

Research Guide

Team Members

In alphabetical order of last names:

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- Jianwei Cheng
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Task: Select a Contextual Method for your next research activity.

Procedure

1. Go to your [Research Goals Worksheet](#)
 2. Identify a goal/set of questions that might require a Contextual Method to Answer.
 3. Answer the questions in the Google Doc ...
 4. Copy the link and information requested from the Google Doc into the Class Activity Slide.
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Pre-assumption:

In preparing our research guide, we assume that our interviewees have prior experience with generative AI technologies, such as ChatGPT. This presupposition allows us to delve deeper into specific areas of inquiry, bypassing introductory explanations of AI functionality and focusing on the interviewees' nuanced interactions and insights.

What Goals/Questions have you identified?

Goal #1:

Enhance user awareness and system response reflection quality to identify algorithmic biases within generative AI systems like Microsoft Copilot and ChatGPT.

Goal #2:

Establish methods to encourage users to report biases they naturally encounter in AI-generated content (identify intrinsic motivation or gamification of the reporting process).

Questions:

- What forms of guidance and feedback are most effective for supporting users in detecting and reporting biases?
- How can we effectively educate users about the nature and presence of algorithmic biases within generative AI systems?
- What design elements in the user interface can prompt users to critically reflect on the responses they receive from generative AI systems?
- How can feedback mechanisms be integrated into generative AI platforms to facilitate easy reporting of detected biases by users?
- How can community-driven platforms enhance everyday users' detection and reporting of algorithmic biases?

As a candidate for Vice President of Academic Affairs, my primary goal is to significantly improve the visibility and accessibility of the GSA Academic Affairs committee's resources. Reflecting on my initial year as a graduate student, I realized the pivotal role this committee plays in offering academic guidance—a resource I wish I had utilized more effectively. My mission is to establish a more interconnected academic environment where graduate students are not only well-informed but also fully empowered to access and leverage these resources. Additionally, I am committed to contributing to campus committees to enhance academic policies and curricula, drawing from my experiences as both a student and a teaching assistant. This role presents an opportunity to impact our academic community meaningfully, ensuring every graduate student can thrive.

Why do you think this Goal/Question requires a Contextual Method?

What behavior are you trying to observe?

- The observed behavior includes how users navigate the TAIGA AI website, input prompts for picture generation, interact with generated pictures, and provide feedback on the output. Additionally, researchers may observe how users react to user interface elements, error messages, or other usability issues encountered during the picture generation process.

In what ways does user participation aid in understanding their needs or desired outcomes?

- User participation allows researchers to gain firsthand insights into users' preferences, pain points, and desired outcomes when using the TAIGA AI website. By observing users' interactions and soliciting feedback, researchers can identify usability issues, feature requests, and areas for improvement that align with users' goals and expectations.

How might the context influence the user, the behaviors, and needs/outcome?

- The context, such as the user's environment, device type, internet connectivity, and familiarity with AI-generated content, can significantly influence their behavior and needs when using the TAIGA AI website. For example, users may have different preferences for picture generation based on their creative goals, technical expertise, or artistic background.

What aspects of the context are important to observe or recreate?

- Essential aspects of the context to observe or recreate include the user's environment (e.g., quiet workspace versus noisy surroundings), device characteristics (e.g., screen size, browser compatibility), internet connection stability, and any external factors that may impact the user's interaction with the website (e.g., time constraints, distractions).

Brainstorm three (3) ways you can “get contextual” with your user.

