**Progress report:** Facebook grouping diary study

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**Introduction**

People are voluntarily sharing increasing amounts of information online on social networks and other online applications. Often, individuals share information with all their connections and online friends, although they may have preferred to share with only certain subgroups. Alternatively, lacking the ability to share ideas and information selectively, they may refrain from sharing altogether. While tools to share with certain groups exist on Facebook and Google+, these tools lack defaults and suggestions to help users. Additionally, there is limited understanding of how groups can be created to optimize privacy decisions.

In our study we use a diary study to attempt to better understand how people would prefer to share on Facebook by looking at the decisions in which users ultimately decide not to post, i.e. self-censorship. Participants will be given the opportunity to share the content they consider sharing with friends but decide not to post as it occurs over a one-week period. They will be asked daily to explain the reasons they chose not to share. We hope to use this data to extract information about sharing preferences, specifically those friends for whom people want to hide certain content but for whom they cannot currently do so under current grouping settings.

This qualitative data we will get about how privacy is maintained will allow us to take a first step toward understanding users’ ideal privacy settings. We may find that certain groups of qualities of Facebook friends can be used to create default privacy settings or default groups or can be used to help suggest types of Facebook friend groups for the development of a grouping tool.

**User study plan**

We will perform a diary study over the course of 7 days with approximately 10 participants. During our initial pilot we plan to recruit 2-3 participants to test the study over 2 days to find issues with our study design prior to conducting the full length study.

In this section we outline the study design and protocol and describe how we plan to perform an initial pilot of our design.

**Overview of user study design/protocol**

Our study consists of three major components: an online screening survey, a weeklong diary study with nightly online surveys, and a final in-lab interview.

***Screener***

We will recruit participants through a combination of CBDR, Craigslist, and flyers put up around the CMU campus. Participants will be asked take an online screening survey (Appendix A). We will screen for English-speaking participants who: are over 18, post regularly on Facebook, have things they would like to share with friends but decide not to post on Facebook, are willing to detail their thought process about those decisions, and have cell phones that they use to send text messages.

Participants will not be paid for completing the screening survey.

***Diary study***

After the screening, we will send qualified participants a set of online instructions (Appendix B). Concisely, participants will be asked to send us text messages describing anything they would consider sharing with friends, but decide not to post on Facebook. Every night we will send each participant a questionnaire (Appendix C) that is designed to obtain additional, detailed information about each text message the participant sent us throughout the day. The goal of the survey is to understand the factors that belie participants’ decision not share specific content on Facebook. To mitigate the effect of participants forgetting to send text messages or not sending in posts, the questionnaire will ask participants who do not send in any text messages general questions about their Facebook usage.

To implement our nightly questionnaire, we will use Twilio, a service that stores text messages sent to a specified number on a server accessible through RESTful API calls. Each participant will be given a unique ID hashed from their phone numbers that she will be able to use to access her customized questionnaire every night.

Participants will be paid $2 per nightly survey that they fill out.

***Final interview***

Participants who fill out at least 4 nightly surveys will qualify to participate in a final interview at the end of the weeklong period. The interview will be semi-structured, last approximately one hour long and will take place in-person in the lab. We will schedule times with each qualifying participant over email. The draft script for the final interview is included in Appendix D.

The goal of the final interview is to probe a participant about the factors underlying her decisions not to share certain content on Facebook. Specifically, we want to understand the characteristics of people that the participant would and would not like to have shared the material she reported, and extract commonalities between these groups of people across participants to inform ideal default friend groupings. Additionally, we will also ask participants to detail any other reasons they might have decided not to post the material. We would also like to probe in more detail about participants sharing preferences and social media usage. We will prompt participants with their questionnaire responses.

At the end of the interview, participants will be paid $20 (plus payment for the nightly surveys).

**Progress to date**

To date our progress has primarily been in three areas: submitting our IRB forms, designing our basic protocol, and starting to create the technical framework we intend to use.

**IRB submission**

We submitted our IRB forms on 10/31/11. We hope to get approval within 2-3 weeks to have time to complete our study. If we do not get approval in time to complete the study, we will complete a larger-scale pilot version of the study with additional volunteer participants we recruit from among our friends.

