Project Part 1 – Proposal & Usability Test Report

CMPT 363 @ Simon Fraser University
Spring 2024

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Adapted from Usability Test Plan Template from Usability.Gov
(https://www.usability.gov/how-to-and-tools/resources/templates/usability-test-plan-template.html)

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Part 1: Proposal

The purpose of this course project is to analyse the current usability structure of ChatGPT and further improve the user experience of this AI-driven writing content generator. Our team, Team 19, is going to focus on enhancing the interface for this widely used AI-Text generator.

Currently, according to the experts we are surrounded by such applications, living in the realm of AI-powered applications. Many tech giants are knee-deep in the race for superiority aiming to provide users with the best large-language model. From Meta Llama 2 and Microsoft Bing Chat to Google Bard (LaMDA), tech giants are engaged in delivering cutting-edge AI models. A plethora of AI tools such as GitHub CoPilot for code generation and DALLE-2 for image creation displays the range of AI-based capabilities available today.

However, despite these groundbreaking technological advancements, there are still a lot of things that need to be addressed to make these applications, as the name suggests, intelligent. Some key usability challenges include,

- Grappling with effective communication as users usually struggle with the input so that the generated content does not fall short of the expected outcome.

- Secondly, the feedback that users get, or the options available to rate the output are not enough to define how a user feels about the result and how they would like to enhance it.

- Also navigating through the initial complexities of ChatGPT's interface can sometimes demotivate the wave of first-time users.

Moving ahead, to mitigate these issues, our approach will be methodical and user-centric. We will engage real users in task-based interactions with ChatGPT, analyze their experiences, and compile a usability report. Insights gained from this report will shape the process of redesigning the interface. The redesigned interface may include features such as a guided input bar, enhanced feedback mechanisms, and a more intuitive user interface. Through these iterative steps, we aim to refine ChatGPT's usability and empower users to exploit its capabilities to their full advantage.

Part 2: Usability Test

This document describes a test plan and results from conducting a usability test for ChatGPT. The goal is to conduct the usability test with at least 4 representative users. Data will be used to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved. Insights from this test will be used to establish baseline user performance and user satisfaction levels of the user interface for future design iterations.

Executive Summary

The usability study targets ChatGPT, a sophisticated AI-driven platform designed to simulate human-like conversation and generate text-based content across a variety of domains. Key features that stand out in this application include its natural language understanding, context retention over a series of interactions, and adaptability to diverse writing styles and formats. The intent behind utilising such a tool ranges from providing educational support and technical assistance to creative writing and casual conversation.

The test will be conducted with a diverse group of users to cover a wide spectrum of user types, from those with no prior exposure to AI chatbots to experienced users. By setting up a series of predefined tasks that mirror typical user scenarios, we will observe and measure performance based on task success rates, error rates, time on task, and subjective user satisfaction. These measures will be critical in identifying any usability issues, gauging the system's efficiency, and understanding the overall user experience. The insights gleaned from this study are expected to pinpoint areas for enhancement, leading to a more user-friendly and effective ChatGPT.

The usability test aims to delve into several critical functions of ChatGPT,

- Ease of Onboarding: How new users understand and begin using the application.
- Prompt Articulation: The process by which users input their requests and the sensitiveness of their interaction.
- Response Relevancy and Quality: The accuracy and usefulness of the information or content provided by ChatGPT in response to the input text.
- Contextual Awareness: The application's ability to retain context through a session, particularly in long interactions or follow-up questions.
- Conversation Navigation: The effectiveness of the layout and design in facilitating user tasks such as dealing with old or new conversation logs.
- Error Handling: How the system deals with misunderstandings or ambiguous queries.

Methodology

The usability test for the AI-driven application, ChatGPT, aims to evaluate its effectiveness, efficiency, and user satisfaction. To achieve comprehensive insights, the test will be conducted with a diverse group of participants who represent a user base of ChatGPT.

Participants

A total of 4 participants will be recruited for this study, ensuring a manageable yet diverse pool of data. The recruitment will be done through social media platforms and university or family contacts, targeting a demographic that includes college students, working professionals, and those with a general interest in AI technology.

Eligibility Criteria:
- Age: 18 - 40
- English proficiency: Able to communicate effectively in English.
- Tech-savviness: At least a basic understanding of navigating web applications.
- AI Familiarity: No specific knowledge of AI or chatbots is required, allowing for a range of familiarity from novice to expert.

The participants' responsibilities will be to attempt to complete a set of representative task scenarios presented to them in as efficient and timely a manner as possible, and to provide feedback regarding the usability and acceptability of the user interface. The participants will be directed to provide honest opinions regarding the usability of the application and to participate in post and pre-session subjective questionnaires and debriefing.

Participants will be selected based on their interest in participating and their availability during the testing period. No prior experience with ChatGPT is required, ensuring that the test results reflect the usability for both new and experienced users.

Procedure

The usability test will be conducted in a controlled environment, such as a university computer lab, ensuring a quiet setting for participants to focus on the tasks. Participants will use standard desktop computers with the latest stable version of the ChatGPT application running on a web browser. The participant’s interaction with the application will be monitored by the facilitator seated in the same location. Note-takers and data logger(s) will monitor the sessions in person.

Each session will begin with a facilitator briefing the participant on the nature of the study, emphasising that the test aims to evaluate the application, not the user's abilities. An informed consent form will be provided, which participants must sign to acknowledge their voluntary participation and the right to withdraw at any time.

A pretest questionnaire and background demographic information will be administered to collect data on participants' age, occupation, and familiarity with AI technologies. (Attached in Appendix)

Upon commencement of each task, participants will be asked to read the task description aloud from a printed copy. Time-on-task measurements will start as soon as the participant begins the task. The facilitator will be present to offer clarification on the tasks but will not assist in task completion unless necessary.

The 'think-aloud' protocol will be employed, with participants encouraged to verbalize their thoughts and actions while interacting with ChatGPT. This will provide valuable insights into their decision-making processes and any usability challenges they encounter.

The facilitator will record observations, and note-takers will capture detailed user behaviour, verbal comments, and any system actions or errors. Data loggers will ensure that technical metrics such as response time and error rates are accurately captured.

Following each task, participants will complete a post-task questionnaire to assess their satisfaction with the specific functionality of ChatGPT they interacted with. This questionnaire will also invite open-ended responses for participants to elaborate on their experiences. (Attached in Appendix)

Usability Tasks

Due to the range and extent of functionality provided in a selected application, and the short time for which each participant will be available, the tasks are the most common and relatively complex of available functions. The tasks are identical for all participants of a given user role in the study. (Attached in Appendix)

1.) Onboarding ChatGPT

Detailed Task
Participants will start by creating a new account or signing in to their existing accounts, setting up their profile, and engaging with an initial tutorial or guide. This task is designed to evaluate the user's first encounter with the application, focusing on the simplicity of account creation, the clarity of instructions, and measuring how quickly a user grasps the idea of how an AI-based text generator works.

Why It's Selected
First impressions are critical in forming an opinion about the application's interface. This task aims to ensure users feel welcomed and can navigate the initial setup with ease, laying a positive foundation for their ongoing interaction with ChatGPT.

2.) Effective Communication and Understanding

Detailed Task
Ask ChatGPT for which is the most purchased car brand in the world or a specific city. Based on the results, request suggestions for where to buy this car and what are its features. Choose any one suggested feature of that car and ask for more information regarding that aspect. Finally, ask about some customer reviews for that brand and particularly for that model of car and also try asking whether you should buy it or not.

Why It's Selected
The core functionality of ChatGPT revolves around understanding and responding to user inputs. This task is essential for assessing how simply users can communicate their needs and how effectively the application guides them in doing so. Whether it provides any prompts for help or not.

3.) Quality and Relevancy of responses

Detailed Task
Ask the user to find a summary of any particular book the user has read. After getting a summary, ask an unrelated question about the weather of a particular place. Moving ahead, they should ask a more detailed question about a specific aspect of the book or a particular instance in

the book. Lastly, they should again seek insights or analysis, about the weather in the upcoming week. All these questions should be asked in an ongoing chat and not the new chat.

Why It's Selected
The value of ChatGPT to users is significantly determined by the quality and applicability of its responses. This task aims to measure the application's competency in delivering meaningful and contextually appropriate content. Also, it checks if the application goes off the topic during conversation and whether it can retain the previous contexts.

4.) Interacting with Chat Logs

Detailed Task
Ask the user to traverse to chat history section of the app. Further, request them to choose any particular old chat and ask them to delete it. It can be either a single chat, a thread of chats or multiple chats. Finally, ask the users to make sure their action was completed and confirm that the chats have been deleted.

Why It's Selected
This task is crucial for assessing the application's user interface in terms of managing data privacy. It tests the intuitiveness of the deletion process, the application's safeguards against accidental deletion (like confirmation prompts), and the overall user experience related to data management.