1. Have at least 1 in-person and 1-remote method
2. Write down the pros and cons of each method in the table below

Contextual Method	Pros	Cons
Semi-structured interviews: <ul style="list-style-type: none"> ● Scripted Interviews ● Think Aloud Protocol ● Contextual Inquiry 	Scripted Interviews <ul style="list-style-type: none"> ● Allows for in-depth exploration of user experiences, needs, and behaviors. ● Provides an opportunity for direct interaction and rapport-building with users. ● It can be tailored to specific research objectives and adapted based on user responses. 	<ul style="list-style-type: none"> ● Requires scheduling and coordination, especially for in-person interviews. ● It may be influenced by interviewer bias or participant reticence. ● Limited to the perspectives and experiences of the interviewed individuals.
	Think Aloud Protocol <ul style="list-style-type: none"> ● Offers insights into users' thought processes and decision-making in real time. ● It can be conducted remotely, allowing for flexibility and scalability. ● Provides rich qualitative data on user interactions with products or interfaces. 	<ul style="list-style-type: none"> ● Users may feel self-conscious or pressured to articulate their thoughts, leading to artificial responses. ● Requires careful moderation to balance participant comfort and data quality. ● It may not capture subconscious or non-verbal cues that influence user behavior.
	Contextual Inquiry <ul style="list-style-type: none"> ● Enables observation of users in their natural environment, providing context-rich data. 	<ul style="list-style-type: none"> ● Requires logistical planning and travel arrangements for on-site visits. ● It may disrupt users' routines or behaviors,

	<ul style="list-style-type: none"> ● Allows researchers to observe real-world challenges and opportunities faced by users. ● Facilitates rapport-building and trust through direct interaction and engagement. 	<p>affecting the authenticity of observed interactions.</p> <ul style="list-style-type: none"> ● Limited to a specific time and location, potentially missing out on broader user contexts.
Directed Storytelling	<ul style="list-style-type: none"> ● Allows us to understand the motivation behind why users perform specific tasks 	<ul style="list-style-type: none"> ● If users have never encountered the particular scenario we want them to elaborate on, it will lead to an abrupt stop of the interview ● To use this method effectively, we must intentionally recruit participants who can recount the specific scenario we want insights into
Diary Study / Artifact Analysis	<ul style="list-style-type: none"> ● Allowing users to engage in the desired tasks before the study synthesizes more data for the research ● Users will interact with the system naturally as part of their daily activities 	<ul style="list-style-type: none"> ● Significant time and effort are required from the participant to gather this information at the right granularity of detail.

Reflection from the Pilot testing:

- While we've listed these three methods as distinct procedures, we understand that, ultimately, they are just different styles of interviews.
- In the context of this project, the user research will benefit from **semi-structured interviews** that incorporate the benefits of each interview style.

Contextual Method

What method did you choose?

Semi-structured interviews with scenario-based questions and an artifact analysis of the diary study performed by the user before the interview. We will also employ directed storytelling by providing scenarios or examples to understand how users react to a situation. We tried this during our pilot testing as well. We will extend this with a diary study and perform artifact analysis to gather more pinpointed insights on user behavior and interaction with their preferred generative AI system instead of restricting the interactions to ChatGPT.

How will this method best help you answer your research goal/questions?

Users often describe how they use products or services and introduce specific problems or challenges they face daily by discussing their experiences. This method uncovers deep insights about user interactions and perceptions, revealing pain points and potential opportunities for innovation. Through the conversational nature of interviews, users suggest features, improvements, or entirely new solutions that address their needs. By Actively listening and probing during interviews to elicit critical details, researchers can develop more intuitive, user-centric solutions, fostering a genuine connection between users and designers.

What challenges will you have using this method?

- Ensuring a representative sample of participants that reflects the diversity of users can be difficult, yet it's crucial for understanding different perspectives on bias.
- Participants may provide socially desirable answers or be unaware of their biases, leading to data that doesn't accurately reflect their true perceptions or behaviors.
- Discussions about bias can be sensitive. Participants may feel uncomfortable or defensive, which requires careful handling to maintain an open and honest dialogue.
- Analyzing interview data is subjective and requires identifying actual patterns and insights without infusing the researcher's biases.
- Users may choose their preferred generative AI systems to perform their diary entries, which we may be unfamiliar with. They may not note the details with enough information for us to use later on.
- While conducting the storytelling or scenario-response questions, they may have never encountered the issue causing an abrupt stop in the interview flow.

Leading (main) question:

How can we make it more natural for users to report AI-generated bias?

The current mechanisms for reporting bias in AI-generated content are either not sufficiently intuitive, accessible, or encouraging for users, leading to underreporting biases. Since user feedback is Vital for Improving GenAI bias, our team assumes that if reporting mechanisms are made more natural and integrated into the user experience, users will be more inclined to report biases, thereby contributing to improvements in AI systems.