**Protocol development**

To submit our IRB forms we developed our basic protocol as well as basic versions of all the surveys we planned to use in our study and a basic interview guide for the final interview we planned to perform. In preparation for an initial pilot version of the study we developed the basic versions of the surveys and interview guides into functional (SurveyGizmo) versions of the surveys and a full interview script. These materials are ready for an initial pilot.

**Technical framework**

As described previously, our study requires a technical framework to allow participants to text us posts they think about posting but decide not to post and allow us to incorporate these texts into a nightly survey that will then be sent out to participants. We have begun to develop this framework. To date, we have developed a prototype web application that renders text messages sent from distinct phone numbers onto distinct webpages accessible through a unique identifier. We are in the process of creating the questionnaire and nightly mailing service. We believe the implementation of these services to be relatively straightforward. We hope to use this functionality to get the full survey running in time for the initial pilot; however, if we cannot get it to work properly, we will hand-enter the nightly surveys for our first round of piloting.

**Problems so far**

We have had some protocol and technical issues so far.

***Protocol issues***

On the protocol side, the biggest issue we have faced so far is trying to determine how to motivate participants to send us posts without falsely influencing them to make up posts. Our original idea was to pay participants per post; however, this strategy might unduly influence participants to invent posts for payment. Our current solution is to force participants to fill out a nightly survey of approximately the same length to receive payment whether or not they send us posts. We will also screen participants to ensure that participants have posts to send us based on past record and are willing to share such posts. Additionally, we will screen for participants who are frequent texters (so that they will not be negatively influenced by the requirement that they text us potential posts). Using this strategy we hope that participants will be motivated to to text us posts.

***Technical issues***

Our biggest technical issue at this point is determining how to capture and display texts. However, so far we have been able to make significant progress and believe the implementation of our service to be feasible.

**Plan going forward**

Our current plan going forward is to try to launch our initial 2 to 3 person pilot in the next week. If possible, we will launch it with full technical infrastructure; however, if we are not able to get the full text message/website interface working, we will figure out how to incorporate the level of functionality we have working into a protocol and launch the pilot with a partially manual protocol.

After the pilot we will make any necessary changes to the protocol, make sure we finish and test the technical infrastructure, and make sure we have the study ready in the next ~2 weeks (estimated, optimistic IRB return date).

**Appendix A: Screening survey**

[ONLINE CONSENT FORM]

[APPEAR AT BEGINNING] During this survey we may ask you questions that may relate to other people. When answering these questions, please only identify other people by first name or nickname. Please do not include other people's full names, Facebook identifiers, email addresses, phone numbers, or addresses

1. What is your age? [FREE RESPONSE, ELIMINATE IF BELOW 18]
2. What is your gender?
3. On a scale of 1-5, where 1 is not fluent at all and 5 is native speaker, please rate your English fluency [ELIMINATE IF BELOW 4]
   1. 1 – Not fluent at all
   2. 2
   3. 3
   4. 4
   5. 5 – Native speaker
4. What is your occupation?
   1. If a student – what are you studying?
5. Do you have a Facebook account? [ELIMINATE IF NO]
6. How long have you used Facebook? [ELIMINATE IF LESS THAN 1 YEAR]
7. On average, how often do you post content on Facebook (e.g. pictures, comments, posts, direct messages)? [ELIMINATE IF NOT d OR e]
   1. <1 time per month
   2. More than 1 time per month but less than 1 time per week
   3. More than 1 time per week but less than 1 time per day
   4. More than 1 time per day but less than 5 times per day
   5. More than 5 times per day
8. How many of each type of content have you posted to Facebook today:
   1. Picture
   2. Post
   3. Comment
   4. Direct message
9. How many of each type of content have you posted to Facebook this week:
   1. Picture
   2. Post
   3. Comment
   4. Direct message
10. Thinking back over the **last 7 days**, how many things (e.g. posts, pictures, comments, direct messages) did you think about posting on Facebook but decide not to post? [ELIMINATE IF NOTHING or 1]
    1. Nothing
    2. 1
    3. 2
    4. 3-5
    5. 6-10
    6. >10
11. Please give an example of **2 things** you thought about posting on Facebook but decided not to post **in the last 7 days**. If the posts are comments or messages please include the text as best you remember it. If the posts include pictures or videos, please describe the pictures or videos.
12. Do you have a cell phone?
13. What type of cell phone do you have?
14. On average, how often do you send SMS text messages on your phone?
    1. Never
    2. Less than once per month
    3. Less than 1 time per month but less than 1 time per week
    4. More than 1 time per week but less than 1 time per day
    5. 2-5 times per day
    6. 6-10 times per day
    7. >10 times per day
15. What is an email address we can reach you at
16. What is a phone number we can reach you at

**Appendix B: Instructions for diary study**

**[ONLINE CONSENT FORM]**

**Purpose:** The purpose of this study is to understand why social network users decide not to share certain content with their “friends.”

