online social groups

a study in redesigning group interactions for facebook

Taeil Kwak & Qianqian Zhao
Master's Thesis

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Executive Summary

Today's social networks are poor at forming and maintaining group interaction. Group organization systems do not capture social groups well, conversations get buried, and it takes too much effort to have meaningful conversations. By identifying a user's most important groups, reducing barriers to richer interaction, and leveraging availability as a trigger, we hope to increase the amount of group interaction and bring people closer together.

Introduction

We live in an age where we are bombarded with an abundance of information from all of our social connections. Platforms such as Facebook and Twitter enable us to connect with anyone and everyone. While this advancement in technology has been great, it has also led to negative consequences.

Connecting with everyone isn't necessarily socially beneficial. On Facebook, the threshold for being a "friend" is generally very low. As a result, people are broadcasting to a very large audience and regularly reading about people they have very little connection to. What was supposed to be a meaningful social experience ends up being just the opposite. Many have shared this sentiment, including public health consultant, Kate Otto, who states that "Facebook strengthened my ability to forge countless "weak ties" at the expense of fewer, but stronger, relationships." [3]

A recent study performed by Moira Burke helps reinforce this point. In an attempt to correlate social network activity with social well-being, she analyzed participants' survey data about well-being along with server logs of their Facebook activity for the two months prior to the survey. One of the findings of the study was that "Users who consume greater levels of content report reduced bonding social capital (emotional support from close friends) and increased loneliness." Burke goes on to say, "One interpretation of these findings is that our measure of consumption could encode "noise" in the user experience. That is, as users have more low-quality content in their feed, they may come to feel less connected with their friends." [2]

In an effort to counteract this, we sought to increase meaningful interactions with closer relations. We explored an area that is currently problematic: social groups.

The Problem

We believe that no current system or design maximizes the interactions that could occur amongst intimate social groups. Group communication is currently inadequate, scattered across various

channels such as email, Facebook messages, text messages, Skype, and Google Hangout.

Asynchronous Text Communication

Most group conversation over networks today occurs over asynchronous text communication. Some examples of this are email, Facebook messages, and text messages. While this has obvious benefits, such as being able to send and receive messages at any time, it has some major drawbacks as well. First of all, synchronous communication has the benefit of immediate feedback. Messages tend to be more formal and tailored, while instant messaging allows for more casual conversation.

In addition, text is not the most meaningful form of communication. The ability to hear someone's voice or see someone's face has great meaning in social interactions. These cues provide a more personal feeling and are key to building strong relationships.

In a study performed by Bos et al, three person groups played a game where teamwork was the most beneficial strategy to each individual, but only if they trusted each other. Selfish actions rewarded one individual, while greatly detrimenting the other two. Between rounds of the game, the team was able to communicate and strategize. Four modes of communication were provided: face to face, video, audio, and text. Sixty-six teams were distributed across those four modes. The study found that video and audio produced drastically greater results than text in terms of building trust. [1] We therefore posit that providing a means to richer media such as audio and video is important in the development of social groups.

Lack of Organization

Amongst the majority of these systems, there is a lack of organization in the messages. Messages are generally sorted chronologically, with the most recent message getting bumped to the top. Aside from that, these systems have no sense of understanding who is important. Important conversations get buried over time. This is especially problematic in email, which includes content such as work messages and spam.

There have been many attempts to organize groups. One example of this is Facebook Groups. To create a Facebook group, a user must add people to that group. This curation process does not accurately capture a user's social groups, because groups are incredibly nuanced and complicated. Groups can overlap or have subsets. In addition, groups can change over time as friends come and go.

Barriers to Entry

The final problem is that when people do want to have group interactions, there are too many barriers. First, every system lacks good group organization. This means that many group interactions force someone to create a list of people every time, especially since past messages have been buried.

Synchronous communication with multiple members is especially problematic. Since a good social group structure is not present in most buddy lists, the user must search for every member of a particular group to see if they are available. This is often a failed task (not finding the right people), which discourages spontaneous synchronous conversation.

Because of this difficulty, a lot of synchronous communication is planned. Consider how much work it can take to have a Google Hangout. Someone must first initiate the motion and message everyone to see when they are available. Then, depending on availabilities, this scheduling task could be difficult. Finally, everyone must remember to be available at that time. The amount of time and effort it takes discourages Google Hangouts from happening.