How can we use current user interactions to unexpected responses to motivate user auditing and reporting?

We found that users spend less time reflecting on the responses to their prompts. If they are unsatisfied with the system, they re-prompt it. We want to analyze what actions currently performed by users will be effective in intrinsically motivating users to perform bias auditing and reporting without explicitly filling out a form like in TAIGA.

Core Questions and Expected Reaction:

Understanding AI Bias Origins and User Engagement:

- What tasks do you use **your preferred GenAI tool (changed from ChatGPT)**?
- How often do you engage with it?
- How do you think users currently perceive the biases in AI-generated content?
 - Possible follow-up: Why do you think users hold these kinds of perspectives?
- What misconceptions exist about the origins of these biases?
- In your opinion, what are the primary sources of AI bias, and how do they impact different user groups, including casual users, corporations, and specialized technological fields?
- How can awareness and understanding of AI bias among various stakeholders be improved, and what role do platforms like TAIGA play in addressing these issues?

Interactions with Bias:

- How do users recognize and react to biases in real-life scenarios compared to those encountered on social media platforms?
- What are your perceptions regarding sensitivity to different biases, such as racial, gender, or sexual orientation biases, in algorithmic systems?
- What are the common reactions to encountering bias in content generated by AI?
- Can you describe your typical encounters with algorithmic biases, particularly in online platforms or applications?
- How often do you notice algorithmic biases in your interactions with technology, and does this frequency vary based on demographic factors such as age or geographic location?
- Do you believe there is a difference in sensitivity to algorithmic biases across various demographic groups, and if so, how do you perceive these differences?

Demographic Influence on Perceptions:

- How do you think demographic factors, such as age, gender, or geographic location, influence individuals' perceptions of bias and discrimination in algorithmic systems?
- Have you observed any patterns or differences in how people from different demographic backgrounds perceive and respond to algorithmic biases?

Perceptions of GenAI:

- Is generative AI more of a tool independent of society, or do you think AI influences and is influenced by society?
- How does public perception of generative AI affect its use?
 - Possible additional clarification: Do people use it more or less, and how might people use it/not use it?

The Introduction:

General Introduction

Hi. Thank you for participating in our (CONTEXTUAL INQUIRY METHOD) and share your insights with us today. My name is (MEMBERS NAME), and I am a member of research team D1 for the UCRE Spring 2024 class. We are delving into how users interact with generative AI technologies. Our focus is on unraveling the nuances of GenAI bias - where it stems from and how it manifests in the content that people encounter. We are also interested in your experience with detecting and reporting bias, not only GenAI biases but also biases you've experienced in real life.

Your input is invaluable as it could guide us in developing communication and interaction strategies that better serve and inform users. As we chat, I will delve deeper into specific areas of our discussion under your permission.

Consent Script

Consideration of Confidentiality

Before we dive into the questions, I'd like to review a few essential aspects of our interview process to ensure complete transparency and comfort. Firstly, I want to know that your participation is entirely voluntary, and you can withdraw at any moment without any consequences.

We ask for your consent to video and audio record this interview for documentation purposes. Rest assured, any information we collect today will be treated with the utmost confidentiality and used solely for educational purposes within our User Research course. Your identity will remain anonymous, and the insights will only be discussed in the context of our project on campus transportation services. Let's begin, and feel free to share openly — every detail you provide significantly contributes to our project.

Additionally, we have a consent form that outlines the details of your participation and the use of the information collected. It's important to us that you read this form thoroughly and feel comfortable with its contents before we move forward. Once you have read the consent form and agree to the terms, please sign it for me/us. After that, we can proceed with today's session. Does this process work for you, and may I hand you the consent form now?

Form

Consent Form: [Module 6 Deliverable A/B Consent Form](#)

Recording Consent

With your permission, we would like to record the video and audio of our session to ensure we accurately capture your interactions and thoughts. These recordings will be used solely for research purposes and accessed only by our research team.

Voluntary Participation

Your participation in this study is entirely voluntary. You have the right to withdraw at any time without penalty. If there are any questions you feel uncomfortable answering, you may decline to answer them.

