
Family Group Chat: Family Needs to Manage Contact and Conflict

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Abstract

Many instant messaging applications offer group chat feature where members can share messages and make voice or video calls with a group of social contacts. We conducted a study to understand how families use group chat and what challenges they face. We found family members develop certain habits in using their family group chat, and their behavior changes when they are separated by distance or during a specific situation such as a conflict. Family members might have challenges to construct meaning from a pile of messages, find a specific message from the past and catch up with the new messages posted in the group. They need more control over when they wish to deliver a message and better ways to share their experiences.

Author Keywords

Families; group chat; instant messaging

CCS Concepts

HCI design and evaluation methods~User studies

Introduction

Group chat is a common feature of many instant messaging applications. Unlike direct messaging where only two people interact with each other, group chat consists of more than two people. Messages in the group chat are visible to all members and every member can respond to everyone else's messages.

Recent studies have looked at how different groups of people with established relationships use instant messaging applications [3,5,7,9]. They probed into people's preferences, usage patterns, and their behavior in general [5,6,7], and during specific situations such as conflict [9]. They also looked into how group chat feature is being used among people at work [4] and on social media [2]. Further, O'Hara's paper focused on how family members and friends communicate one-on-one via WhatsApp [7]. Similarly, in the study conducted by Cramer & Jacobs, participant where couples who communicated one-on-one and not as part of a family with other members [3].

Our paper focuses on the use of group chat among families who had established relationships and lived together as well as families whom were separated by distance. We conducted a study with 14 participants to investigate how they use group chat in their family. We looked at the topics of their messages, how they respond to each type of message, and how these attributes change when they live separately, and/or when there are members other than their immediate family in the group chat. In addition, we probed into situations where messages caused conflict among family members. We found that topics of group chat affect the frequency of engagement as well as the type of messages being shared. Family members often develop habits that can be recognized by others in the group. These identifiable habits often help them to understand messages beyond their literal meaning. Further, their behavior in using group chat often changes during conflict and when family members are separated by distance.

Related Work

Family members often desire frequent awareness of activity, location, and the status of their family [5]. Due to this frequency of awareness, they possess intimate knowledge about one another's routine and habits [5]. Recent studies have found that intimate knowledge of others can lead to particular forms of relationship engagements in the context of mediated communication technology [7,3]. O'Hara et al [7] studied how the sense of being together and 'dwelling' is enacted through WhatsApp features. For example, findings show how people use features such as the "last seen online" status to understand one's coming and goings [7]. In addition, researchers studied how such relationship engagements are different during specific situations. In a study conducted by Scissors et al [9], they found that during a conflict people might switch their communication channels across different applications. This behavior was to avoid conflict escalation, manage one's emotions, and attempt to reach a resolution. Nouwens et al found how mediated communication is not only influenced by the technical characteristics and features, but also by the communication places which they establish. They suggest that designs of communication apps should offer flexibility so that users can create multiple communication places within an app, relocate conversations across apps, and have access to the functionalities from other apps [6].

Despite the increasing number of instant messaging applications that offer group chat, they often result in conversational overload and a significant disparity of information [8]. Schuler et al studied how the adoption of mobile and social computing technologies impacted the way in which people coordinate social group



Figure 1: P11's sketch for situation 1: delivering news they are excited about.

activities. They found people use open-channel communication tools, yet the use of such tools often results in conversational overload and a significant disparity of work between coordinating individuals. They suggest the design of such tools should stay away from imposing process and structure and focus on providing means to share meaning and build consensus [8].

User Study Method

We conducted semi-structured interviews with family members who use group chat on a regular basis in order to understand what challenges they might face in using such tools and how designs could be improved.

Participants

We recruited 14 participants through snowball sampling (word-of-mouth), social media (posts on Twitter and Facebook) and posters placed in our university campus. Among our participants, we had 1 transgender, 4 male, and 9 females. Their ages ranged from 21 to 57 with the majority being in their 20's. Nine participants lived with their immediate families, while others lived separately.

Method

Prior to the interview, we asked participants to share a log of their conversations if they are comfortable to do so. If a participant was not comfortable to share the entire conversation log, we asked them to show us the lines of their chat during the interview.