**Your Task:** We want you to send us everything you would like to post on Facebook but do not for some reason, just like you did in the screening survey you filled out.

Over the **next week**, whenever you encounter a situation or a thought that you would like to share with some of your friends on Facebook, but decide not to, please **send a text message to (xxx) xxx-xxxx** with a **short description of that content**. Please indicate the type of content (e.g. direct message, wall post, picture, etc) as well as what the content would contain.

At the end of each day, we will send you an e-mail with a link to a webpage. You will be asked to fill out a brief survey based on the content you send us. Once you finish the survey, simply hit Submit and continue sending us text messages about any content you decide not to post.

In total, the study will run for 7 days. If you fill out at least 4 of the nightly surveys, at the end of this time period we will contact you to schedule a time come in to our lab on the Carnegie Mellon campus for a ~1 hour long interview.

**Please remember**, during this survey you may provide information that may relate to other people. When answering these questions, please only identify other people by first name or nickname. Please do not include other people's full names, Facebook identifiers, email addresses, phone numbers, or addresses

**Payment:** You will be paid a $20 flat rate for completing the study if you fill out at least 4 of the nightly surveys. In addition, at the end of the study, you will be paid $2 for each of the nightly surveys you complete. YOU **WILL NOT** BE REIMBURSED FOR ANY TEXT MESSAGING FEES YOU MAY INCUR.

**Contact information:** Before we get started, please provide us with some contact information

What is an email address we can reach you at over the next week:

What is a phone number we can reach you at over the next week:

What type of cell phone do you have (make/model):

Who is your cell phone provider:

**If you have any questions, you can contact us at:**

**CUPS Lab**

[balebako@cmu.edu](mailto:balebako@cmu.edu)

XXX-XXX-XXXX

**Appendix C: Nightly survey:**

[AT BEGINNING] During this survey we may ask you questions that may relate to other people. When answering these questions, please only identify other people by first name or nickname. Please do not include other people's full names, Facebook identifiers, email addresses, phone numbers, or addresses

[IF THE PERSON SENT IN AT LEAST ONE POST]

For each post:

* Why did you decide not to post this to Facebook?
* Were there any people you would especially not want to see this post?
* Were there any people you would especially want to see this post?
* Where were you when you decided not to post this to Facebook?
* What were you doing when you decided not to post this to Facebook?

[IF THE PERSON DID NOT SEND IN ANY POSTS]

* Did you post anything on Facebook today?
  + IF YES, FOR EACH THING POSTED ON FACEBOOK
    - What type of post was it (e.g. direct message, wall post, picture) [DROPDOWN MENU]
    - Who was the intended audience for the post?
    - Why did you post it?
* IF NO:
  + Why didn’t you post anything to Facebook today?
  + Why didn’t you think about posting anything to Facebook today?
* Was there anything you thought about posting to Facebook and decided not to post that you forgot to send by text message?
  + IF YES:
    - For each:
      * Why did you decide not to post this to Facebook?
      * Were there any people you would especially not want to see this post?
      * Were there any people you would especially want to see this post?
      * Where were you when you decided not to post this to Facebook?
      * What were you doing when you decided not to post this to Facebook?

**Appendix D: Final interview script:**

**Checklist:**

-2 copies of consent form

-Pen

-Posts/survey answers for each post

-Audio recording set up

-Money

-Payment signature form

**Introduce self**

Hello. My name is [INSERT NAME] and this is [INTRODUCE OTHER PERSON]. Today we will be conducting the final interview for the Facebook study you have been participating in.

First, let’s quickly go over how today’s portion of the study is going to work. For the last week you have been reporting on Facebook posts that you thought about posting but decided not to post and filling out nightly surveys. Today we are going to ask you some questions about those posts and your answers to those nightly surveys. I expect this interview to take approximately one hour.

