploads a file and gets back a compressed version of the same file without any problematic data loss

Scope: file uploading
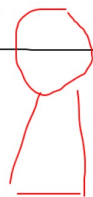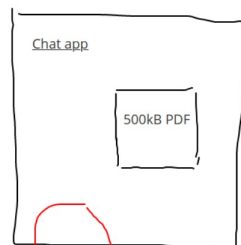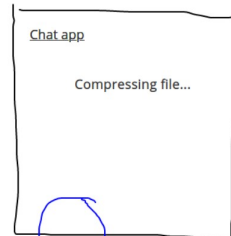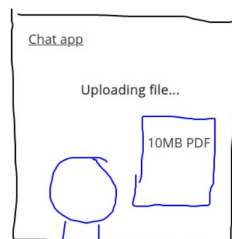**Level**: Primary task
Preconditions: user is logged in
Success End Condition: the file is uploaded and compressed, and displayed on the user interface
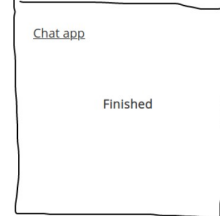**Failed End Condition**: the file is discarded, a special message "Failed to upload file" is sent on the channel.
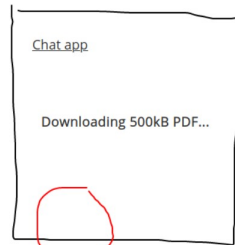**Primary Actor**: Customer
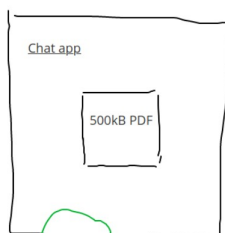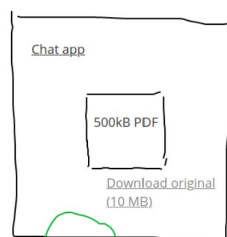**Trigger**: User uploads a file

Use Case (continued)

Chat app

Upload file

10MB PDF

Chat app

Uploading file...

10MB PDF

Chat app

Compressing file...

Chat app

500kB PDF

I want the PDF

Chat app

Downloading 500kB PDF...

Chat app

Finished

Nice! That was quick!

Chat app

500kB PDF

I want the *original* PDF

Chat app

500kB PDF

Download original
(10 MB)

[Holding button down]

Chat app

Downloading 10 MB PDF...

Chat app

Finished

10MB PDF
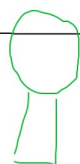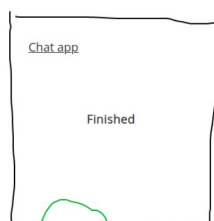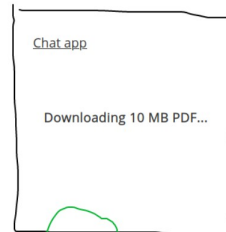
Damn that was long! But now I've got
the original, with the secret metadata

Validation

Calvin: Yeah, compressing files like images, make the experience much smoother, especially on phones.

Omkar: I guess compressing file can be useful, but I can see it being a pain though, because sometimes the files metadata is really important. It should be very easy (as in easy to access) to download the original file.

2.2   Commenting

User Story

As Gordon, I want to communicate with my teammates, so we can collaborate better for our work.

Acceptance Criteria

1. Replier can only use the comment tool by highlighting a previous message first.

2. Sender can click on the highlighted quote of the message to redirect them back to the section of the original message

3. Replier must add a comment to the quoted message to complete using the comment tool

Use Case

Use Case: User comment another user's message and provide comment

Scope: Commenting system
Level: Primary task
Preconditions: At least one message in the chat
Success End Condition: Message sent successfully
Failed End Condition: Message not sent
Primary Actor: User
Trigger: When user select portion of a message

1. User selects portion of message to reply to
2. Server quotes selected message
3. User writes reply to message
4. User clicks send message button
5. Server verifies that message is valid
6. Server sends message

Validation

Calvin: Yes, I think it addressed the issue where I have to spend too much time scrolling through the chat because someone quoted the entire message instead of just a single line.

Omkar: Yeah, it's a lot easier to read when you are able to comment on only the necessary parts. But I guess by not quoting the other parts it can be easy for others to forget about the context.

