COMP2213: Interactive Design
Reflective Journal: Hand-In #2

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December 13, 2023

1 Introduction and Overview of Process

In an era where data privacy forms the foundation of digital ethics, its relevance to the design process of new applications is critical. This journal delves into how participation in three specific workshops has deepened an understanding of the different challenges in the design process concerning privacy and consent.

Each 45-minute workshop provided an opportunity to connect the theme of privacy and consent with fundamental design process concepts. The discussions resulting from activities reached a profound realisation: carefully considering user diversity and potential use cases is necessary to protect a system from either misuse or underuse. The workshops highlighted that users' interaction with systems is as varied as their perspectives on data privacy - ranging from a staggering concern to an overlooked aspect of digital interaction. The key takeaway from these sessions is the need for systems to accommodate this user interaction and privacy preference spectrum. The varying cognitive processes of users necessitate a design that is inclusive and adaptive to individual needs and expectations of privacy. The coming sections will discuss the contribution of each workshop to supplement the comprehension of these themes and reflect on how these insights can potentially shape the future trajectory of application design, keeping a person-centred approach at the forefront.

2 App Review + Ts&Cs + Consent Scenarios

This workshop aimed to examine the layers of user consent within app reviews, terms and conditions, and specific consent-related scenarios. This is aligned with the first phase of the design sprint, where "experts from across the business articulate the problem space" [1], p.64, as Rogers described concerning privacy and consent. Designers must ensure that any request for user data is presented clearly and transparently, conveying the full scope of what is being asked from the user. For instance, the General Data Protection Regulation (GDPR) emphasises purpose limitation, where data should be utilised strictly for the intended purpose. This means an application should access location data only when necessary for service delivery, not while the application remains inactive. Tailored privacy settings are another aspect of people-centric design, such as website cookie preferences, which range from essential to optional. Such settings empower users to navigate in a manner that aligns with their privacy thresholds.

The workshop aided in formulating the subjective challenges of gathering data and measuring consensual interactions. Geographical variances in the interpretation of consent, such as with the US viewing privacy policies as consent versus the EU's legal processing of data based on explicit consent, reveal the complexity of designing for a global audience.

For instance, it highlighted the subjective nature of consent interpretation through real-world scenarios, such as in victim support systems. The tonality of "yeah that's fine" can mask potential hesitation, showing the need for careful consideration when interpreting consent during data collection. Here, the distinction between consensual vs. non-consensual needs to be revised, eliciting a more delicate approach. This insight is noticed with Corrigan's [2] findings that it is vital not to overlook the complex social and personal contexts in which individuals make decisions, where it is reduced to a mere administrative protocol, thereby undermining the ethical intent of truly informed consent. This can be addressed by fostering an environment where patients or subjects can make genuinely informed decisions based on fully understanding the implications, risks, and benefits involved.

Consider Google's terms and conditions, which users must accept to access their services. The depth of user consent may vary, with some individuals only partially consenting to their data sharing. The pervasiveness of Google's services presents an illusion of choice, where opting out is hardly feasible for most due to how tightly integrated it is in our daily usage. Thus, it is increasingly crucial to reach contemporary interaction, where a more comprehensive range of values, such as empowerment and control, are introduced, which can only be instantiated at the start of the design process and measured by usability. In order to facilitate consent correctly, this paper [3] suggests evaluating "the extent to which a formal capacity assessment must be conducted", the "emotional and valuational competency", and constant ongoing evaluation of capacity

to ensure consent is maintained at all times.

3 Workshop Interview Analysis

The workshop's focus on interview analysis was also critical for learning data gathering within the design process. This aligns with the user-centred approach outlined in the lifecycle model [1], p.62, and is also reflected as the first stage in the double-diamond design framework [1], p.52. Using the primary research data, we employed grounded theory methodologies to find recurring themes related to online privacy from the interview data. Key themes such as consent, data, privacy, ease of use, choice, and temporary (referring to the duration of the data kept) emerged as focal points. Although qualitative data allows us to understand an issue in depth, counting qualitative data does not necessarily provide useful information, so quantifying their frequency using these key themes was essential to identify potential knowledge gaps. This first stage of thematic analysis facilitated the progression to axial coding, enabling us to relate themes to an affinity diagram. This diagram later laid a foundation for distilling user requirements based on previous people's experiences. The qualitative data analysis was inductive, extracting themes directly. In contrast, a deductive approach could streamline this process, in which pre-existing concepts are used to interrogate the data.