Usability Metrics

During the usability test, capturing diverse metrics will be crucial for a complete analysis of the application's performance and user experience. These include **task completion rate**, to assess the success rate of users completing specific tasks, which can be quantitatively measured by observing if the task is completed without external assistance or not. The second aspect measured will be the **time on task**, which measures the duration taken by participants to complete each task, collected through manual timing using a stopwatch. This provides insights into the efficiency and effectiveness of the interface. Further ahead, we monitor the **error rate**, to track the number of fumbles or incorrect actions taken by users during tasks. These are recorded manually by the facilitator who logs user actions, highlighting areas where the interface may be confusing or leading to mistakes. Finally, we plan to observe **user satisfaction**, through post-task surveys asking participants to rate their experience, their likes and dislikes, and asking them to offer qualitative feedback on user satisfaction and ease of use.

These metrics are valuable for identifying usability issues, measuring the application's effectiveness, and understanding user’s perceptions. Evaluating these metrics can then further help make the targeted improvements to enhance the overall user experience.

Key Observations

In the usability study conducted on the ChatGPT application, several key observations were made across different tasks designed to evaluate the ease of onboarding, effective communication, response quality, and conversation deletion capabilities.

Onboarding: Users generally found the account setup and initial tutorial to be straightforward, indicating effective design in guiding new users through the application. However, some participants encountered difficulties with understanding certain features, suggesting areas where additional guidance or simplified instructions could improve the onboarding experience.

Prompt Response and Effective Communication: This task revealed differences in users' ability to effectively communicate with ChatGPT. Many participants faced confusion and were not confident while framing their queries, a notable fraction struggled with proper English sentence formation and vocabulary that could get them the desired response. Also, some people used the enter key to go to the next line to format their queries but ended up submitting half-written queries.

Quality of Responses: The application demonstrated strong performance in delivering accurate and contextually relevant responses across a wide range of topics. Nevertheless, in complex scenarios such as while changing the conversation topics, it required detailed follow-ups. Some users experienced a decline in response quality and were frustrated by getting repeated outputs that were contextually inappropriate.

Managing Chat History: Participants appreciated the functionality to delete old conversations, finding it relatively easy to locate and remove unwanted chats. However, feedback indicated that the process could be made more intuitive, with suggestions for a clearer indication of the action and a simplified deletion flow to enhance user confidence in managing their data privacy. Also, it was difficult and laborious to make sure if the chats were deleted, amongst all the other chats.

Throughout these tasks, metrics such as task completion rate, time on task, error rate, and user satisfaction were carefully monitored. High task completion rates and user satisfaction scores were observed, indicating a positive overall user experience. Time on task and error rates varied, with some tasks highlighting opportunities for interface and interaction optimisation to reduce cognitive load and tethered user actions.

These observations, strictly separated from interpretations or conclusions, provide a foundational understanding of the user interaction dynamics with ChatGPT.

Interpretations of Results

The usability study conducted on the ChatGPT application provided valuable insights into its strengths and weaknesses across various tasks. To provide a comprehensive analysis, it's important to consider both the frequency and severity of each issue identified during the study.

Onboarding: This issue was observed with moderate frequency but had low to moderate severity, indicating a need for additional guidance. The login/sign-up interface was at times difficult to understand for unfamiliar users. Moreover, the redirection to different pages for credential verification during login was also somewhat tedious. The overall use of jargon made the interface slightly hard to comprehend.

Effective Communication: There were differences in users' ability to effectively communicate with ChatGPT, with some struggling to formulate prompts. Also, it was difficult to format the input text due to some complexities of locating and typing in the text box. Moreover, the enter key functionality is an issue as it can not be used to go to the next line but used just to submit a prompt. This issue occurred frequently and had moderate to high severity, as it directly impacted users' ability to interact with the system.

Response Relevancy and Quality: In complex scenarios requiring detailed follow-ups, there was a decline in response quality. This might be due to a lack of retention capabilities of the AI platform. This issue occurred infrequently but had high severity, as it affected the core functionality of the application and user satisfaction.

Managing Chat History: This issue occurred frequently but had low to moderate severity, as it mainly affected user experience in managing data privacy. Navigating through the deletion process was time-consuming and laborious due to the non-consistent interface. Moreover, due to a lack of proper date-wise or user-wise organization of chats, it was difficult to confirm if the chat had been deleted.

Based on these observations, the following important changes are recommended to improve the system's design:

1. Enhanced Guidance: Provide additional guidance and simplified instructions during account setup to help users better understand the application's features thus reducing user confusion. Moreover, gives a quick tour of the necessary functionalities of the app for first-time users to make them feel comfortable with the interface.

2. Communication Assistance: Implement clearer interaction cues and examples of effective communication strategies within the application to assist users in formulating prompts effectively, and getting desired outcomes. There should be a feature that auto-completes the

queries using words that can be identified by the AI. Also, a guide can be included, that teaches users by giving examples of how to make effective prompts.

3. AI Response Refinement: Enhance AI's understanding and context retention capabilities, particularly in handling complex scenarios requiring detailed follow-up questions. Maybe also add a feature to keep track of some recent conversations, so if the user changes the context then it can be identified by the system. Also, try to maintain high-quality responses and improve user satisfaction and less frustration.

4. Streamlined Deletion Process: Simplify the conversation deletion process by providing clearer indications of actions and a more consistent deletion flow. There can be a confirmation prompt that confirms that the action has been completed. All this can help enhance user confidence in managing their data privacy.

Summary & Conclusions

The usability study on ChatGPT revealed insights into its performance across various tasks, highlighting the strengths and weaknesses of the application. The test aimed to assess various aspects of ChatGPT's functionality, including onboarding, effective communication, response quality, and conversation management. We used metrics such as task completion rate, time on task, error rate, and user satisfaction to analyze the interface. By analyzing both the frequency and severity of identified issues were identified effectively. Participants encountered difficulties with certain features, suggesting areas where additional guidance or simplified instructions could improve the onboarding experience. While ChatGPT demonstrated strong performance in delivering accurate and contextually relevant responses, some users experienced a decline in response quality in complex scenarios. Furthermore, while participants appreciated the functionality to delete old conversations, navigating through the deletion process was identified as time-consuming and laborious.

Conclusively, based on all these observations, recommendations were made to improve ChatGPT's design, including providing enhanced guidance during onboarding, implementing clearer communication examples and a guide, improving context retention capabilities, and simplifying the conversation deletion process. These recommendations aim to enhance the overall user experience and usability of ChatGPT.

Appendix

Demographic Information:
Age: _____
Occupation: _____
How familiar are you with AI and chatbot technologies? (Not familiar at all, Somewhat familiar, Very familiar)

Pre-Test Questions:
Have you used any AI-based chat applications before? If yes, please list them.
What are your expectations from an AI-based chat application?

Printed-Tasks:

1.) You are a new user of the ChatGPT AI platform. Please make a new user account on this platform using your preferred credentials. If you already have an account, please log in to that account. Secondly, navigate to the home screen of this AI platform after the signup process.

2.) You are a non car enthusiast, who is looking to buy a car. Your first task is to ask ChatGPT which is the most purchased car brand in the world or your city. Based on the results, request suggestions for where to buy this car and what are its features. Choose any one suggested feature of that car and ask for more information regarding that aspect. Finally, ask about some customer reviews for that brand and particularly for that model of car and also try asking whether you should buy it or not. Ask these as effectively as possible aiming to receive the most relevant responses.

3.) You are fond of reading books and are looking to recall the plot of a book you read a long time ago. Ask the application to find a summary of any such particular book. After getting a summary, ask an unrelated question about the weather of a particular place. Moving ahead, then ask a more detailed question about a specific aspect of the book or a particular instance in the book. Lastly, they should again seek insights or analysis, about the weather in the upcoming week. All these questions should be asked in an ongoing chat and not the new chat.

4.) Finally, your last task is to manage these previous conversations you had with the application. Traverse to the chat history section of the app. Further, choose any particular old chat and try to delete it. It can be either a single chat, a thread of chats or multiple chats. Lastly, make sure your action was completed and confirm that the chats have been deleted.

Task-Specific Questions:

Please answer the following questions after each of the above tasks you perform.
On a scale of 1-5, how easy was it to start the task? (1 being very difficult, 5 being very easy)
How easy and logical were the instructions provided for the task? (1 being not simple at all, 5 being very simple)
Did you encounter any problems while performing the task? If so, please briefly describe.
On a scale of 1-5, how would you rate the difficulty of the task? (1 being very easy, 5 being very difficult)
How satisfied were you with the way the task was completed/not completed? (1 being not satisfied at all, 5 being very satisfied)

Post-Test Questions:

What did you like most about using ChatGPT?
What did you like least about using ChatGPT?
Were there any features or functions you expected to find but didn't?
On a scale of 1-5, how would you rate the overall usability of ChatGPT? (1 being very poor, 5 being excellent)
How likely are you to use ChatGPT again? (1 being not likely at all, 5 being very likely)
Do you have any suggestions for how ChatGPT could be improved?

User 1: Hoang Pham, 26, UI analyst

1. Age: 26
2. Occupation: UI analyst
3. Familiarity with AI and chatbot technologies: Very Familiar

Pre-Test Questions:
4. Yes, I've used ChatGPT and Google Assistant.
5. I expect it to understand my questions and give me accurate, helpful responses.