Initial User Research Results

We interviewed several people, including friends and classmates. We began by asking about their social groups independent of any tool. From our interviews, we found that people generally feel closer to their smaller social circles, and people they knew for a longer period of time. Most people have groups of close friends that number less than 10. Some mentioned groups that are geographically distant.

Our most important finding was that most people often message their groups in one way or another, whether it's text messaging, email, or Facebook messages. We plan to use this finding as the primary basis for organizing groups.

We also found that existing systems, such as Facebook Groups, did not accurately capture what users believed to be their social groups. Facebook Groups tended to do a better job at capturing more formal groups such as organizations and clubs.

Solution

Identification and Organization of Groups

First, identify and organize groups of people that are closest to the user. This can be done using data from their existing interactions (such as text messaging, emails, and Facebook messages). As pointed out in our research, most people message groups of people at a time using one of these platforms. These messages are a very strong indicator of social groups. Social groups are incredibly nuanced, and messages capture many of these nuances.

There are two major metrics to look at in determining the importance of groups: volume and recency of the interactions. The more interactions there are, the more a group matters. Recency is important to look at for two reasons. First, a recently formed group has potential to become something more. By making this group apparent, you can increase the likelihood of its development. Second, some groups decay over time. A common example would be groups of high school friends. Implementing

the ability to forget more accurately captures the real social world. This isn't to say that we are encouraging the loss of old friends. We just want to capture what is accurate. If for example, eight friends were very close and had a large number of interactions, it is unlikely that all eight remained close throughout the years, but perhaps four of them kept in touch. This new group of four would be what is relevant in the present, while the group of eight is forgotten.

Design to Encourage Interactions

Second, we needed to design an interface that encouraged group interactions. First, put a user's most important groups in close sight. Then, reduce barriers to conversation of higher fidelity such as chat rooms or video chats. This is because our primary goal is to bring people closer together, not just increase the amount of interactions. Finally, we want to leverage group availability as a trigger to initiate conversation. As mentioned earlier, it is often difficult to gather everyone at the same moment, so easily being able to see who is available could bypass this problem.

Implementation

We want to capture as many group interactions as possible, whether it's emails or messages. Therefore, user fragmentation is counter-productive to our goal. So instead of designing a new platform, we decided to incorporate our design into an existing system. Out of the candidates, we felt that Facebook and Google were the best options. We examined some of the pros and cons of each to help us choose one.

Facebook
- Facebook has the largest social network, which enables it to capture a large audience.
- Facebook Messenger is starting to creep into the texting domain, which allows it to capture more of these group interactions.
- Facebook messages are primarily social, so there is little noise.
- It is easy to adapt our concept into Facebook's interface.

Google
- A lot of messaging is done through email, since a large number of people have an email account and check it regularly.
- A 2010 Mashable survey shows that Google chat was 4.4 times more widely used than Facebook chat (http://mashable.com/2010/02/01/gtalk-beats-aim-and-fbchat/).
- Google has a lot of power in potentially capturing these interactions in the future by owning the Android platform.
- Email contains a lot of noise by capturing interactions that are not socially relevant.
- Google chat, Google Hangout, and Gmail are fragmented experiences within the Google

framework, making it more difficult to incorporate our concept.

We ultimately decided to design a solution around Facebook. Despite the benefits of Google, the last two points make it difficult to provide a clean solution.

Paper Prototypes

While testing our paper prototypes, we found that people were most confused by the "Chat with Available Members" feature. It wasn't immediately clear which group members you were interacting with - this is a feature novel to Facebook since previous Facebook group interactions involve messaging the entire group, not just the people who are online. There was also some confusion over which whether selecting a Video/Talk/Text option would take you straight to that window, or whether the "Chat with Available Members" button had to be pressed afterwards. We chose to go with the sequence with the fewest clicks, where selecting "Video" would take you straight to video chat. This selection defaults to the previously selected option, so it's possible to start a Video conversation by clicking "Chat with Available Members."

The other option is to message the entire group, which Facebook already allows for in its existing Facebook Messages. Our interface allows for this to happen conveniently, within existing groups. Most users were familiar with the New Message interface for creating a message to send to a group. This automatically creates a group, which seemed intuitive for most people.