As part of our semi-structured interviews, we asked participants a series of questions regarding their daily routines of using group chat systems in their family. We used the conversation logs to further validate these

behaviors by looking at the message and the times they were sent to the group. Our interview questions were divided into three parts. First, we asked general questions to find out about participants' demographics, living arrangements, and daily routines and habits. Then we asked questions regarding their use of group chat feature. In this part, we wanted to learn about their overall usage of their chosen application. We asked questions such as, 'What application or platform do you use?', 'What is your family group chat about?', 'What features do you find useful?', 'How do you use them?', 'What features do they find the least useful?', etc. Lastly, we asked questions about their interactions with their family members and the ways they acquire awareness information about one another.

Lastly, we asked all participants to take part in an optional activity where they had to imagine an ideal group chat application that does not exist and then act as if they use it to communicate during a number of specific situations. Half of the participants performed the activity and the other half only participated in the interview portion of the study. We gave participants a large sheet of paper and asked them to imagine their ideal group chat application and describe it on the paper. Then we asked them to act as if they use their sketched app in five specific situations: delivering news they are excited about (Figure 1), delivering news that others will get excited about, delivering news that made the participant sad, delivering news that will make others sad, and sharing an experience with their family. We provided sticky notes so participants could write down or sketch their messages in the aforementioned situations. We also asked participants to write down responses they would expect from their

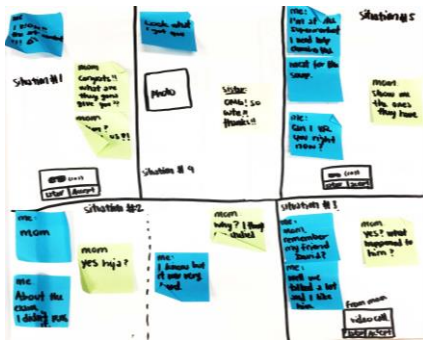


Figure 2: P9's messages and their expected responses from family members in different situations.

family members in that situation and then tell us why they expect that message from that family member.

Data Collection and Analysis

We collected the data in the form of audio recordings, researchers' notes, chat logs, and participants' sketches on paper. We used the audio to create transcripts of the interviews, which then we analyzed. Then, we conducted a thematic analysis procedure where we coded information based on themes in the transcripts. We detail these themes next in our findings. For participant quotes, we refer to each participant by P#[gender], [age].

Results

Most participants in our study said they would use group chat frequently and daily, while 1 participant used their family group chat casually and less than this amount (P04). In cases where family members had multiple group chats, they reported different frequencies of engagement for different groups. Participants' engagement with the group chat they had with their immediate family was more frequent than the group chat that included their extended socials. In addition, the use of group chat was less frequent when a family member moved abroad compared to the time that they all lived together (P02, P08).

Overall participants who were frequently engaged, often did not use salutations and tend to send shorter length messages. In these cases, there was no definitive start or end to a conversation. Rather the messages were part of a continuous dialogue. Others who used group chat less frequently often sent messages that were longer in length and sometimes included a salutation (i.e. hi, bye) (P04, P06).

All group chats included practical topics such as coordinating household activities and gathering mundane information about members. Other topics were from a social nature where members used group chat to socialize with their immediate family members. For example, sharing a photo that they thought others might enjoy or sending custom-made emojis and gifs for fun. If the group chat consisted of members that are all immediate family members, then topics covered all of the aforementioned. However, if there were extended socials in addition to immediate family members, topics often had a social nature and were less practical. Family members used a variety of media in their group chat, including text, emojis and gifs, images, links, and voice messages.

Frequency of Engagement

Different family members reported different frequency of engagement. For example, P12's brother rarely sent any messages to the group while he would casually read others' messages every few days. In some cases, these differences in the frequency of engagement lead to conflicts and hard feelings in the group. For example, P05 had a habit of sending many stickers and emojis which led her mom to quit the group because there were too many messages for her to handle.

Unlike direct messaging which often requires response from the person who receives it, messages in the group chat often are not direct. Family members can choose not to engage unless it is necessary. A few participants who had more than 3 family members in the group chat reported at least one family member who did not actively engage in the group.

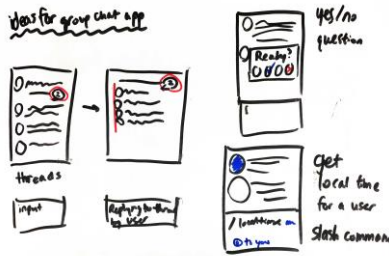


Figure 3: P13's sketch for grouping the relevant messages based on their theme.