**Describe consent form**

If you agree to participate in today’s portion of the study you will be answering some questions about the posts you described this week, your survey questions, as well as some general questions about social network site usage and demographics. As you answer the questions, we will make an audio recording of the interview. Only the researchers will have access to the recording, and we will only use it for the study. If we use part of your recording, or any of the posts you reported, as part of a paper or presentation, your name will not be associated with the material in any way.

During today’s session, although I do not expect this to occur, if you become uncomfortable at any point during the study, please let me know so that we can stop the study or move on to a different question. Do you have any questions at this time?

**Give consent form**

I have this consent form here [GIVE INTERVIEW CONSENT FORM]. If you sign it, it means that you give me permission to use your recording in my research, and it tells you whom to contact if you want to report any objections. I’ll give you two copies – one is for you to keep, and the other is for you to sign and return to me. [POINT OUT THE TWO PLACES THE SUBJECT NEEDS TO SIGN]

**Disclaimer**

Before we get started, I’d like you to remember that during this survey we will ask you questions that may relate to other people. When answering these questions, please only identify other people by first name or nickname. Please do not include other people's full names, Twitter handles, email addresses, phone numbers, or addresses

**Interview about posts**

At this point, I’d like to discuss the various content that you reported that you thought about posted and decided not to post [PULL UP CONTENT AND SURVEY ANSWERS ON COMPUTER].

We’re going to go through each piece of content and your survey answers, and I’m going to ask you some more detailed questions about the content.

[FOR EACH PIECE OF CONTENT]

1. Describe this potential post in more detail.
2. Why did you think you might want to post this content to Facebook?
   1. POTENTIAL PROBES:
      1. What were you doing?
      2. What were you thinking about?
      3. Do you typically think about posting content like this?
      4. Do you typically post content like this?
3. Can you describe in greater detail why you decided not to post the content on Facebook? [IF NECESSARY]
   1. POTENTIAL PROBES:
      1. Where were you?
      2. What were you doing?
      3. Do you typically post content like this?
      4. Was there something in particular about this piece of content that made you decide not to post it?
4. Of the Facebook friends you identified that you would want to share this content with, could you explain in more detail why you felt that these people were the appropriate audience for the content?
   1. POTENTIAL PROBES:
      1. Do you currently share content only with this group of people? What type of content?
      2. Do you currently block these people from seeing certain types of content? What types?
      3. Do you currently group these people on Facebook? On Google+?
      4. Was there something in particular about this content that you thought these people would be interested in?
      5. What do these people have in common?
5. Of the Facebook friends you identified that you would not want to share this content with, could you explain why you felt that that these people were not the appropriate audience for the content?
   1. POTENTIAL PROBES:
      1. Do you currently share content only with this group of people? What type of content?
      2. Do you currently block these people from seeing certain types of content? What types?
      3. Do you currently group these people on Facebook? On Google+?
      4. Was there something in particular about this content that you thought these people would be interested in?
      5. What do these people have in common?
6. If the people you identified as not wanting to share the content with were not your Facebook friends and would have no way of seeing the content you posted, do you think you would have posted this content?

**General questions**

Thank you. Now I’d like to ask you some more general questions about your social network usage.

1. What do you think are the primary reasons you don’t post specific content to Facebook and other social networking sites?
2. What are the primary reasons you do post content to Facebook and other social networking sites?
3. What social networking sites do you use?
4. How do you protect your privacy on social networks?
5. Do you find Facebook “friend” groupings and/or Google+ circles useful?
   1. POTENTIAL PROBES:
      1. How do you use them?
      2. How have you heard about your friends using them?
6. Do you think you changed your Facebook usage habits while participating in this study?
   1. POTENTIAL PROBES:
      1. How?
      2. Why?
      3. How much?
      4. Do you think you’ll continue to behave that way after the study?
7. If you had the power to speak to the team responsible for designing Facebook, what would you ask them to change to help you better protect your privacy?
8. On average, how often do you post pictures to Facebook [REPEAT FOR EACH TYPE OF CONTENT, POTENTIALLY ON PAPER]
   1. <1 time per month
   2. More than 1 time per month but less than 1 time per week
   3. More than 1 time per week but less than 1 time per day
   4. More than 1 time per day but less than 5 times per day
   5. More than 5 times per day

**Payment**

Thank you – those are all the questions we have. Thank you for participating. Here is your payment. Please sign here [PAY AND GET SIGNATURE FOR PAYMENT]