The group numbers on the side were initially confusing for some interviewees - it was uncertain whether the numbers referred to the number of people total in the group, or the number of people available. The different colors also referred to how many people are currently chatting versus how many people are available online, which required some explanation.

Otherwise, the functions are mostly intuitive, such as adding a group, renaming a group, pinning it to the top of the groups menu, which is all inside the settings menu once a group is clicked.

Final Prototype

Here is the initial state of our revised chat menu.
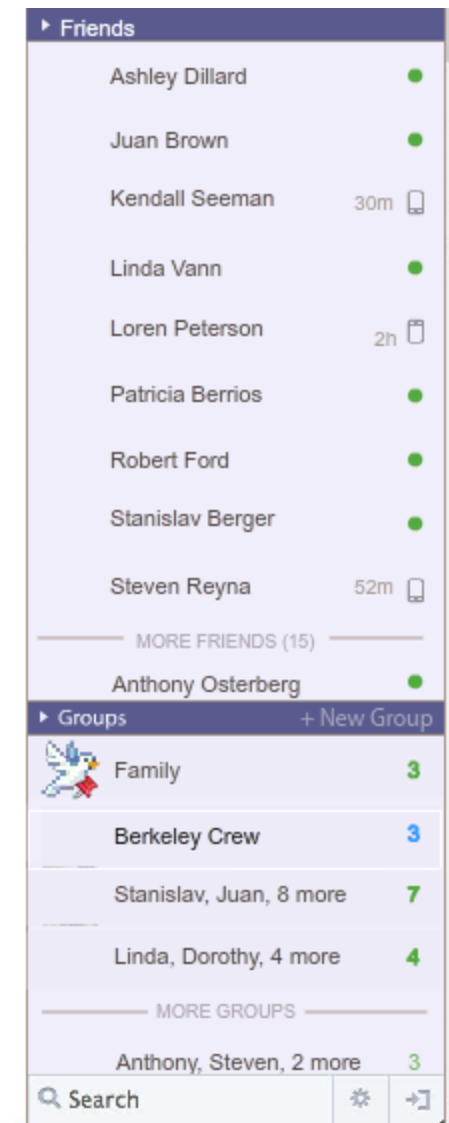
Below the Friends chat, there is another section for Groups.

The search bar at the bottom of the chat display remains the same.

You can expand the Friends bar to display a larger number of friends, or you can collapse it by clicking on the blue header.

Just as the Friends list is currently organized by how frequently you interact with these people, the groups list is also organized based on frequency, recency, and volume of interactions, with the exception being pinned groups that always remain at the top.
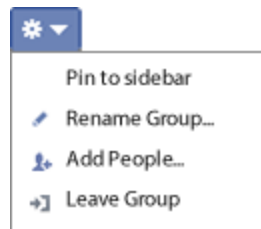
In future iterations, we would like to make this menu highly customizable, to where a user can control how much of the groups list vs. the friends list is displayed on this menu.

Creating a new group

In order to create a new group, simply message a group of people. A new group will show up in your sidebar.
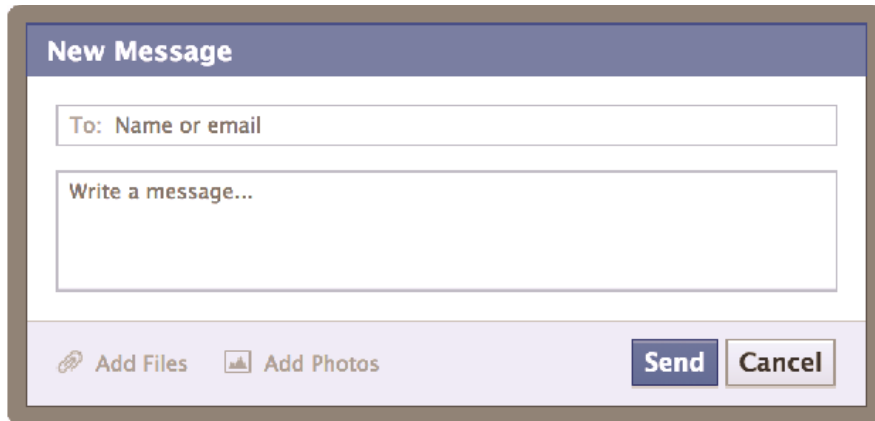
Settings

In the settings menu, there are several options.