Task-Specific Questions:
5 (1-5)
5 (1-5)
I had a bit of trouble getting it to understand a complex question about a particular feature of the car.
3 (1-5)
4 (1-5)

Post-Test Questions:
I liked that it could generate prompt writing pretty well.
Sometimes it didn't understand the context if I switched topics too quickly.
I thought it would have a better memory of past interactions.
4 (1-5)
4 (1-5)
It could use some improvement in maintaining context over multiple interactions.

User 2: Viet, 22, Software Engineer

1. Age: 22
2. Occupation: Software Engineer
3. Familiarity with AI and chatbot technologies: Very familiar

Pre-Test Questions:
Yes, many, including Alexa, ChatGPT, and various customer service bots.
Fast and accurate information retrieval, and ability to assist with marketing-related queries.

Task-Specific Questions:
5 (1-5)
5 (1-5)
No problems, it went smoothly.

2 (1-5)
5 (1-5)

Post-Test Questions:
Its ability to generate answers in any domain is fantastic.
I felt that some responses were too generic and needed customisation.
More industry-specific knowledge would be beneficial.
4 (1-5)
5 (1-5)
Incorporate industry-specific modules that can be turned on based on user preference.

User 3: Kevin, 20, Computer Science Student

1. Age: 20
2. Occupation: Computer Science Student
3. Familiarity with AI and chatbot technologies: Very familiar

Pre-Test Questions:
Yes, including GitHub Copilot, Replika, and Duo-lingo bots.
Technical depth and ability to assist with coding-related tasks.

Task-Specific Questions:
3 (1-5)
4 (1-5)
It struggled with some specific problems when changing the context of the conversation.
3 (1-5)
3 (1-5)

Post-Test Questions:
The potential for answer generations is quite good.
The lack of understanding of some detailed jargon.
A better understanding of off-topic conversation.
3 (1-5)
3 (1-5)
Needs a better understanding of less common terms.

User 4: Duy, 31, Accountant

1. Age: 31
2. Occupation: Accountant
3. Familiarity with AI and chatbot technologies: Somewhat familiar

Pre-Test Questions:
No, this is my first time.
I want it to help me manage financial forecasts and budgeting more efficiently.

Task-Specific Questions:
4 (1-5)
3 (1-5)
I wasn't sure how to phrase my queries for proper responses.
4 (1-5)
4 (1-5)

Post-Test Questions:
It provided diverse scenarios for different topics.
It repeated some text which made it seem less innovative.
Tools to refine and predict the next user questions.
4 (1-5)
4 (1-5)
It would be great if there was a feature to refine the output more contextually.

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This usability study is completely voluntary. You may decline to answer any question or stop the study at any time and for any reason. Any data gathered up to the point of stopping the study will be destroyed. If you are a student at Simon Fraser University, this interview will have no effect on your grades in any courses. The only data we will gather will be written notes. These notes will only be seen by our team members, our instructor, and our teaching assistant and will be destroyed at the end of the course. Your name will not be attached to any gathered data, but rather a unique ID code such as "Participant A".

Concerns or Complaints
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, Office of Research Ethics at jtoward@sfu.ca or 778-782-6593.

Do you agree to the following: I have read and understood the subject information and consent form and freely consent to participate.

(Yes)

No

Selecting yes indicates that you consent to participate in this study and that you are 19 years of age or older. Select no if you wish to decline or are under 19 years of age.

CMPT 363 Online Usability Testing Consent Form (v1.0 August 17, 2016)

Name: hoang pham

Signature: 

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Name: Duy

Signature: 

Project Part 2 – User Requirements & Design Sketches

CMPT 363 @ Simon Fraser University
Spring 2024

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Part 1: Problem Statement

The purpose of this course project is to analyze the current usability structure of ChatGPT and further improve the user experience of this AI-driven writing content generator. Our team, Team 19, is going to focus on enhancing the interface for this widely used AI-Text generator.

Our design project aims to improve the usability of ChatGPT. Building upon the results of our usability testing, we plan to simplify the onboarding process, provide clearer communication options, refine the AI usage capabilities, and make data management processes, such as conversation deletion, more straightforward. Additionally, we intend to prioritize making chat manipulation effortless, allowing users to navigate and modify conversations seamlessly. Furthermore, we plan to introduce features that cater to advanced users of ChatGPT 4, unlocking advanced capabilities and improving overall performance. Moreover, we aim to incorporate various interaction features that cater to a diverse range of users with different preferences and accessibility requirements. We also recognize the importance of user privacy and plan to introduce features that offer users better control over their data and interactions while using ChatGPT.

Through these enhancements, we aim to create a more intuitive and versatile user interface that empowers users to harness the full potential of ChatGPT across different contexts and user profiles. However, despite all these technological advancements, there is still much work to be done to make these applications truly intelligent. We hope that by taking these iterative steps, we can refine ChatGPT's usability and empower users to exploit its capabilities to their full advantage.

Part 2: Interviews with Potential Users

Goal of the Interview Study

The primary goal of this interview study was to gain a deeper understanding of user needs, preferences, and challenges associated with interacting with ChatGPT. The focus was on exploring the diverse contexts in which users engage with the AI, the specific tasks they perform, and any pain points they encounter in the process. This information is crucial for designing a user interface that is both intuitive and responsive to the varied requirements of potential users.

Participants

Five individuals were selected for the interviews, each representing a distinct user group to ensure a comprehensive understanding of diverse user experiences:

- P1: A UX Developer in their 40s, with half a year of experience using ChatGPT for professional purposes such as designing elements, brainstorming and coding assistance.

- P2: A software engineer in their early 50s, who has been utilizing ChatGPT for a year mainly for coding solutions and generating ideas for heading software projects.

- P3: A SFU student of 20, who has been using ChatGPT for eight months primarily for academic purposes, including studying various subjects and research.

- P4: An Investment Banker in their late 30s, who started using ChatGPT four months ago to explore its potential in financial analysis and risk management.

- P5: A Chef in their late 20s, with almost no experience using ChatGPT for dietary purposes such as finding calories, recipes and ingredients.

Procedure, Rationale for Questions

The interviews were conducted individually, following a semi-structured format to allow for flexibility in responses. Each session lasted approximately 30 minutes and was carried out remotely via video conferencing.

Procedure**:** The interview began with an introduction and an explanation of the study's purpose. Participants were assured of their anonymity and the confidentiality of their responses. The interview questions were then presented, covering background and experience, context of use, current tasks, frustrations and pain points, and desired improvements.

Rationale for Questions**:** The questions were designed to elicit detailed information about the participants' experiences with ChatGPT. Understanding their background and experience helped to contextualize their responses. Questions about the context of use and current tasks aimed to uncover how and why participants interact with ChatGPT. Inquiring about frustrations and pain points was crucial for identifying areas for improvement. Lastly, questions about desired improvements provided insights into user expectations and preferences for future UI enhancements.

Interview Findings

Key insights derived from the interviews include:

Background and Experience: All participants had varying levels of experience with ChatGPT, using it for a range of activities from professional and personal to academic tasks.

Context of Use: The primary context of use differed among participants, with P1, P2, and P4 using ChatGPT mainly for work-related tasks, P3 using it predominantly for study purposes and P5 for culinary purposes.

Current Tasks: Common tasks performed with ChatGPT included seeking assistance with coding, brainstorming ideas, financial analysis, understanding complex academic concepts and researching food.

Frustrations and Pain Points:

1. Inability to Manage Chat History:

- Participants expressed frustration with managing their chat history effectively. They found it hard to navigate through long conversations and wished for a more streamlined approach to deleting and retrieving important information.

- P1 highlighted the inconvenience of not being able to delete specific parts of a conversation, leading to the need to clear the entire chat history.

- P2 also mentioned the challenge of quickly referring back to important discussions without having to scroll through everything.

2. Privacy Concerns:

- Several participants expressed concerns about privacy, especially when discussing sensitive topics or confidential information. Also, it was difficult to accommodate guest users due to privacy issues.

- P2 mentioned the desire for more private conversations where chats aren't stored, providing peace of mind regarding digital footprint.

- P4 also highlighted the importance of having options for private discussions without leaving a trace, particularly when dealing with sensitive financial information.

3. Limitations in Input Support:

- P3 mentioned facing limitations when working with mathematical equations due to the lack of support for Greek symbols, hindering their ability to effectively communicate complex concepts.

- P1 also expressed a desire for a more accessible way of processing inputs using voice to help multitask effectively.

Desired Improvements:

1. Selective Chat History Management:

- Participants unanimously expressed the need for improved chat history management features, including the ability to selectively delete specific parts of a conversation.

- P1 suggested the ability to pick and choose which chats to keep or discard, rather than having to clear the entire chat history.

- P3 proposed a feature to clear out unnecessary bits of chat history, making it easier to revisit important conversations.

2. Enhanced Privacy Options:

- Users expressed a desire for enhanced privacy options to facilitate confidential discussions.

- P2 and P4 both highlighted the importance of having private conversation modes where chats aren't stored, providing peace of mind when discussing sensitive topics.

- P4 specifically mentioned the need for more privacy options to ensure confidentiality when dealing with sensitive financial information.

3. Improved Input and Voice Support:

- Participants, particularly P3, expressed the need for improved input support, especially when working with mathematical equations.

- P1 suggested enhancements to support voice interaction and streamline input methods for typing heavy prompts or effective multitasking.