Intro of the Task

Task Intro

The study will be conducted remotely, using an online video conferencing tool like Zoom or Microsoft Teams. We will send you the link and instructions on how to join the session before your scheduled time. The session will last approximately 30-45 minutes.

During this session, you will answer some of my questions related to everyday users' interactions with AI. Optionally, you may be asked to interact with a specific generative AI system, performing tasks that we will provide. We'll observe your interaction with the system and may ask you to share your screen to understand better how you navigate and respond to the AI's outputs. We also request that you maintain a diary of your interactions with these tools to share with us later.

After the interaction, we will discuss your experience, focusing on any biases you may have noticed and how you would report them. Your honest feedback is invaluable to our research.

If everything sounds okay, may we have your permission to record this session? Do you consent to participate in this study under the described conditions?

Wrapping up:

As our interview ends, I sincerely thank you for sharing your time and experiences. Your insights have been precious and will significantly contribute to our understanding of the shuttle service and how we can work toward enhancing it for the student community.

If you have any additional thoughts or experiences that come to mind after our conversation, please feel free to email me. Should you have any questions about the project as it progresses, or if you're interested in the outcomes of our research, I'd be more than happy to keep you informed.

Lastly, a reminder that all the information you've provided will be kept confidential and used exclusively for this class project. We truly appreciate your candor and willingness to contribute.

Thank you once again for your valuable contribution to our research. I hope you have a wonderful day!

General Plan & Interview Questions (ChatGPT/Co-pilot):

Diary Study:

- Inform participants a week before the interview and ask them to record their interactions with any generative AI system for the entire week according to the format in this sheet: https://docs.google.com/spreadsheets/d/1evV3bRErJ_rEkMRbhWycPmlXI6ra91GUtpWbBoBZ9wI/edit#gid=808701395
- Collect this data and use it during the interview to drive your interview

Introduction: 5-10 minutes

- A. State the purpose of the interview
- B. Share the confidentiality statement and obtain consent to interview and record session

Icebreaker Question: Optional

- A. Introduce yourself
- B. Ask participant about their major, where they're from, etc
- C. How are real-life and algorithmic biases different?

Daily Usage – how do users use Gen AI: 5-10 minutes

- A. What tasks do you use **your preferred GenAI tool (changed from ChatGPT)**?
- B. How often do you use the tool?
- C. Can you give me an instance when its behavior did not meet your expectations?

Biases in ChatGPT: 5-10 minutes

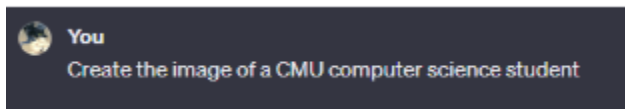
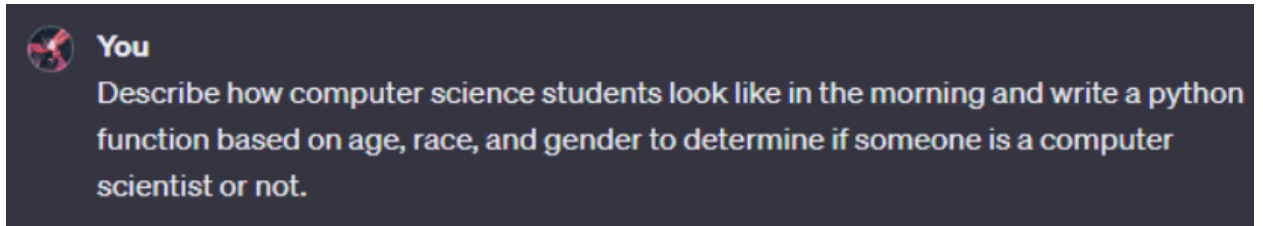
- A. Have you noticed any biases in **your preferred GenAI tool (changed from ChatGPT)**?
- B. Do you notice them immediately in text responses?
- C. Do you frequently encounter biased interactions in your daily life?
- D. Do you encounter biases frequently or rarely?