- Pin to sidebar pins this group to the sidebar, so it will always show up in a section at the top of your list of groups. In the future, you will also be able to drag and drop the groups in this list to rearrange them.
- The green number to the side represents the number of group members who are online. If the number is bright blue, then that's the number of group members who are currently chatting.

- Rename Group allows you to name or rename your group.

■ Add People allows you to add people to a group.

■ Leave Group allows you to leave a group - this group will no longer show up in your Groups menu. You will no longer appear as a part of this group in your Friends' Group menu. You will be asked to confirm if you are sure that you want to take this action.

Chat Options

Our design allows for two kinds of communication: synchronous and asynchronous. The kind of enforced synchronous communication is new to Facebook - you can chat with "available members", who are the members who are currently online, through video, voice, or text. (Currently Facebook offers video or text chat, which we've expanded to include voice chat.)
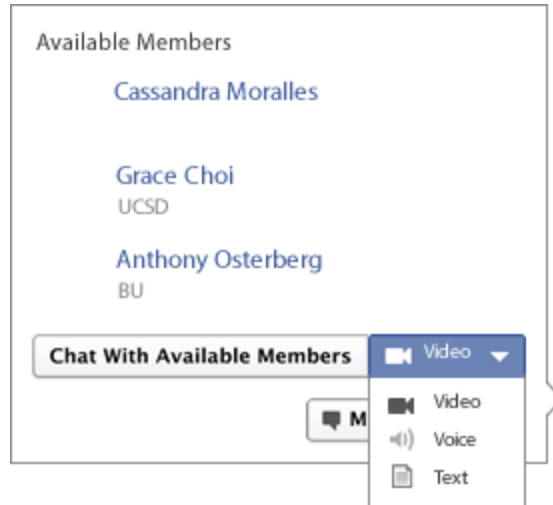
One can also communicate with members of a group asynchronously by messaging them conveniently from the Group window with the Message Group button. This is like the traditional Facebook feature of sending a message to a person or a list of people who may or may not be online.
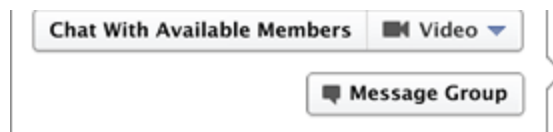
Future Directions

An additional feature that could be incorporated into our current prototype is a stream that displays only updates from people in that group. This will allow people to view their closer ties, and is a feature that is already incorporated into Facebook groups - Facebook sometimes suggests groups for you, along with suggestions for people. They let you view only the people in a particular group, which is an more intimate route to viewing all 500 or so friends from your entire Facebook.

Also, in addition to being able to pin groups, they would be able to click-and-move the order of groups for maximum flexibility. The user gets to decide which groups are the most important to them and which they would like to see displayed on their sidebar. Additionally, they would be able to pin and unpin current friends from their buddy list.

The video and talk interfaces aren't included in this current prototype. However, voice chat would probably look similar to the regular text chat bar, in order to take up minimal space. The video chat would appear as Facebook video chat does currently and display a grid of video interfaces. (Think the Brady Bunch.) One possible problem with this might be a lagging video as more people join the

chat - this may present a technical challenge. Since Facebook already supports video, we can assume that it would be able to support voice chat, though having a group voice conversation may also present technical challenges to Facebook's existing infrastructure.

Conclusion

In conclusion, the present Facebook chat system does not allow for convenient group interactions with users' close ties. We would like to remedy this by facilitating such interactions. We discussed many solutions around this problem and did user research into how people manage their close group interactions online. We designed prototypes on paper and in Illustrator, and tested these paper prototypes out with users. Finally, we made an interactive prototype in Flash to demonstrate our concept.

References

[1] Bos N., Olson J., Gergle D., Olson G., and W. Wright. (2002) Effects of four computer-mediated communication channels on trust development.. In Proceedings of ACM CHI 2002.

[2] Burke, M., Marlow, C., and Lento, T. (2010). Social network activity and social well-being. ACM CHI 2010: Conference on Human Factors in Computing Systems, 1909-1912.

[3] Otto, Kate. "Is Facebook Destroying Our Capacity for Meaningful Relationships?" *The Christian Science Monitor*. The Christian Science Monitor, 01 June 2012. Web. 10 May 2013.