Unaddressed comment

We didn't address the comment about internet issues because we didn't have the resources to design a subtitle generator of high enough quality that would actually be useful in real life situations.
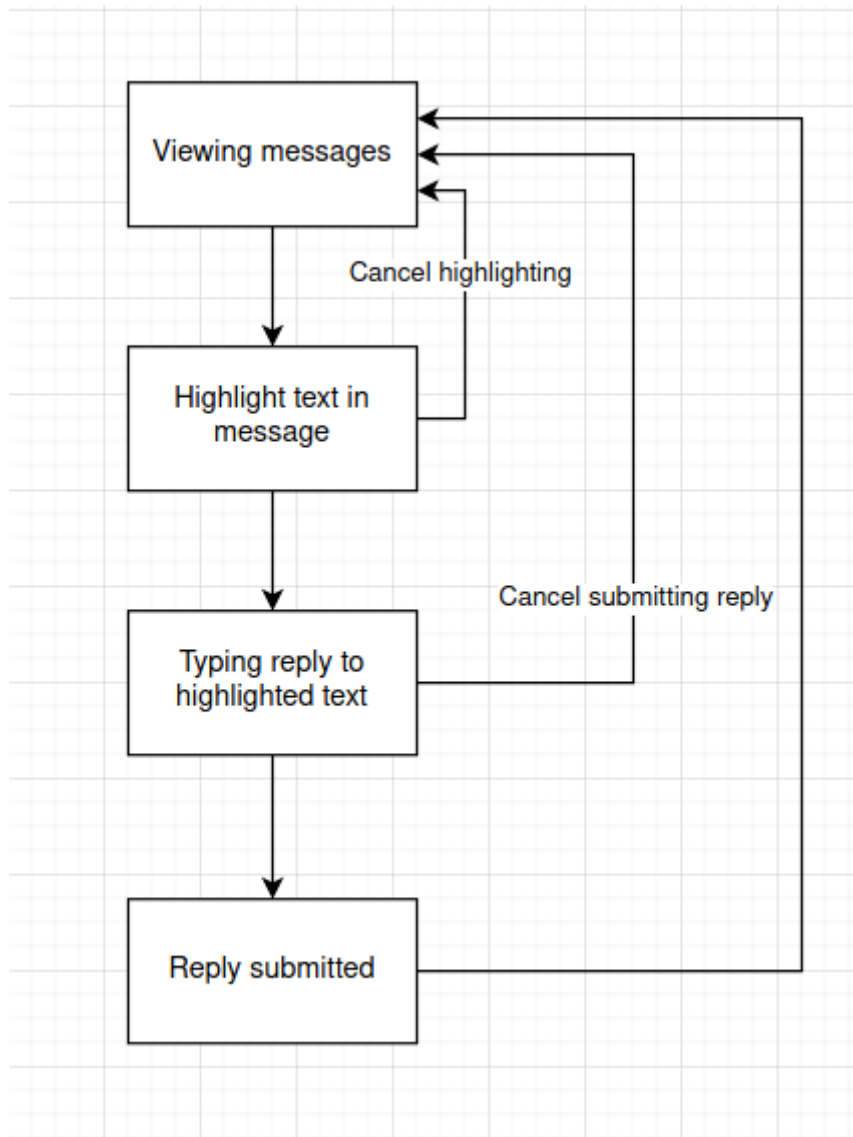
3 INTERFACE DESIGN

3.1 Compressing files

Function Name	HTTP Method	Parameters	Return type	Exceptions	Description
/upload_file	POST	{filename}	{file_url, compression_succeeded}	**ValueError** when any of: • If the filename is invalid	Given a file, conducts lossless compression upon it and returns the new file. If lossless compression will not result in a lower size for the file, returns the original file.
/static/	GET	{is_original, filename}	{compressed_file}	**InputError** when any of: • Filename id is invalid	Retrieves the compressed or original file

3.2 Commenting

Function Name	HTTP Method	Parameters	Return type	Exceptions	Description
/highlight	PUT	{message_id, highlight_start_position, highlight_end_position}	{highlighted_string}	**InputError** when any of: • Message id is invalid • Start or end position is out side of range	Get the portion of the message that the user wish to highlight
/comment	POST	{message_id, highlighted_string, comment, token, channel_id}	{message_id}	**InputError** when any of: • Channel id is invalid • Comment is more than 1000 characters **AccessError** when any of: • When the user is has not join the channel where the message they tried to comment exist	Send a message to the chat that contains highlighted portion of another text and a comment to that segment

4 CONCEPTUAL MODELLING (STATE)

4.1 Compressing PDFs

4.2   Commenting