4. Advanced Search Functionality:

- Participants expressed a desire for enhanced search functionality within chats to quickly retrieve specific information or past conversations.

- P1 and P3 highlighted the importance of being able to quickly pull up past explanations, code snippets, or examples with a search tool, facilitating studying and revisiting important discussions.

5. Customization Options:

- P5 mentioned the desire for customization options, such as customizable avatars and colour themes, to personalize their experience and make it more enjoyable.

- P1 expresses how ChatGPT4 has limited prompts but it is not possible to see how many prompts are yet available to use thus leading to over-complicated prompts.

6. Collaboration Features:

- P2 and P4 expressed interest in collaboration features and sharing features such as exporting chats as Word or PDF documents for others to work on. It would allow multiple users to engage with ChatGPT simultaneously.

- P2 envisioned a virtual whiteboard-like environment where team members could contribute in real-time, enhancing brainstorming sessions.

- P4 suggested features to save and share entire conversations, making it easier to collaborate on reports or share insights with colleagues.

7. Reminder Integration:

- P5 proposed integration with calendar apps to insert plans for the week directly from ChatGPT and receive reminders, enhancing time management and scheduling capabilities for users with busy schedules.

Conclusion

The interviews offered invaluable insights into the varied needs and preferences of ChatGPT users across diverse contexts and tasks. By delving into the experiences of individuals from different professional backgrounds and educational pursuits, we've gained valuable insights that will undoubtedly shape the future development of ChatGPT's user interface.

The findings will inform the development of a user interface that is more tailored to the specific requirements of users, enhancing their overall experience with the AI system. Also, it will directly shape the further categorizing of what features can be added and which can be excluded and why. By addressing frustrations and implementing desired improvements, ChatGPT aims to provide a more tailored and efficient user experience for individuals across various domains and disciplines.

Part 2: Tentative list of requirements

1. Absolutely must include :

- Selective Chat Deletion: This feature allows users more flexibility in managing their conversation history. Instead of the current limitations—deleting chats one by one, it enables selective deletion, which is more efficient and user-friendly, especially for organizing or removing specific conversations.

- Incognito Mode: An incognito or vanishing mode enables users to have conversations that are not stored or recorded, offering an extra layer of privacy. This is particularly useful for sensitive inquiries or when users prefer to leave no trace of specific interactions, aligning with growing concerns over digital privacy and security. Also useful for guest users using the same host account.

- Multi-Modal Interaction: By adding voice capabilities, the platform becomes more accessible to a wider range of users, including those who are visually impaired or prefer audio communication over text. This enhances usability and inclusivity, making the platform more adaptable to various user needs and preferences. Moreover, it allows effective multitasking.

- Usage Tracker: Given the limit on GPT-4 commands within a specific timeframe, a visible counter of remaining commands helps users manage their usage more effectively. This transparency ensures users can prioritize their queries and avoid unexpected interruptions in service.

- Chat Search Functionality: The ability to search previous chats allows users to quickly retrieve information from past conversations, improving the efficiency of information retrieval and enhancing the overall user experience by eliminating the need to manually scroll through extensive chat histories.

2. Should include :

- Pin Important Chats: Enable users to keep important conversations readily accessible by allowing them to pin chats at the top. This functionality is invaluable for organizing significant discussions and ensuring quick access without the need to navigate through extensive chat histories. It's particularly beneficial for managing ongoing tasks or retaining critical information within easy reach.

- Collaborative Mode: Introduce the ability for multiple users to interact with ChatGPT in real-time, enhancing teamwork and collective brainstorming capabilities. This feature not only fosters collaborative creativity but also streamlines productivity by allowing team members to contribute insights, questions, and feedback simultaneously, leveraging the collective intelligence in a single chat environment.

- Export Conversations: Offer users the flexibility to save their chat interactions in various formats, including PDF, DOCX, and TXT. This capability is essential for documentation, sharing, and archiving purposes, catering to a wide range of needs from academic to professional settings. Whether it's for preserving evidence, compiling research, or sharing information, the ability to export conversations ensures that valuable interactions are not lost and can be utilized effectively outside the chat environment.

3. Could include :

- Addition of Mathematical Greek Symbols: This feature would simplify the input of mathematical and scientific symbols, enhancing the platform's utility in academic and research settings.

- Paint Feature: Incorporating a drawing tool within the chat interface would allow users to visually express ideas, aiding in educational explanations and creative brainstorming.

- Customizable Avatars for ChatGPT: Offering customizable avatars for ChatGPT interactions could personalize and enhance user engagement, making the chat experience more relatable and enjoyable.

4. Exclude :

- Changing the Color Theme: While aesthetically pleasing, prioritizing functionality and user experience over cosmetic changes is crucial. This exclusion ensures focus remains on core features that enhance usability and accessibility. Also selection of various colour themes can make the interface hard to incorporate and unpleasing.

- Automatic Sharing of Chat Histories: To safeguard user privacy and data control, features that could automatically share chat histories without explicit consent should be avoided.

- Deep Integration with Personal Devices: Limiting ChatGPT's access to personal device functionalities like calendars, email or message management is essential for maintaining user privacy and security. This approach ensures a clear boundary between the app's features and the user's data.

Part 3: Low-Fidelity Design Prototypes

Written Rationale

Our project aims to address the current limitations in the user interface of ChatGPT, an AI-driven chatbot widely used for various purposes, including education, coding assistance, and information retrieval. Feedback from users has highlighted several areas for improvement, particularly in terms of chat management, user privacy, accessibility, and interaction efficiency. To enhance the user experience, we intend to prototype a more intuitive and feature-rich interface that addresses these concerns.

The proposed application will incorporate six new features to meet the identified user requirements:

1. Incognito Mode: This feature will allow users to engage in conversations that are not saved or recorded, providing an additional layer of privacy for sensitive discussions. Also enabling guest users to use the host account without leaving any digital footprint.

2. Voice Interaction: By introducing voice capabilities, the application will become more accessible to a broader range of users, including those who prefer audio communication or have visual impairments. It will also allow effective multitasking.

3. Select Chats to Delete or Share: Users will have the flexibility to selectively delete or share specific chat conversations, enhancing their ability to manage chat history efficiently.

4. Search Chat: A search functionality will enable users to quickly find and retrieve information from past chats, improving the efficiency of information retrieval.

5. Prompt Count for GPT-4 Users: A visible counter will display the remaining number of prompts available to GPT-4 users, helping them manage their usage more effectively.

6. Pin Chats to Top: Users can pin important conversations to the top of their chat history, ensuring easy access to critical information without extensive navigation.

By integrating these features into the ChatGPT interface, we aim to create a more user-friendly, secure, and versatile platform that caters to the diverse needs of its users.

First Version

This initial version introduces key features such as prompt count for GPT-4 Users, multi-chat selection and deletion, chat history search, and speech-to-text input. While this was our first trial and included only four new features, it provided a solid foundation for further development. However, due to space constraints and the need for additional features, we decided to iterate on this design. (Attached in Appendix)

Second Version

In our second iteration, we removed the chat history search feature, as we determined that finding specific chats should not pose a significant challenge, rendering this feature unnecessary. Instead, we introduced a search bar within each conversation, allowing users to easily search for specific messages. We also replaced the select box next to each chat with an Edit button to reduce confusion. In Edit mode, users can select multiple messages for sharing or deletion. The prompt count for GPT-4 users was repositioned to the centre for better visibility. However, this version still lacked the features and required more detail, prompting us to develop a third, more refined prototype. (Attached in Appendix)

