Initial Ethics Review Form

Project Title:

A Big Step Forward? A User-Centric Examination of iOS App Privacy Report and Enhancements

Project Description

Project Aims

The widespread use of mobile apps highlights the need to understand their data practices. Transparency is crucial to ensure users are informed and can consent to data access. Apple introduced the App Privacy Report in iOS 15.2, offering users insights into app data access and sharing. While marketed as a significant privacy advancement, our preliminary investigations with everyday users revealed limitations in the feature's usability and effectiveness. In response, we proposed an enhanced approach to address these gaps. Our method leverages Large Language Models (LLMs) to analyze data access purpose and identify domain names. At last, we redesigned interface aimed at improving user comprehension and control.

This project aims to conduct two user-related studies: (1) Domain Data Collection: Collect and analyze domain data from users' App Privacy Report to evaluate the performance of our LLM-based method for domain identification and description generation. (2) Usability Testing: Validate the effectiveness of the enhanced interface through Think Aloud sessions, assessing its usability and ability to address the shortcomings of the original design. Together, these studies aim to advance privacy transparency by combining technical innovation with user-centered design, ultimately empowering users to better understand and manage their data.

Research Methods

(1) We will collect domain data from the App Privacy Reports of two users over a roughly two-week period. A subset of the collected domain names (e.g., 100 domains) will be processed using a Large Language Model (LLM) for identification and description generation. The outputs generated by the LLM will be manually verified for accuracy to assess the effectiveness of our method in providing comprehensive and reliable domain information.

(2) We will conduct a Think Aloud study, a widely used method in user experience testing where participants verbalize their thoughts, feelings, and actions while interacting with an interface. Participants will be presented with visual prototypes of the enhanced interface and asked to complete

specific tasks. Their feedback and interactions will be recorded and analyzed to assess the usability of the design and inform further optimizations. The discussion is expected to last 10–20 minutes and will be audio-recorded and transcribed for subsequent analysis.

Participant Pool

Participants are recruited from [anonymous university]. For the Domain Data Collection study, we will focus on participants who took part in our previous Focus Group Discussion, as they have prior knowledge of the App Privacy Report and are familiar with our research aims. This allows for smoother communication and more efficient data collection. For the Think Aloud Study, we plan to recruit two groups of participants: first, "new participants" who can provide fresh perspectives and unbiased feedback on the enhanced interface. Second, "returning participants" who previously participated in the Focus Group Discussion, enabling us to evaluate whether the enhancements based on their feedback effectively address their needs and expectations.

For the Domain Data Collection, it will be made clear that no incentive, in any form, will be provided. In the Think Aloud study, participants will receive a compensation of 20 Yuan for their time.

It will be made clear that participation is voluntary for either study.

Data Management

All data collected during the study will be anonymized, with no personally identifiable information (e.g., names) being recorded. The data will be securely stored and analyzed locally by the research team only. No data will be shared with third parties.

Funding and External Contractors

N.A.

Project Location(s): [Anonymous Building/Office]

Proposed Start Date: 1 July 2024

Proposed Finish Date: 14 July 2024

Ethical Considerations

Please check the relevant box to answer **Yes** or **No** to each of the following questions. If answering **Yes** to any questions, please ensure further details are provided in the project description above.

1. **Has this project been reviewed and conditionally approved or rejected by another ethics committee?**
   ☐ Yes ☒ No

2. **Is the project being externally funded or provided with in-kind support by an external party?**
   ☐ Yes ☒ No

3. **Is the project designed to provide market research or a consultancy service fully paid for by a client?**
   ☐ Yes ☒ No

4. **Will there be any restrictions (or restrictive procedures) placed on the publication of results from this project as a result of the funding or support arrangements?**
   ☐ Yes ☒ No

5. **Will any part of the project be undertaken by or outsourced to a third party?**
   ☐ Yes ☒ No

6. **Are there any potential conflicts of interest for the research team or organisation(s) associated with the project?**
   (e.g., arising from any involvement or role that researchers may have with other projects or external organisations, or an existing relationship between a member of the research team and the potential participants)
   ☐ Yes ☒ No

7. **Will consent for participation in this project be sought from all participants?**
   ☑ Yes ☐ No

8. **Will there be any incentive / payment (e.g., money, movie tickets, food vouchers) or reimbursement (e.g., travel expenses) given to participants?**
   ☑ Yes ☐ No

9. **Will the information being collected from and stored about participants be in an individually identifiable, potentially identifiable or re-identifiable form?**
   ☐ Yes ☒ No

10. **Does the project involve limited disclosure to participants or active concealment?**
    ☐ Yes ☒ No

11. **Are there any risks (e.g., social, psychological, financial, physical, legal) to participants, the research team or others arising from their involvement in the research which cannot be mitigated / negated through project design?**
    ☐ Yes ☒ No

12. **Is it likely that the project will involve the disclosure of unlawful conduct, or concealment of a crime, by individuals or definable groups?**
    ☐ Yes ☒ No

13. **Will this research project involve access to, use, collection or acquisition of culturally sensitive materials or artefacts?**

☐ Yes ☒ No

14. **Will the information to be collected about participants during the project come from any of the following sources?**

☐ Yes ☒ No

If **Yes**, please specify:

- o ☐ Another person about the research participant
- o ☐ An agency, authority, or organisation other than [Anonymous Institution]
- o ☐ A data source collected previously by [Anonymous Institution] for a purpose other than this research project

15. **Will the project involve the collection, handling and/or storage of personal information?**

☐ Yes ☒ No

Additional Notes

- If any questions are answered **Yes**, please provide detailed explanations in the **Project Description** section or as an attachment.
- Ensure that all ethical considerations are addressed in the research design and methodology.

Certification

Principal Researcher / Project Leader

Name: [Name]

Position: [Position]

Business Unit: [Business Unit]

Research Group: [Research Group]

Location: [Location]

Phone: [Phone]

Email: [Email]

Certification:

As Principal Researcher / Project Leader for this research project, I certify that:

- The information provided in this application is correct to the best of my knowledge.

- I will notify the ethics committee of any ethically relevant variations to the project.
- I will immediately report any adverse events or harm to participants.
- Data will be managed and stored in accordance with [Anonymous Institution]'s policies and relevant legislation.

Signed: [Electronic Signature]

Name: [Name]

Date: [Date]