A robust data collection strategy collects sufficient, accurate, and relevant data. In some instances, methods like indirect observation may be more effective than interviews alone in mitigating response bias to determine the individual's honesty. This paper [4] stresses the importance of systematically categorising interview data by considering the context while being mindful of the researcher's biases and ensuring that the outcome remains true to the original contexts. Additionally, since the data collection process involves setting clear goals and engaging a representative sample of participants with diverse experiences related to data and privacy concerns, choosing the appropriate type of questioning (open or closed) should be considered for the product's goals. Questionnaires also present a valid data collection tool, offering widespread reach and efficiency, leaving the physical presence of the researcher absent for completion. To later create personas using this stage of design, as done using the challenge cards in a different workshop, this paper [5] mentions asking open-ended questions (qualitative data) like "how" and "why" to delve deeper into user behaviours rather than relying solely on closed questions (quantitative data), helping in enhancing the usefulness of the personas in the design process.

4 Workshop Ideation

This workshop aimed to enrich our understanding of the ideation phase. Creativity of ideas should not be subject to criticism by other people's opinions, as they are all diverse and equally valid. This exercise stresses the importance of withholding judgment, recognising that creativity thrives in the diverse input of every team member. This corresponds to the 'Develop' stage of the double diamond design process, whereby all ideas are generated and filtered through to create a comprehensive, usable, and accessible design feature. Our team was given an example of a bank app called "OINK", which was tailored to young adults to promote financial literacy by encouraging saving. Later, ideas can be filtered through by their usefulness to the application and its overall purpose. Although creative ideas should not be ignored, they must be aligned with the greater vision of the system. This is especially true as "increasingly, new interfaces that are context-aware or monitor people raise ethical issues concerned with what data is being collected and for what is it being used." [1], p.233.

A considered feature in the first stage to address control was the categorisation of monthly spending, allowing users to quickly identify areas of high spending, such as entertainment, and compare them month-over-month. They can also have the ability to rename certain payments belonging to specific categories. This idea was envisioned through interface metaphors such as a wallet, where each pocket is a different spending category, and some would look fuller than others, depending on the proportions of spending. Interface styles such as icons of a grocery basket to symbolise food or wheels to represent travel would be included, whilst interaction styles would be operated through gesture-based controls like tapping and swiping. These are the three approaches of an initial conceptual model to aid the design team, inspired by Rogers's discussion of

the interface believability [1] p.176, where we considered "how comfortable they feel when using a product, and/or how much they can trust it".

However, not all ideas proceeded to implementation. One such idea to address transparency was sharing a potential balance if the user did not decide to spend a certain amount that's calculated on average. For instance, if there is an optional spending such as entertainment, this would be added, whereas a necessary one such as bills would not be as the user needs to make that payment. Nevertheless, upon reflection, the subjective nature of what constitutes 'necessary' versus 'optional' expenses for the user led to its end in the initial stage. Moreover, our design must adhere to the ethical principles of "privacy, fairness, accountability, transparency, and explainability" [1] discussed in p.334.

5 Reflections on Process

It should be noted that users are experts in their domains, so it is an excellent rationale to include them in the design process throughout all stages, from the double diamond diagram to the six-phase design sprint diagram to the interaction design lifecycle model. This is important as the eventual end-users of the product deserve to be included in the design, which will eventually affect them.

Contextual inquiries should be defined carefully by considering the context in which the data is gathered. Mixed methods like interviews and prototyping may be more valuable than interviews alone. This is also known as triangulation, discussed in p.242 [1], where different types of data are combined from multiple perspectives to avoid the limitations of a single method and increase confidence in the findings. These improvements can lead to better quality prototypes, either low-fi or high-fi, horizontally (lots of features) and vertically (lots of detail), which then directly affects the design evaluation.

Reflecting on the ideation process's effectiveness, this paper [6] mentions, "should the idea generation process be evaluated, or is it better to simply evaluate the outcome, i.e. the ideas generated?". While the current design paradigm is outcome-oriented, a process-based approach may offer more efficient idea filtration, optimising time and engagement. Exploring alternative ideation methodologies could also prove beneficial. One example is a concept called DesignLibs from this paper [7] where the "method uses scenarios with missing words, which potential users fill in to generate ideas for features and attributes of new technology designs". They found that this method generates many ideas quickly and can significantly complement existing forms of ideation.

6 Conclusions

The sequential transitions of the workshops intentionally complemented conventional design protocols, such as the interaction design lifecycle model. This alignment facilitated coherency from the initial data gathering and analysis phases to the subsequent ideation and design refinement stages.

Throughout the workshops, the iterative process of examining privacy and consent scenarios, analysing interview data, and embracing ideation led to the creating of a sensible mid-fidelity prototype to evaluate later, following industry standard guidance. The insights from each phase stressed the necessity of a user-centric approach, reaffirming that design is not simply about colours and fonts but creating a framework within which users navigate their digital environment with enjoyability, power and control.