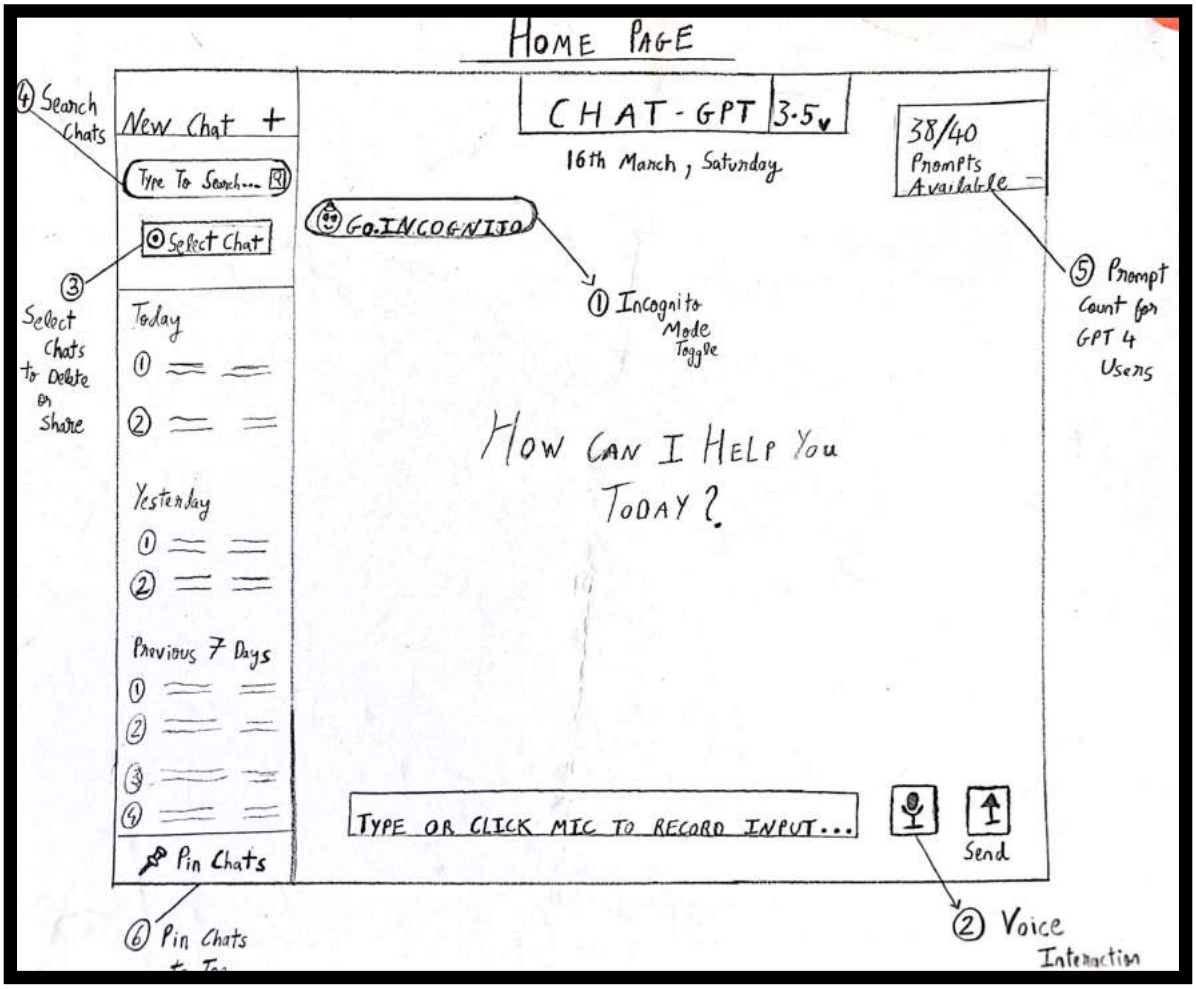
Third Version

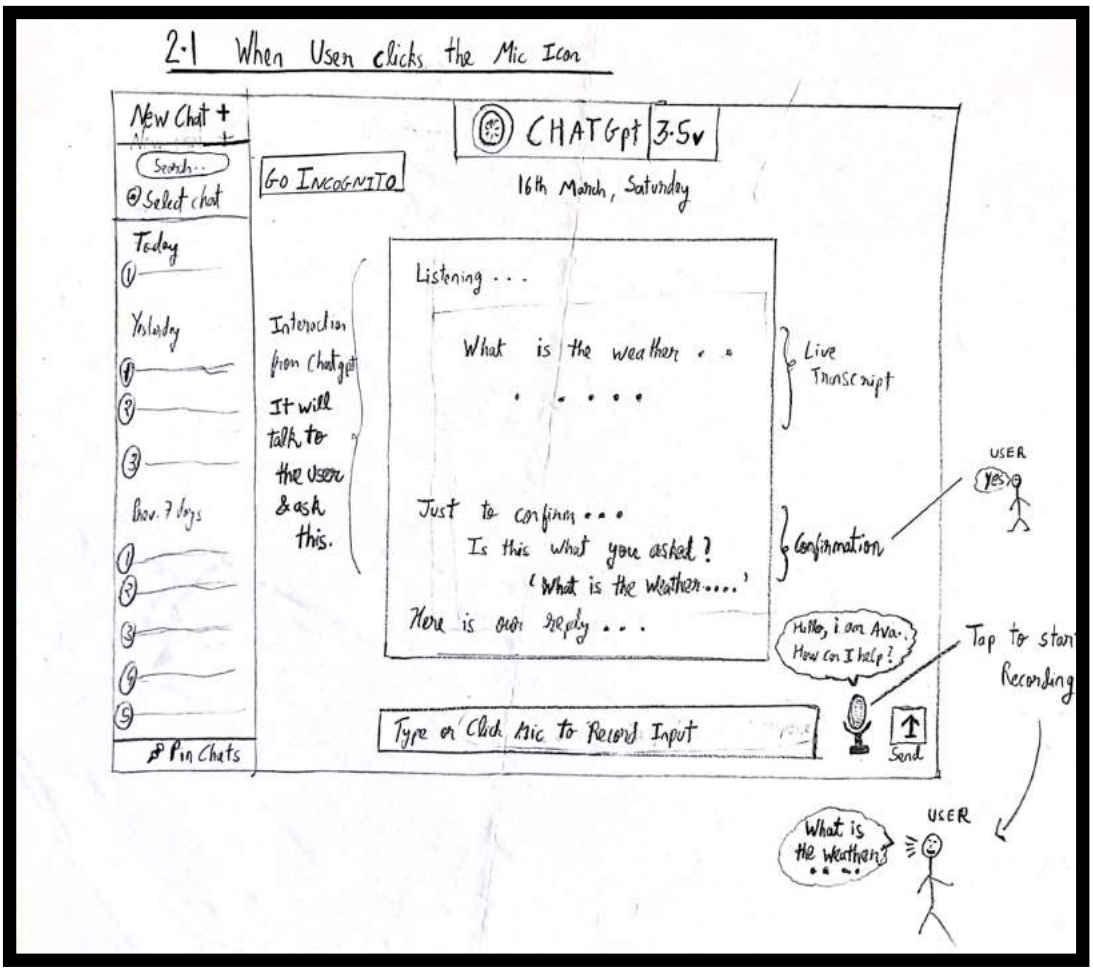
In this version, we introduced the crucial feature, Vanish mode profusely, which can be toggled using a switch button. The background colour changes when switching modes to indicate the current mode. The prompt count was moved to the left to avoid being obscured by the search bar. The Edit Chat button was relocated to the bottom, above the username, for a more logical placement. However, this design occupied too much space in the conversation area, leading us to make further adjustments and add a new feature for the final version. (Attached in Appendix)

Final Version

In the final version, we moved the search bar back below the "Add New Chat" button and enhanced its functionality to search for conversations with keywords in the title or chats that mention keywords. We renamed Vanish mode to Incognito mode, a term more familiar to web users, and positioned the toggle button at the top left of the conversation. We also introduced a new feature, "Pin Chats to Top," and relocated the Select Chat button under the search bar. The Pin Chats button is located at the bottom left corner, below the username, providing a comprehensive and user-friendly interface that addresses the needs identified in our user interviews.

