Privacy in Emotion Sharing on Social Media

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1. INTRODUCTION

Prior research has shown that self-disclosure on social media can cause many privacy issues and negative consequences [3]. In this paper, we focus on one particular type of self-disclosure, namely, sharing personal emotions on social media. Because emotions are extremely personal experiences, emotion sharing may expose private and sensitive aspects of one's personal life. Therefore, emotion sharing may raise heightened privacy concerns. We seek to understand whether people are willing to share their emotions on social media, and how they share their emotions (e.g. publicly or privately). Answers to these questions will provide a deeper understanding of the privacy aspect of the emotion sharing phenomenon on social media.

2. EMOTION MAP APP

To help people keep track of and manage their emotions, we designed and implemented an Android application called Emotion Map [1]. This app also serves as our testbed to study the privacy aspect of emotion sharing. The app allows people to log their emotions on a map and share them with their friends or the public, or keep them privately for themselves. The app asks users to login via their Facebook accounts, so as to leverage the existing social network information from their Facebook accounts.

Emotion Map is similar to Facebook in many ways. For example, it allows users to share their thoughts and emotions, and tag their locations. However, unlike Facebook, each sharing on Emotion Map needs to tie with a particular emotion, and it requests the user to choose a type of place and a type of activity that are associated with that particular emotion. User location is by default collected along with the emotion. Emotion Map also provides a range of privacy settings for emotion sharing in a single interface. For instance, Emotion Map users can choose to share emotions with Facebook friends or the general public, or simply log the emotion privately that only themselves can see. In addition, since anonymity could reduce the risk of self-disclosure, the system supports anonymous sharing of emotions, as shown in Figure 1. The Emotion Map app also provides additional features focusing on presenting emotions. There are two aggregation approaches to visualize people's emotions, as shown in Figure 2. One is to present people's emotions on a map. We color code the emotion faces based on the relationships between the user who shared the emotion and other users. Orange faces belong to the user herself; blue faces indicate the user's friends who are connected on Facebook; and grey faces are other Emotion Map users, who are not
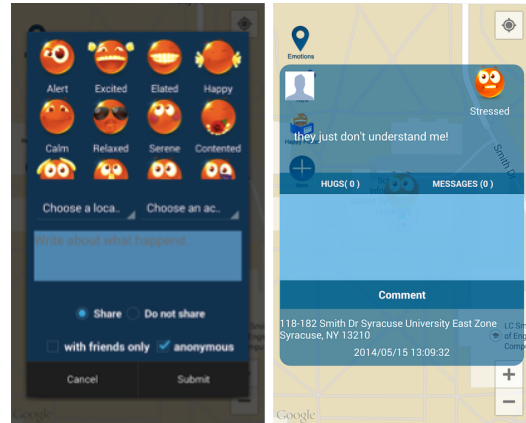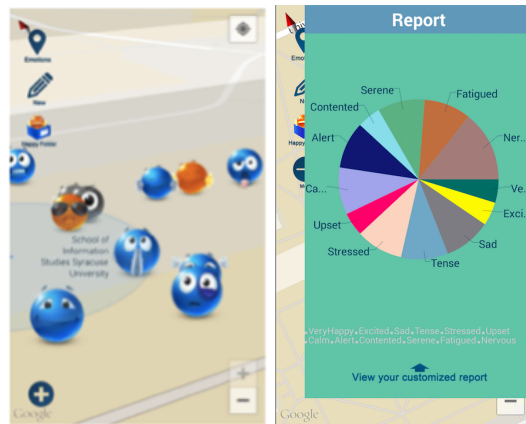

Figure 1: Sharing Options and Anonymous Sharing

Figure 2: Emotion Map and Self Emotion Report

connected with the user on Facebook. The second aggregation presents the user's own emotions shared in the past. We also enable different filtering functions based on locations, activities or time, so that the user can be more aware of the distribution of her own emotions.