Figure 4: P11's sketch showing a phone icon next to the message that requires attention.

"...I feel like my dad is more reserved in the group chat. My mom is more open to the group chat, my mom always likes to share everything. She's interested in the group chat. But My dad is just like ... I feel like he kind of choose which message he would reply because I think he doesn't reply to all the messages we send." (P09, 22, F).

Conflict

All participants except P08 described a situation where a conflict happened in their family. Conflicts often affected how family members used the group chat until the conflict was resolved. During the period of conflict some families stopped using the group chat while others used it less frequently and often for practical reasons. Those families who continued to use the group chat during the conflict often changed their behavior in terms of the messages they share and the way they respond.

8 out of 14 participants said they often would take a longer time to respond to messages when they were having conflict. For instance, P02 tended to take her time to reply to messages in order to make sure she did not say something she did not intend to.

"If I'm really mad, I take my time. Because if I'm going to reply right away, I'm afraid to say something that I didn't really mean to say" (P02, 20, F).

A few participants also said they would change the way they write messages in terms of grammar and use of words. For instance, P04 used a different tone in her writing whenever she was upset at her son.

"... I've used emphasis in capitals, and exclamation marks and things like that, to indicate what I meant.

But he also knows by the way I write to him. You know, I can write quite a deadly email." (P04, 57, F).

Sometimes the conflict was initiated inside the group chat. In such cases the conflict was caused by misunderstanding a message, not receiving an expected response from a family member or receiving irrelevant responses or messages (Figure 2). In most cases described by study participants, the conflict was often resolved after a few days.

Family Needs

Seven out of 14 participants completed the sketching activity in our study and imagined their ideal group chat application. Overtime group chats accumulate a large number of messages. This increasing number of messages makes it more difficult for users to find a message from the past or pay attention to a message they need to. 4 out of 7 participants wanted features that can allow them to better organize the information in the group chat. They wanted to be able to quickly understand a long conversation without having to read all the messages. For example, P13's sketch shows how a long conversation can be summarized in a short paragraph that puts the messages in a link (Figure 3). Similarly, P11 wanted to see related messages grouped based on their theme and also be able to promptly see if there is an action needed to be taken (Figure 4).

Participants also wanted more control over content delivery. They wanted to be able to schedule when a message is delivered so they do not disturb other members. This was particularly desired when a family member lived in a different time zone.

In addition, two participants wanted to be able to send messages based on their location. For example, P01 wanted a feature where he can set automatic messages like "I'm heading home" when he leaves work. Similarly, P12 wanted a message to be delivered to the group chat when he arrives home. A few participants desired ways in which they can select to whom in the group a message should be visible. We observed 3 participants in our study that had a secondary group chat with only some of their family members. These groups were mainly consisting of siblings and was used to share messages that they were not comfortable sharing with their parents.

Discussion and Conclusion

Our study results show that family members possess intimate knowledge about one another's routines and habits. This creates opportunities for the design where this intimacy is utilized to offer richer ways of communication. Each family might have unique rituals and habits that are only understood by their family members. However, the current design of instant messaging applications is generalized to serve a wide range of users and use cases. The future design of group chat should offer ways in which families can set up their group chat system based on their unique needs and desires for sharing information. This might, for example, allow conversations to be split off into subgroups, or allow messages to be easily hidden from certain people. Group chat systems could also explore ways to support people more during times of conflict. For example, this might include suggestions for slowing down the composition of messages to ensure people are sure of what they are saying. One could also imagine delaying the sending of messages so that people could change their response if they realize after

the fact that they should have said something differently.

Over time the group chat becomes a repository of family history as an increasing number of messages accumulate. This provides both challenges in discovering content and opportunities for the design where such history can be utilized to provide novel ways of revisiting family's past. Our participants suggested many ways to overcome these challenges including tagging/labeling messages, grouping them, and providing better search utilities.

Participant said their behaviors changed when family members were living far away, and they were separated by distance. This created suggestions for being able to send messages at particular times or when they or the recipient was in a particular location. While valuable, designers should consider ways to ensure that such features wouldn't infringe on users' privacy in terms of disclosing where they specifically are.

Our study is limited in that we have focused on North American culture as it relates to family practices and values with regards to group messaging behaviours. Our results are most certainly only applicable to this demographic. Future work would be apt to study different regions and cultures of the world.

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