The consequences of completing the workshops fostered an understanding that effective design must be empathetic, ethical, and empowering, laying the groundwork for prototypes that resonate with users' needs and ethical standards. In retrospect, the workshops served as a crucible for theoretical learning and a catalyst for practical application.

In conclusion, the workshops were instrumental in providing a protocol of design ethos using user privacy and consent as relevant examples. They instilled a keen sense of responsibility to foster functional, usable designs (UI) and have user experience (UX) aligned to the users' digital rights and freedoms. The progression through these workshops has been pivotal in sculpting a design philosophy that anticipates guiding future human-computer interactions.

7 References

References

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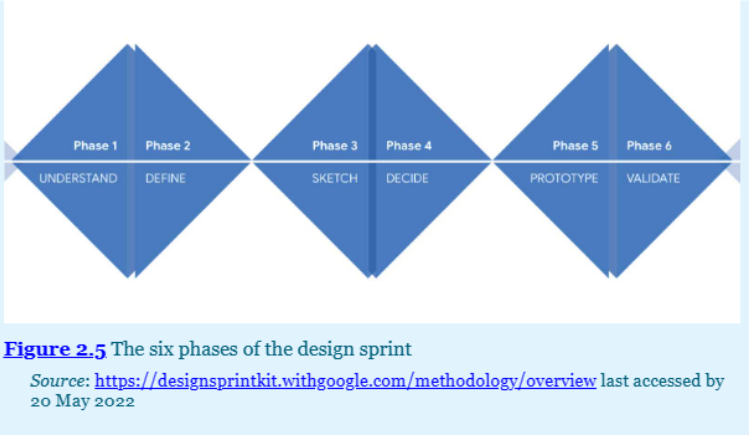

Figure 2.5 The six phases of the design sprint

Source: https://designsprintkit.withgoogle.com/methodology/overview last accessed by 20 May 2022

Figure 1: The six phases of the design sprint. Adapted from [1], p. [64].

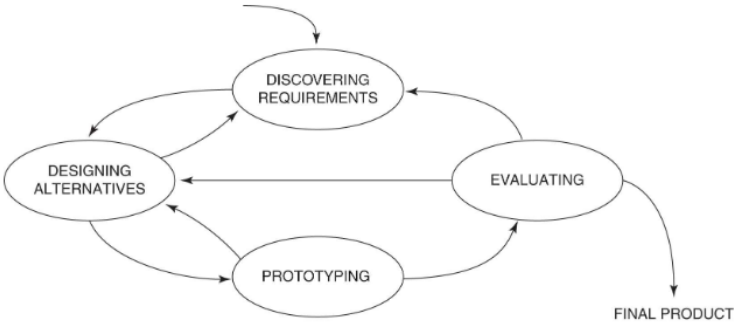

Figure 2.4 A simple interaction design lifecycle model

Figure 2: A simple interaction design lifecycle model. Adapted from [1], p. [62].

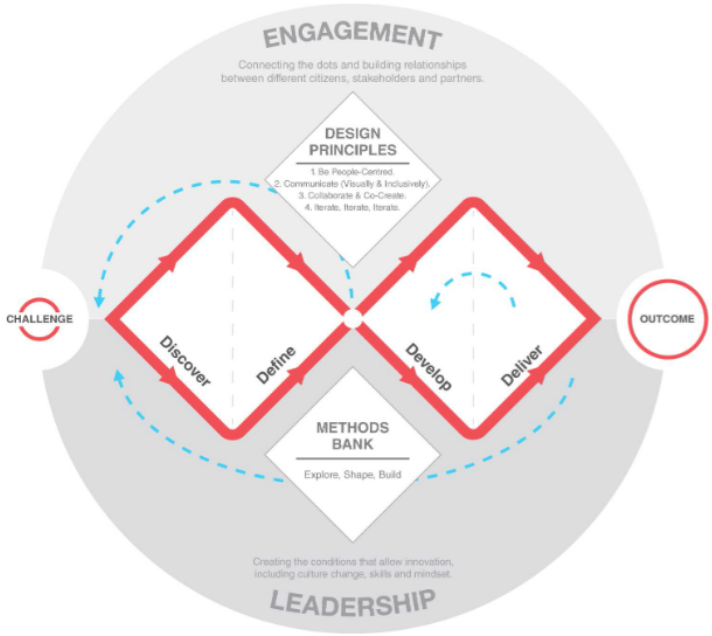

Figure 3: The Design Council's framework for innovation with the double diamond of design at its heart. Adapted from [1], p. [52].