Dynamic Audience Selection (DAS) Proposal Revision

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RESEARCH QUESTION

In this project we aim to explore the feasibility and usability of dynamic, on-the-fly audience selection mechanisms for Facebook. We build upon previous research in the areas of Social Computing and HCI that identified several challenges in the conceptualization of an audience on social media. These challenges include: i) audiences are often invisible and largely imagined [3], ii) audiences are often underestimated [1], and iii) current audience selection mechanisms are not fluid [2, 4, 6]. Further, our project is guided by two premises: i) Facebook users have a selective audience in mind while sharing topically specific content on Facebook [4, 6], and ii) users prefer to have more control over how they select their target audience [2].

Since current audience selection tools are insufficient at providing a flexible experience, we will design a clickable prototype to offer Facebook users a simulated experience of using DAS. By observing how participants engage with DAS, we hope to address the following questions: i) in what ways might users prefer DAS over the current selection mechanisms? ii) What are some challenges with using DAS? Our contribution lies in extending this line of research by exploring a dynamic audience selection mechanism that provides users with greater agency and control over selecting their audience in an on-the-fly fashion.

HYPOTHESIS

H1: Given the limitations with current audience selection tools, we hypothesize that **users would prefer our DAS tool over current audience selection mechanisms.**

H2: Since DAS is a relatively novel design, we expect mismatch between system and mental models. For this reason, we foresee **challenges surfacing from our study such as cognitive overload, privacy concerns with using data driven analysis, and concerns around the impact of wrong selections.**

RELATED WORK

An important aspect of users' content sharing and privacy behaviors on social media is the audience whom a user interacts and shares information with. Extensive research has shown that social media users have a nebulous conception of their audiences, who are largely imagined [3] and often underestimated [1]. For example, one's content might be irrelevant to the wide variety of audience with different backgrounds, interests, motivations, and identity profiles. The irrelevance leads to reduced engagement and social capital. Without sufficient knowledge and active awareness of one's audience, users are unable to make good privacy decisions.

Furthermore, prior research suggests that current mechanisms for audience selection (i.e. grouping and privacy controls) are content agnostic, static, and not fluid. The rigidness is found to have negative impacts ranging from self-censorship [2] to context collapse [5]. To fill these

gaps in existing selection mechanisms, we study the feasibility and usability of an on-the-fly audience selection tool, which focuses on the specific context of a user's post and allows active user engagement in selecting his or her intended audience.

METHOD

We plan on running a two-part study to fully address our research questions. The first part will be formative whereas the second part will be evaluative. We believe that it is necessary to conduct formative research activities in order to discover concrete user preferences when it comes to DAS. Upon conclusion of the first part, we will create prototypes to visualize how the Facebook interface might look with DAS. The selection controls here should reflect our takeaways from the formative research activities. Then, we will evaluate our designs by conducting evaluative research activities. Doing so will help us understand how potential users might interact with the selection controls.

Formative Research

We will distribute a survey to gather user preferences with regards to how they might want to dynamically select audience for specific posts. We believe a survey is useful here because we may be collecting sensitive information; doing a survey allows participants to complete it with anonymity. Additionally, it lets us gather more data within a shorter time frame.

Prototype Design

We will create static screens (aka modified screenshots) to simulate the Facebook interface. The screens will be made clickable through InVision. While our prototype will not be functional, we believe that the visual fidelity, combined with participants' familiarity with Facebook, will help them imagine how the end product will work.

Evaluative Research

The goal of evaluative research is to understand 1) the extent to which users might find DAS useful and usable, and 2) how DAS compares to the existing system. By comparing our design to the existing system, we can evaluate whether our DAS protocol is a better approach to helping participants achieve their privacy and usability goals.

To do this, we will conduct task-based, in-person testing with 10 participants. We will employ a **within-subjects** design: each participant will interact with both the existing system and our prototype. The order will be counterbalanced to minimize ordering effect.

Each participant will be given task scenarios that are identified in literature as situations where users would use DAS (entertainment, politics, personal updates, etc.). The instructions for each task explicitly lists changing the user's privacy settings for posts as the goal. During the session, test subjects will be asked to think aloud and address any clarification questions from the facilitator regarding the design. Finally, participants will be asked to share with us their overall experience and complete a post-test questionnaire.