3. EXPLORATORY FIELD TRIAL

We deployed the app on Google Play, and recruited 14 Android users (five women and nine men) to run a field trial using a trial version of the app. The participants are Syracuse University students from different majors such as information science, biology and neuroscience. Eight were Master's students and six were undergraduate students. Most partic-

ipants were connecting with at least another participant on Facebook prior to the study, except for P8 who did not know any other participants. We provided 10 cents for recording one emotion. Each day a participant can receive up to one dollar compensation. We did not provide any incentive for sharing publicly or privately. Before the study, we emphasized that if they choose to share, they can further choose to share only with friends. Regardless whom they share with, they can share anonymously. If they do not want to share, they can choose the private option, so that the emotions will not be visible to other users at all. We scheduled one-hour interviews with the participants after they were in the study for 14 days.

3.1 App Usage and Emotion Sharing

Based on app usage and emotions logged within the first 14 days, we manually classified participants into three groups — active, regular, and inactive users. There were five active users who logged two to four emotions per day. They also looked up others' emotions and used various app features frequently. The regular user group had six users who shared emotion almost once a day. Three users were considered inactive. They either shared three emotions at the beginning of the study, or shared at most five emotions during two weeks. We also logged all user interactions with the app. Interestingly, we found that each group had at least one participant, who checked others' shared emotions way more than sharing their own.

In the interviews, we asked participants whether they post frequently on Facebook, their general experiences with the Emotion Map app, and how they would compare these two systems. In general, participants thought that the Emotion Map focuses on emotion collection and sharing, which made them feel more comfortable in sharing details about their emotions. While they post on Facebook, they tend to re-post others' interesting posts or pictures, or post their own accomplishments.

Three participants felt *"People post on Facebook for attention."* This is consistent with prior literature showing that people tend to post actively on Facebook especially when they try to be popular [2]. P12 commented *"It seems emotions are generally under-represented in social media. While the usefulness of social media is superficial, this app can log how people are feeling and enable people to help others with their emotions."* P8 said *" The topics on Facebook can be very broad such as party and vacation. I feel sharing my emotions are appropriate in this app."*

3.2 Privacy-Preserving Emotion Sharing

Emotion Map provides two ways to preserve a user's privacy when logging or sharing an emotion. First, a user can choose the "private" option which will make the logged emotion only viewable by the user. Second, a user can choose "share" and "anonymously", which would not show any Facebook profile information of the user for this emotion.

Among 14 participants, only the following four participants used private sharing in the first 2 weeks. In particular, P4 logged 36 private emotions and 11 public emotions. P1 posted three private and 37 public emotions. P3 posted one private and eight public emotions. P6 posted 11 private and zero public emotions.

P4 had two close friends connected in the app. We were curious about why P4 had been consistently tagged emo-

tions to be private at the beginning of the study, and then after more than a week of use, she started to share emotions publicly. P4 said *"I typically try not to post emotions on Facebook, because they are too personal and there are a lot of people on Facebook that I actually do not know very well. At first I thought the emotion statuses that I post on Emotion Map would post on Facebook, so I chose to record the emotions privately, as a way to monitor how my own mood fluctuates. Then I realized that the statuses do not show up on Facebook. While there are strangers on the app, it is for a community of people who are able to express their emotions freely, not just to draw attention."*

P1 posts on Facebook for major milestones, e.g. graduation. P1 thought that people showing off on Facebook is spreading ego-centric negative emotion. He also showed great concerns using Facebook account to log into the app. The first question he asked was "Will my posts in this app be automatically posted on Facebook too?" Even though we assured him posts on this app will not appear on Facebook, he still seemed concerned. In this app, he only posted five emotions, and two of them were anonymous. Three negative emotions were posted publicly with his identity, whereas two positive were shared anonymously. However, he did express that he felt more comfortable in logging very emotional statuses in this app because he felt that this app was designed for emotions.

Four participants shared emotions anonymously with the public. Most of those emotions were negative. Some participants used the anonymous feature for their very first emotion logs, and soon after they shared emotions with their identity information. None of them chose to share with Facebook friends only. We plan to conduct a longitudinal field study with a larger user sample.

4. CONCLUSIONS

Many people regret sharing intimate emotional details with others on Facebook [3]. Understanding why and why not people are willing to share emotions on social media and if this can help regulate emotions is critical. Our field trial results suggest that providing people a focused social context, e.g. emotion community group can encourage people to share more emotions. Participants all liked the private and anonymous sharing features, and they used them in different occasions. We believe these features are useful to include for emotion sharing.

5. REFERENCES

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