DETAILED FINAL PROTOTYPE




2.1 When User clicks the Mic Icon
New Chat +
Search...
Select chat
Today
Yesterday
Prev. 7 days
Pin Chats
GO INCOGNITO
CHATGpt 3.5v
16th March, Saturday
Interaction from Chatgpt It will talk to the user & ask this.
Listening . . .
What is the weather . . .
Live Transcript
Just to confirm . . .
Is this what you asked?
'What is the weather....'
Confirmation
Here is our reply . . .
USER
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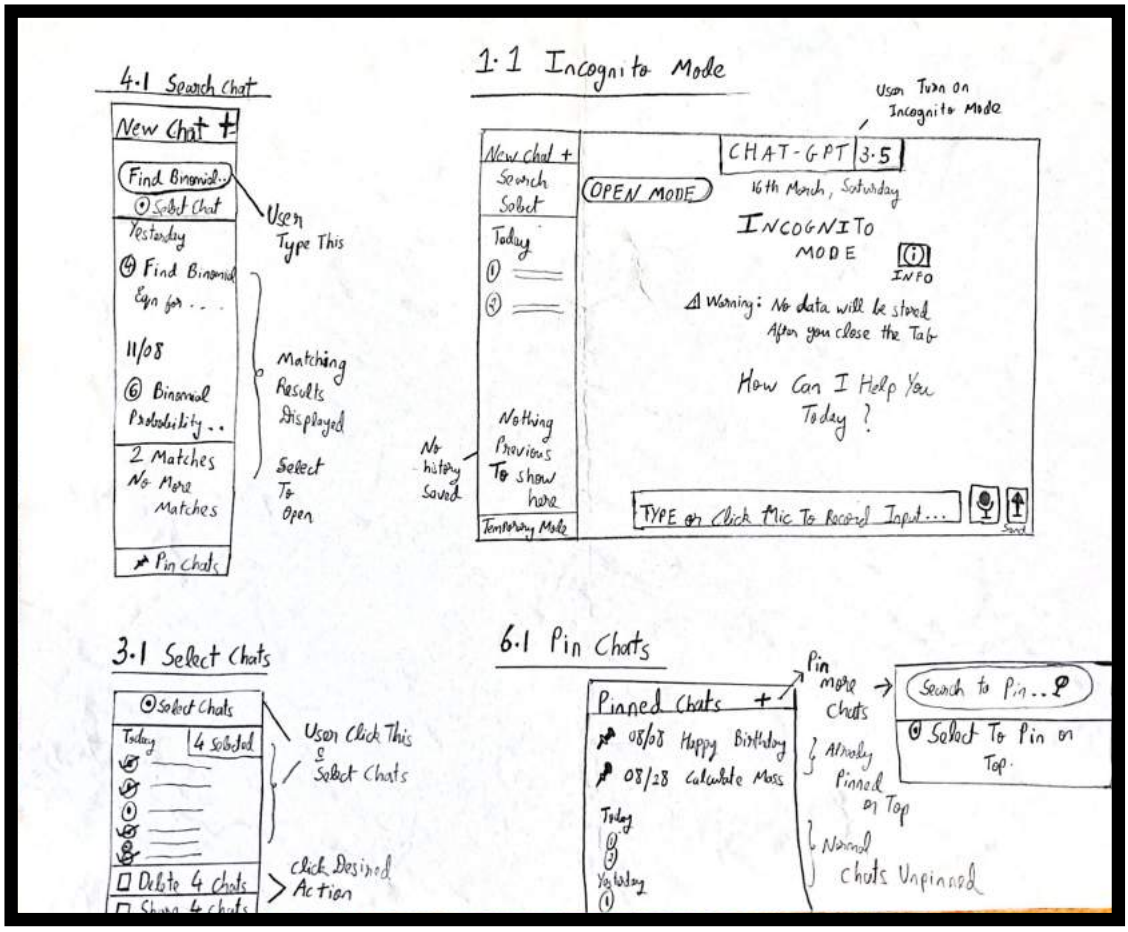
Hello, i am Ava.. How can I help?
Tap to start Recording
Type or Click Mic to Record Input
Send
What is the weather?
USER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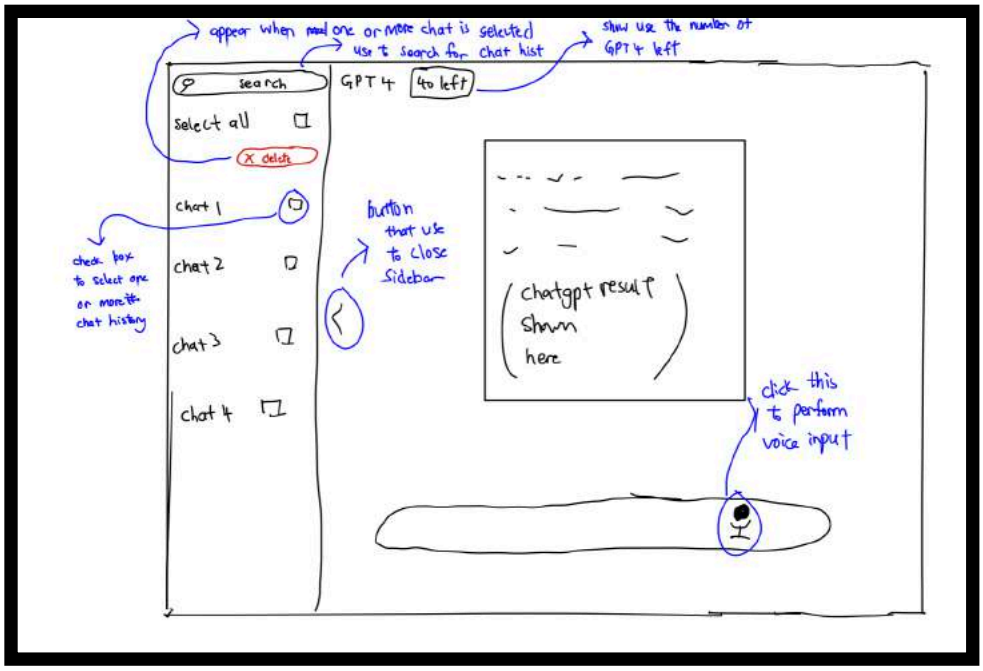
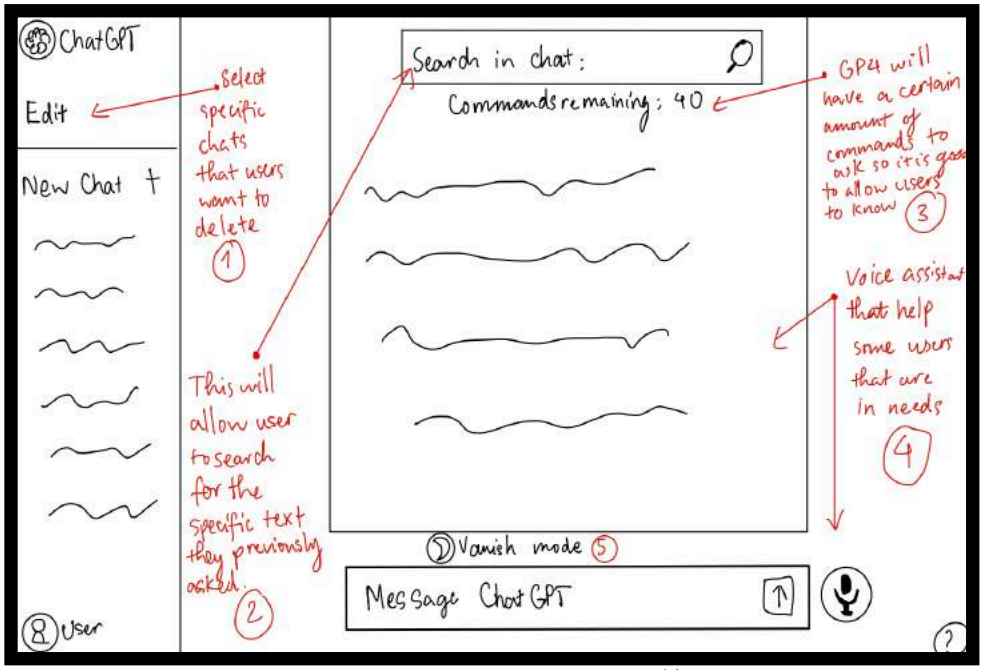
New Chat +
Find Binomial..
Select Chat
Yesterday
Find Binomial Eqn for . . .
11/08
Binomial Probability . .
2 Matches No More Matches
Pin Chats
User Type This
Matching Results Displayed
Select To Open
1.1 Incognito Mode
User Turn on Incognito Mode
New chat +
Search
Select
Today
Nothing Previous To show here
Temporary Mode
No history saved
CHAT-GPT 3.5
OPEN MODE
16th March, Saturday
INCOGNITO MODE
INFO
Warning: No data will be stored After you close the Tab
How Can I Help You Today?
TYPE or Click Mic To Record Input...
Send
3.1 Select Chats
Select Chats
Today
4 Selected
Delete 4 chats
User Click This & Select Chats
Click Desired Action
6.1 Pin Chats
Pinned Chats +
08/08 Happy Birthday
08/28 Calculate Mass
Today
Yesterday
Pin more chats
Search to Pin...
Select To Pin on Top.
Already Pinned on Top
Normal Chats Unpinned

APPENDIX

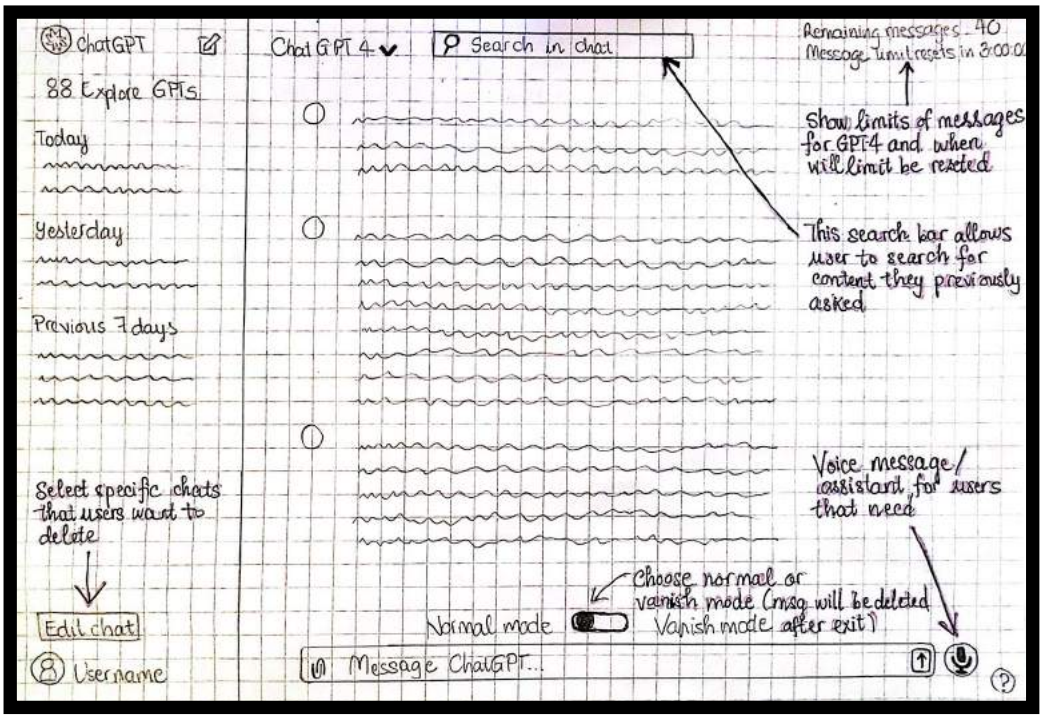
Earlier Versions of the Prototype



First Version



Second Version



Third Version

Interview Questions

Background and Experience:

- Can you tell me about your experience with ChatGPT or similar AI chatbots?
- How often do you use ChatGPT, and for what purposes?