Example task instruction: use _____ to change the privacy settings for a post related to politics.
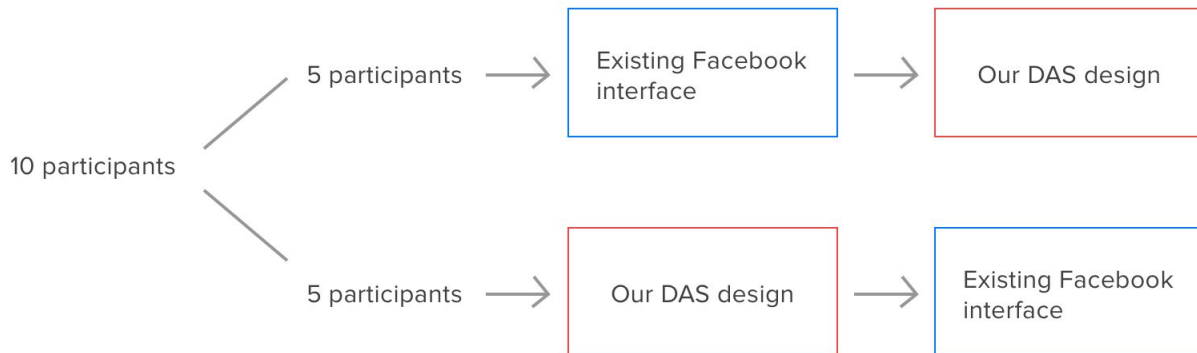
Evaluation

Participants will be asked to report their experience with both the existing Facebook interface and DAS, such that we can compare the two. We will collect both qualitative and quantitative data. In terms of qualitative data, the think-aloud and exit-debrief protocols allow us to collect criticism of and suggestions for improvement on the interface. On the other hand, for quantitative measures, we will consider task completion rates and their privacy experience. Specifically, we gauge their subjective evaluation of the privacy experience with the following questions (which they will answer on a Likert scale from 1:strongly disagree to 7:strongly agree):

1. When using A, I know who might see this post
2. When using A, I feel confident that only the people relevant to this post will see the post
3. When using A, I feel comfortable sharing this post
4. When using B, I know who might see this post
5. When using B, I feel confident that only the people relevant to this post will see the post
6. When using B, I feel comfortable sharing this post

(A = the existing Facebook interface; B = our DAS design. It is our hope that their ratings for questions 4 to 6 will be higher than the ratings for questions 1 to 3).

We succeed if our project does any of the following: 1) helps identity what users want from a selective audience tool, 2) introduces a prototype that allows for easy identification of where improvement is needed (ex. better categories verses more usable application) or 3) reveals previously unnoticed deficiencies in design, technology or research, or 4) turns out to be the DAS tool users always wanted. Most exciting, the study is a great opportunity to examine both users' and Facebook's assumptions about the way they conceptualize categories of people.

Ecological validity

By borrowing existing Facebook features (the way Facebook currently categorizes its users, privacy settings for posts, etc.) we are able to simulate a system that our participants are comfortable using. We believe that their familiarity with the platform will facilitate natural

interactions, allowing us to observe behaviors that are relatively consistent between a lab setting and in situ. Our think-aloud and exit debrief protocols (evaluation methodology) will then allow us to understand how users might prefer DAS over the existing interface (H1) and the specific challenges with the DAS design (H2). Importantly, we recognize that users often resist design updates, so it is possible that even if our DAS received positive feedback in lab, it might not be immediately well-perceived should Facebook actually adopts the changes. Therefore, we will be sure to mention that in order to fully explore the potentials of DAS, the design needs to be used by end users extensively.

Study recruitment plan

Due to the scope of the project, we would like to focus on GT students as a subset of Facebook users. We will be conducting the initial survey on campus via Qualtrics. We will advertise through GT communication channels and anticipate predominately GT responders. We see this as an advantage since GT students are likely to be more privacy conscientious online than the general population, and the study is about active privacy measures. For the evaluative research phase, we will recruit students outside of the class in order to get their unbiased feedback.

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