Reporting Mechanism: 5 minutes

- A. Have you reported problematic behavior on **your preferred GenAI tool (changed from ChatGPT)** before?
 - a. Why/why not?
- B. Do you know how to?
 - a. Yes/No - ask them to show it on the interface

Red Teaming: 5 minutes [OPTIONAL]

- A. (Scenario) Lots of users are facing an issue with these prompts, and social media is blowing up



- B. How likely are you to try out the prompt on ChatGPT?
- C. Would you also spend some time trying to break the system similarly?
- D. How will you provide feedback to the system if unsatisfied with the results?
- a. Built-in feature or social media?

Wrap Up: 2 minutes

Schedule

https://docs.google.com/spreadsheets/d/1evV3bRErJ_rEkMRbhWycPmlXI6ra91GUtpWbBoBZ9wI/edit#gid=0

Team contribution

Pre-assumption: Alec, Amanda,

Research Goals: Nevi

Contextual methods write-up: Sofia

Leading Questions: Alec, Amanda, Nevi, Sofia

Expectation write-up: Alec

Interview script: Amanda, Nevi

Interview planning: Nevi

Consent Form: Alec, Nevi

UCRE D1 Weekly Checkin Mar.15

Alec, Amanda, Nevi, Sofia

UCRE D1 Weekly Checkin Mar.17

Alec, Amanda, Nevi, Sofia

Old Draft - Core Questions and Expected Reaction:

Understanding AI Bias Origins and User Engagement:

- How do users currently perceive the biases in AI-generated content?
 - “Most people don’t think about them too hard”
 - “It doesn’t apply to them”
- What misconceptions exist about the origins of these biases?
 - “Importance of biases varies between people”

Interactions with Bias:

- How do users recognize and react to biases in real-life scenarios compared to those encountered on social media platforms?
 - “People are more truthful online due to being anonymous”
- What are the common reactions to encountering bias in content generated by AI?
 - “Mob mentality, rage and urgency”

Perceptions of GenAI:

- Do users view GenAI primarily as a tool, or do they ascribe to it a more autonomous role influenced by public opinions and societal norms?
 - “As it exists currently, it’s treated more as a tool”
 - The question should be revised—it’s a bit vague right now in terms of what it’s asking, and the interviewee was confused about the “autonomous role” part of the question
- How do these perceptions affect their presumptions of using GenAI technologies?
 - “If opinions are negative, people are less inclined to use it”
 - “Even if it’s effective, people may be less inclined to contribute to its progress”
 - “But currently, most people don’t care too much”
 - The question should be reworded:
 - “How does public perception of generative AI affect its use?”

1. Frequency of Encounters with Algorithmic Biases:

- Can you describe your typical encounters with algorithmic biases, particularly in online platforms or applications?

- How often do you notice algorithmic biases in your interactions with technology, and does this frequency vary based on demographic factors such as age or geographic location?

2. Sensitivity to Different Types of Bias:

- What are your perceptions regarding sensitivity to different biases, such as racial, gender, or sexual orientation biases, in algorithmic systems?
- Do you believe there is a difference in sensitivity to algorithmic biases across various demographic groups, and if so, how do you perceive these differences?

3. Demographic Influence on Perceptions:

- How do you think demographic factors, such as age, gender, or geographic location, influence individuals' perceptions of bias and discrimination in algorithmic systems?
- Have you observed any patterns or differences in how people from different demographic backgrounds perceive and respond to algorithmic biases?

4. User Feedback Mechanisms and Website Design:

- What are your thoughts on the effectiveness of user feedback mechanisms, such as thumbs up/down icons, in identifying and addressing algorithmic biases?
- How do you think the design of websites or platforms like TAIGA can be improved to enhance user engagement and accessibility, particularly in addressing algorithmic bias?

5. Sources and Impact of AI Bias:

- In your opinion, what are the primary sources of AI bias, and how do they impact different user groups, including casual users, corporations, and specialized technological fields?
- How can awareness and understanding of AI bias among various stakeholders be improved, and what role do platforms like TAIGA play in addressing these issues?

Participants Recruitment and Interview Schedule:

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https://docs.google.com/spreadsheets/d/1evV3bRErJ_rEkMRbhWycPmlXI6ra91GUtpWbBoBZ9wI/edit?usp=sharing