Context of Use:

- In what situations do you find yourself using ChatGPT?
- Do you use ChatGPT more for work, study, or leisure?

Current Tasks:

- Can you walk me through a typical interaction you have with ChatGPT?
- What are the main tasks you use ChatGPT for?

Frustrations and Pain Points:

- What aspects of ChatGPT's current UI do you find frustrating or challenging?
- Have you encountered any specific problems while using ChatGPT?

Desired Improvements:

- If you could change anything about ChatGPT's UI, what would it be?
- Are there any features you wish ChatGPT had?

User 1: Tony Nguyen, 42, UX Developer

Background and Experience:
- "I've been using ChatGPT for about six months now. I primarily use it for brainstorming UX ideas and getting quick answers to coding questions. It's been a helpful tool, especially when I'm stuck on a problem."

Context of Use:
- "I find myself using ChatGPT mostly at work. It's become a part of my daily routine, whether I'm looking for inspiration or trying to troubleshoot an issue. Occasionally, I use it for personal projects or just for fun."

Current Tasks:
- "A typical interaction with ChatGPT starts with me asking a question or describing a problem I'm facing. For example, I might ask for suggestions on how to improve a particular UX element. ChatGPT usually provides several ideas, and I explore them further. My main tasks involve seeking design inspiration and solving coding challenges."

Frustrations and Pain Points:
- "One frustration is the inability to delete specific parts of a conversation. I often have to clear the entire chat history, which is inconvenient. Also, there are times when I wish I could interact with ChatGPT using voice commands, especially when I'm multitasking."

Desired Improvements:

I think the ability to manage my list of chat history more effectively would be a game-changer. Instead of having to delete everything or nothing, it would be great to pick and choose which chats I want to keep or discard.

Also, I've noticed that when I'm juggling tasks, being able to talk to ChatGPT rather than type would be incredibly helpful. It's something I've experienced with other assistants and would love to see here.

With the limitations on how many questions I can ask Chat GPT 4, sometimes I find myself trying to ration my interactions. A clear indicator of how many queries I have left would take the guesswork out of it. And when I'm trying to recall a specific conversation, scrolling through endless chats can be tedious.

User 2: Justin Lee, 50, Software Engineer

Background and Experience:
- "I've been using ChatGPT for about a year, mainly for quick coding solutions and generating ideas for software projects. I've also experimented with other AI chatbots like Alexa for home automation, but ChatGPT has been more relevant to my work."

Context of Use:
- "I primarily use ChatGPT at work. It's become a part of my daily routine for troubleshooting code and brainstorming new project ideas. Occasionally, I use it for personal learning and exploring new technologies."

Current Tasks:
- "A typical interaction might start with me asking ChatGPT for help with a specific coding problem. I'll describe the issue, and it usually provides several solutions or approaches. I mainly use it for coding assistance and project ideation."

Frustrations and Pain Points:
- "Navigating through long conversations can be a bit cumbersome. I sometimes wish I could quickly refer back to important discussions without scrolling through everything. Also, more private conversations where chats aren't stored, providing peace of mind regarding digital footprint.

Desired Improvements:

"There are times when I'm discussing sensitive topics or brainstorming ideas that I don't necessarily want to be saved. An option for more private conversations, where the chat isn't stored, would give me peace of mind. It's about having control over my digital footprint, which I think is increasingly important.

"Team collaboration is another big part of my job. If we could all hop into a chat with ChatGPT together, brainstorming sessions would be next level. It would be like having a virtual whiteboard where everyone can contribute in real-time."

"There are times when I come up with something great during a chat, and I think, 'I need to share this with the team. Being able to export that conversation, maybe as a PDF or a text file, would make sharing those lightbulb moments so much easier."

User 3: Anthony Baker, 20, SFU Undergrad

Background and Experience:
- "I've been using ChatGPT for around eight months, primarily for studying and coding practice. It's been a great resource for understanding complex computer science concepts. I've also tried out a few other AI chatbots, but I find ChatGPT to be the most useful for my academic needs."

Context of Use:
- "I use ChatGPT mainly for my studies. Whether I'm working on a programming assignment or trying to grasp a new concept, it's my go-to tool. Occasionally, I use it for leisure, like exploring new technologies or just satisfying my curiosity about certain topics."

Current Tasks:
- "In a typical session, I might ask ChatGPT to explain a specific algorithm or help debug a piece of code. I also use it to generate examples or to clarify theoretical concepts. It's like having a tutor available 24/7."

Frustrations and Pain Points:
- “When working with mathematical equations, the lack of support for Greek symbols can be a bit limiting. It would be great to have a more streamlined way to manage and input this information."

Desired Improvements:

"I'd love the ability to keep my chat history space organized, especially when I'm juggling multiple topics. If I could just clear out the bits I don't need anymore, it would make revisiting the important stuff so much simpler. And imagine being able to quickly pull up past explanations or code snippets with a search tool—that would be incredibly handy for studying."

"When it comes to mathematical equations, having a way to easily input Greek symbols would make my life a lot easier. And on a lighter note, customizable avatars would add a fun, personal touch to the study sessions, making the whole experience a bit more enjoyable."

"For me, staying organized is key, especially when juggling multiple projects. If there was a way to highlight or flag those really important chats, it would make revisiting them a breeze. Imagine being able just to pin those crucial conversations at the top!"

User 4: Darian Chan, 38, Investment Banker

Background and Experience:
- "I started using ChatGPT about four months ago, mainly to explore its potential for financial analysis and planning. It's my first foray into AI chatbots, and I've been quite impressed with its capabilities in providing quick insights and forecasts."

Context of Use:
- "Mostly, I use ChatGPT at work. It's become a handy tool for running quick financial simulations or getting a second opinion on investment strategies. On occasion, I use it at home to manage my personal finances or to learn more about market trends."

Current Tasks:
- "A typical interaction might involve asking ChatGPT to analyse a set of financial data or to suggest budgeting strategies. I also use it to stay updated on financial regulations and to brainstorm ideas for optimising tax planning. It's like having a financial advisor on demand."

Frustrations and Pain Points:
- " Discussing sensitive financial matters can sometimes feel a bit exposed, so more privacy options would be welcomed along with some finance note-taking options."

Desired Improvements:

" I am a parent to a 14-year-old boy and sometimes we allow him to use ChatGPT for some aid in his homework. However, he uses my account and thus it would be efficient if there is some guest/incognito mode that can be used temporarily and delete all chat after the tab is closed. This way I can avoid mixing my chats with his homework."

"Being able to find specific past conversations quickly would be incredibly helpful, particularly when I need to revisit previous financial analyses or advice. Additionally, having a feature that allows me to have private discussions without leaving a trace would give me peace of mind when dealing with sensitive financial information."

"Being able to save and share entire conversations would streamline preparing reports or collaborating with colleagues. Also if I could highlight and quickly access key pieces of advice, it would save me a lot of time and help me stay on top of critical financial decisions.

User 5: Denzel Brown, 28, Chef

Background and Experience:
- "I started using ChatGPT recently, mainly to explore time planning strategies and some recipes. It is quite impressive and I also use it to research healthy diets and safe ingredients. I am not very tech savvy and this makes my research easy."

Context of Use:
- "Usually I use ChatGPT at home. It's efficient for comparing various stores and calories in varied recipes. On occasion, I use it at home to manage my personal account and schedules."

Current Tasks:
- "A typical interaction might involve asking ChatGPT to analyse a dish and explain steps to make it. Sometimes I also ask to suggest dishes with just specific ingredients available."

Frustrations and Pain Points:
- "One challenge is keeping track of important appointments. Even though I plan my weekly schedule in ChatGPT, I sometimes have a hard time implementing it and remembering it.

Desired Improvements:

"Being able to change the colour themes and avatar can feel more personalized. This sometimes feels mundane with the old same aesthetics.."

"Also it would be great if it could connect to my calendar, and insert in my plans for the week. It would be a cherry on top if it could send me reminders too."

SFU SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

Thank you for agreeing to this interview. We are students at Simon Fraser University studying what makes computer software easier to use. We would like you to help us understand the situations and problems you face everyday as you use technology.

This interview is completely voluntary. You may decline to answer any question or stop the interview at any time and for any reason. Any data gathered up to the point of stopping the interview will be destroyed. If you are a student at Simon Fraser University, this interview will have no effect on your grades in any courses. The only data we will gather will be written notes. These notes will only be seen by our team members, our instructor, and our teaching assistant and will be destroyed at the end of the course. Your name will not be attached to any gathered data, but rather a unique ID code such as “Participant A”.

Concerns or Complaints
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, Office of Research Ethics at jtoward@sfu.ca or 778-782-6593.

Do you agree to the following: I have read and understood the subject information and consent form and freely consent to participate.

(Yes)
No

Selecting yes indicates that you consent to participate in this study and that you are 19 years of age or older. Select no if you wish to decline or are under 19 years of age.

