CS6750, Assignment M4

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Abstract— Google began as a search engine but now provides cloud services and storage to users, especially those with Android phones. Google Photos is the de facto backup for photos taken with Android phones and offers online album creation and storage but has less robust means to share user albums with others. My analysis for the M assignments will be on the online album sharing interface of Google Photos and possible design improvements.

1 QUALITATIVE EVALUATION

One of my prototypes is to handle shared Google Photos as a virtual meta-album without full editing rights granted to share recipients. Since this functionality does not exist in Google Photos now, this is a paper prototype.

Participant impressions of the prototype will be evaluated through an asynchronous survey with mockups drawn of the proposed interface to be considered.

1.1 Evaluation plan.

Friends and Georgia Tech classmates will be recruited as participants in the asynchronous survey. As with my original needfinding survey, target participants would be Android phone users who take photos with their smart phones and store the photos to Google Photos. Some demographic information from the first survey will be repeated to gather more metadata for the user profiles. The evaluation will take place as an anonymous online survey through Peer Survey with no identifying information recorded.

1.2 Evaluation content.

1. Please indicate your gender identity.
   - o   Male
   - o   Female
   - o   Transgender\Nonbinary

- Prefer Not to Answer
2. Please indicate your age range
    - 18-24
    - 25-34
    - 35-44
    - 45-54
    - 55-64
    - 65-74
    - 75 years or older
3. How would you rate your skill level with Google Photos and its features?
    - 1-Beginner
    - 2-Some Experience
    - 3-Moderately Experienced
    - 4-Skilled
    - 5-Expert
4. When you share online photo albums with friends, for how long do you share the photos?
    - 1 Week
    - 1 Month
    - 1 Year
    - No time limit
5. How often do your friends add photos to your albums?
    - 1-Never
    - 2-Rarely
    - 3-Sometimes
    - 4-Frequently
    - 5-Always
6. Do you share albums in the same way with all friends or do you share albums on different platforms and methods depending on your friends' preferences? [freetext response]
7. Do you view friends' albums in Google Photos?
    - 1-Never
    - 2-Rarely
    - 3-Sometimes
    - 4-Frequently
    - 5-Always

8. How often do you add your photos to friends' albums in Google Photos?
   - o 1-Never
   - o 2-Rarely
   - o 3-Sometimes
   - o 4-Frequently
   - o 5-Always
9. Once you share albums with friends, how much time do you spend managing access to your albums?
   - o 1 hour\week
   - o 1 hour\month
   - o 1 hour\year
   - o I do not do housekeeping on album access.
10. Please consider the following mockup screens and indicate which you prefer. [This would consist of several side-by-side mockups of the current and proposed album sharing screens and interface with a checkbox to indicate which is preferable and a box for free text explanation. The mockup screens would compare the screens used to share albums with others and manage owner's share access.]

1.3 Requirements satisfied by evaluation.

Users in the original survey were storing their smartphone photos in Google Photos and needed an easily learnable and clearer way to share online albums with friends while maintaining security and control of their photos.

This evaluation explores a few questions that came out of original needfinding related to how long photos are shared, whether friends need or expect to add to the owner's photo albums, and whether album owners were sharing album links through SMS or Google Photos based on their or their friends' preference.

2 EMPIRICAL EVALUATION

The proposed Google Photo virtual album prototype could be evaluated empirically because most of the improvements in this prototype are centered on efficiency and visibility of album sharing status with no other changes to the interface.

The existing Google Photo album sharing screens would represent the control condition. The new interface and its similarities to Google Drive sharing could be the experimental condition. The treatment would be testing how efficiently and quickly users could share and revoke albums, how quickly they could identify albums they shared, or others shared with them, and change the sharing status. Comparison tests would be limited to functionality that Google Photos currently supports.

The null hypothesis is that it takes the same amount of time, clicks and user focus to share and manage albums in the new prototype as the current Google Photos interface. The alternative hypothesis is that the current interface or new prototype will be easier and faster to use.

This evaluation will be conducted as a within-subjects study, with subjects randomly assigned to groups who will either exercise the current or prototype interface first. For each treatment, participants will log into the interface, create an online album, share it with friends and then change the album access. Software logging will capture the time needed for each task and how many attempts it takes for participants to accomplish the tasks. Chi squared analysis or ANOVA tests can measure whether there is a statistically significant difference between the results of the treatments. Learnability could be a lurking variable in my prototype, since I would be measuring time-based performance of users interacting with a new interface compared to one they know well. In the original survey, experienced Google Photos users owned and shared the most albums, and I would expect them to perform their tasks quickly in the existing interface out of familiarity.

3 PREDICTIVE EVALUATION

Only a predictive evaluation can be done of my other prototype, which is a network visualization of Google Photos album sharing and possibly a different paradigm for hosting the albums.

A cognitive walkthrough will be conducted to explore how users share their online albums, identify who can view their albums, and manage access. My prototype extends the existing Google Photos interface with a new management screen and visualization, so the evaluation will focus on the user navigating from the known screens to the new area and figuring out how to use it to manage

albums and access. Data from this walkthrough will tend to be qualitative based on the experience of the new interface and whether it communicates better information to the user.

4 PREPARING TO EXECUTE

I will perform qualitative and predictive evaluation for the next assignment because no prototypes are ready for empirical evaluation and the second prototype is so different from the existing interface that comparison tests would be difficult to define.