CMPT 363 Interview Consent Form (v1.0 August 17, 2016)

Name: Tony Nguyen

Signature:

CMPT 363 Interview Consent Form (v1.0 August 18, 2014)

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CMPT 363 Interview Consent Form (v1.0 August 17, 2016)

Name: Justin lee

Signature:

CMPT 363 Interview Consent Form (v1.0 August 18, 2014)

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CMPT 363 Interview Consent Form (v1.0 August 17, 2016)

Name: Anthony Baker

Signature:

CMPT 363 Interview Consent Form (v1.0 August 18, 2014)

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ENGAGING THE WORLD

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This interview is completely voluntary. You may decline to answer any question or stop the interview at any time and for any reason. Any data gathered up to the point of stopping the interview will be destroyed. If you are a student at Simon Fraser University, this interview will have no effect on your grades in any courses. The only data we will gather will be written notes. These notes will only be seen by our team members, our instructor, and our teaching assistant and will be destroyed at the end of the course. Your name will not be attached to any gathered data, but rather a unique ID code such as “Participant A”.

Concerns or Complaints
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, Office of Research Ethics at jtoward@sfu.ca or 778-782-6593.

Do you agree to the following: I have read and understood the subject information and consent form and freely consent to participate.

Yes

No

Selecting yes indicates that you consent to participate in this study and that you are 19 years of age or older. Select no if you wish to decline or are under 19 years of age.

CMPT 363 Interview Consent Form (v1.0 August 17, 2016)

Name: Darian Chan

Signature:

CMPT 363 Interview Consent Form (v1.0 August 18, 2014)

SFU SIMON FRASER UNIVERSITY
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CMPT 363 Interview Consent Form (v1.0 August 17, 2016)

Name: Denzel Brown

Signature:

CMPT 363 Interview Consent Form (v1.0 August 18, 2014)

Project Part 3 – User Interface Prototypes

CMPT 363 @ Simon Fraser University
Spring 2024

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Adapted from Usability Test Plan Template from Usability.Gov
(https://www.usability.gov/how-to-and-tools/resources/templates/usability-test-plan-template.html)

Design Rationale for ChatGPT Interface - Horizontal Prototype

Design Evolution

This new interface design, portrayed in the attached visualization, has evolved from its predecessor with an acute focus on creating a seamless and intuitive user experience. This horizontal prototype symbolizes a significant advancement in the ChatGPT user interface. It encapsulates our design philosophy of putting user needs at the forefront while also pushing the boundaries of what a chat interface can provide in terms of privacy, accessibility, and efficiency.

It maintains a clean, organized layout while introducing key features that address the most pressing user demands:

1. GPT Mode Selection: A prominent feature on the left panel, providing the user with the flexibility to switch between different GPT models as needed. This was a new addition to our part-2 low-fidelity prototypes.

2. Incognito Mode Toggle: Situated prominently within the GPT selection pane, this feature delivers an enhanced layer of privacy, allowing users to converse without leaving a digital footprint.

3. Interactive Voice Activation: Centralized on the interface, the voice interaction icon beckons users with visual impairments or a preference for voice commands, enabling them to engage with ChatGPT audibly.

4. Prompt Counter: An essential feature for GPT-4 users, the prompt counter is visible at the top right, ensuring users are always aware of their remaining prompts. We moved its position from part 2.

5. Pinning Chats: This feature allows for essential chats to be pinned, offering immediate access to important discussions. Instead of keeping it separate and at the bottom as in part 2, we embedded it with every chat.

6. Selective Chat Management: Below the voice activation icon is an option for users to select specific chats, which they can then delete or share, thus putting them in control of their conversation history.

7. Search Functionality: A search bar is discreetly positioned atop the chat history, offering users a quick way to navigate through past interactions and retrieve information efficiently.

User-Centric Evaluation

With the incorporation of voice interaction and search functionality, we emphasize accessibility and efficiency. These features ensure that the platform is usable by a wider audience and that users can navigate through their history with ChatGPT quickly and effectively. Our design process was iterative and reflective, involving frequent evaluations and refinements. User feedback has been the cornerstone of our approach, prompting us to prioritize features like incognito mode and selective chat management, which were directly requested by our user base.

Design Rationale for ChatGPT Interface-Vertical Prototype

Highlight :

The vertical prototype developed for the ChatGPT interface has been designed with a user-centric approach, focusing on consistency, simplicity, and privacy. We aimed to address key user concerns from part 2 prototypes while enhancing the overall user experience with added functionality and accessibility features.

Major Strengths

- Consistent User Interface: Across different pages, the interface maintains a uniform look and feel, providing users with a seamless navigational experience. We addressed major aesthetic discrepancies that were present in part 2.

- Simplicity in Design: The design language adopted is straightforward and intuitive, aiding users in understanding and utilizing the system without a steep learning curve.

- Privacy Consideration: With an Incognito Mode feature, users can interact with ChatGPT without leaving a trace, ensuring the confidentiality of their queries.

- Accessibility: The inclusion of voice recognition technology broadens our audience, catering to users with varied abilities and preferences for input methods.

- Enhanced Usability and Customization: The prototype allows users to easily manage their chats, with features to search, pin, and delete conversations. Additionally, it shows the remaining number of GPT-4 tokens, providing transparency on usage. There were some major changes regarding the placing and embedding of these options from the earlier low-fidelity designs.

Weaknesses

1) Design Originality: The current design closely resembles the original ChatGPT 4 interface, which may not sufficiently distinguish our product in a competitive market.

Successful Design Features

- Search Functionality: A significant aspect for users needing to navigate their chat history efficiently.
- GPT-4 Token Counter: Gives users a clear indication of their available interactions, enabling better usage management.
- Incognito Mode: Meets the user's privacy needs by providing an option to interact anonymously.

Areas for Improvement

- Voice Interaction Enhancement: While the voice recognition feature adds value, further development could enable ChatGPT to verbally respond, simulating a more natural conversational experience akin to speaking with another human.

COGNITIVE WALKTHROUGH

Prototype Interface

The prototype interface is a ChatGPT system designed to offer a seamless user experience through text and voice interactions. It incorporates advanced features such as voice recognition for hands-free operation and an incognito mode to ensure user privacy during browsing sessions. The interface aims to cater to users with diverse technological backgrounds, providing intuitive functionality for both novice and experienced users alike.

Task Descriptions

Task 1: You are doing your maths homework. While being knee-deep into the solution, you require a random integer to check your solution. Thus you ask for help from ChatGPT in picking an integer using the feature for voice interaction.

Actions Needed to Complete the Task:

1. Voice Interaction Initiation: Users initiate the voice interaction by activating the microphone button on the bottom right corner of the homepage interface.

2. Express Request: Users verbally request assistance in selecting an integer when they see the "Listening.." Prompt and the changing mic colour. They can start by asking "Help me pick an integer."

3. System Response: The system processes the request and provides a randomly selected integer along with your input and the outcome.

4. Confirmation: Users confirm their selection and click on the ChatGPT name and logo on the top left corner to go back to the home page.

Task 2: It's your friend's birthday and you would like to gift him some freshly picked apples. However, assuming you know nothing about the types of apples you ask ChatGPT for help. Assuming, you do not want him to know you searched for his gift and thus plan to employ incognito mode to ensure privacy.

Actions Needed to Complete the Task:

1. Incognito Mode Activation: Users activate incognito mode by tapping the ChatGPT version at the top of the screen. Then further click the incognito toggle box and confirm the switch by noticing the changing aesthetics and Incognito welcome. They click the version again to make the list of versions disappear.

2. Search Query Input: Users input the search query for types of apples by asking using a typed text phrase saying "How many types of apples are there and which is the best one?."

3. Review Search Results: Users examine the search results displayed within the incognito window to gather information about various types of apples and determine their best choice.

4. Exit Incognito Mode: Users exit incognito mode once they have completed their browsing activity. To do this user once again clicks on the version menu and toggles off the incognito checkbox, thereby returning to the general home version. Again click the version to make the list of versions disappear.

Problems and Suggestions

Task 1: Voice Interaction

Problem Encountered:
-Delayed Response: Users experienced a delay in the system's response to voice commands, leading to a wait.

Suggestions for Fix:
- Implement real-time processing capabilities to reduce response time and enhance user satisfaction.
- Provide auditory or visual cues to indicate how to enable voice interaction and a speaker feature that reads out the ChatGPT's response to the input.

Task 2: Incognito Mode

Problem Encountered:
1. Unclear Activation and Capabilities: Users were uncertain if incognito mode existed and were confused about how to activate it thus raising concerns about the privacy of their browsing activity.

Suggestions for Fix:
- Provide clear instructions or prompts guiding users through the process of activating and deactivating incognito mode, ensuring a seamless and intuitive experience.

Main Findings

The identified features, voice interaction and incognito mode, hold significant potential for enhancing user experience. Voice interaction offers hands-free operation, catering to users who prefer or require a more accessible interface. Meanwhile, incognito mode ensures user privacy during browsing sessions, particularly beneficial when searching for sensitive or personal information.

However, optimizing voice interaction with real-time processing and clear cues can minimize delays and improve usability. Secondly, refining the activation process and providing clear instructions for incognito mode fosters user confidence in privacy features. By addressing these points, the interface can offer a more seamless and intuitive experience, catering to users with diverse technological backgrounds and accessibility preferences.