
Grandparents 2 Grandchildren: Bridging Age Over Distance

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Abstract

Distance separated grandparents and grandchildren often face challenges in staying connected. To explore this topic, we first ran a foundational interview and diary study to understand the challenges families would face in this communication. Next, to address some challenges and unmet expectations, we designed G2G, a shared calendar and video messaging system to connect young children with their grandparents over distance. Our design focused on providing grandparents and grandchildren with an awareness of each other's lives to support conversations and design elements to help reduce the need for parental scaffolding. Finally, we evaluated our design in a field study with two pairs of grandparents and grandchildren over a period of two months.

Author Keywords

Family communication; grandparents; grandchildren; calendaring; video; asynchronous communication.

ACM Classification Keywords

H.5.3. group and organization interfaces: Computer-supported cooperative work.

Introduction

Video applications such as Skype and FaceTime have improved remote communication with children [1,2]; however, children's limited attention span makes it cumbersome to keep them engaged in remote conversation at young ages. Thus, maintaining regular frequent phone calls or video calls between young children and remote grandparents which satisfies all can be a challenge [1,2].

In this paper, we report on two studies we ran in the last few years to explore this area. The first study has been done to understand the current and desired communication practices between grandparents and young grandchildren (3-10 years old) over distance from the parents and grandparents' points of view. We also explored the social situations and challenges that might arise for all family members involved in this communication including grandparents, parents and grandchildren. In this position paper, we are more focused on the challenges faced by grandparents. A full description of the study as well as the results can be found in [5,6]. Our results show that grandparents can not often maintain the level of awareness they desire with their remote grandparents over distance. On the contrary, they must deal with social issues that arise from potential interference, a lack of truly knowing one's grandchild (leading to self-consciousness and feelings of perceived annoyance), and cultural differences [5].

We designed a prototype to address some of these challenges. This prototype, called G2G, is a shared-calendar video messaging system designed to help grandparents and grandchildren (5-10 years old) maintain an awareness of each other's daily lives.

Finally, we evaluated our prototype in a field study with two pairs of grandparents and grandchildren. Our evaluation revealed that both grandparents and grandchildren valued G2G and were able to incorporate it into their communication and establish new routines for staying connected.

Background Study

There have been several systems designed to support communication between grandparents and young children over distance, mainly focused on communication through shared activities such as book reading or playing games to engage young children in communication with their remote grandparents [3,7,8]. While beneficial, these systems tend to not focus on direct conversation where grandparents and grandchildren might share their personal stories achievements and experiences. Moreover, these systems were mainly designed considering the cognitive challenges of young children. Less research has been done considering expectations and needs of all family members involved in this communication. We aimed to design a communication system founded on understanding grandparents', parents' and grandchildren's desires, expectations, needs. The intention is to address some of the challenges faced by all family members involved in this communication.

For this purpose, we conducted a semi-structured interview and diary study with 20 participants including 10 grandparents and 10 parents of children aged 3 to 10 years old who were living in different locations than their grandparents. Through this study we realized that almost all grandparents in our study felt that being separated by distance from their grandchildren weakened their emotional bond with their

grandchildren. This made some grandparents apprehensive or self-conscious when communicating with their grandchildren because they did not want to provide unneeded advice or annoy them by asking them about their unpleasant experiences. Grandparents could not maintain the desired level of awareness of their grandchildren's daily life when separated over distance and as a result they had a harder time coming up with topics to engage their young grandchildren during a conversation due to lack of enough knowledge about their daily life. Moreover, the frequency and the duration of communication did not meet grandparents' expectations which is mainly the result of their mismatched time schedules and different life styles.

As a result, we aimed to design a prototype that focuses on providing awareness and supporting direct conversation between grandparents and young children over distance based on their own availability and schedule which also enables them to be more involved in each other's daily life through conversation and awareness.

G2G: A Shared Calendar AND Video Messaging system

G2G is a shared calendar for facilitating communication through visual media and asynchronous video messaging (Figure 1). We chose two communication channels for G2G: 1) stickers which are a lightweight way of expressing daily activities, feelings or thoughts and 2) video messages to facilitate longer conversations asynchronously. We chose an asynchronous communication method to allow communication to be more flexible, where grandparents and grandchildren could use G2G in their free time or depending on one's mood.

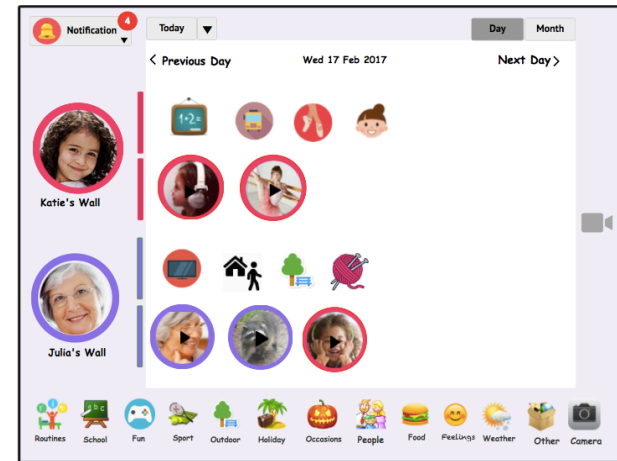


Figure 1: The main view of G2G

Stickers and videos sent by grandparents and grandchildren are associated with a particular day, shown on both the grandparent and grandchild's version of the calendar; the views are reciprocal.

To add an event or video to the calendar, users simply need to select a day and then choose a sticker from the related category or record a video (Figure 2). Users can also take a picture and that image becomes a new sticker. The sticker categories were chosen based on our background research that documents the typical conversational topics shared by grandparents and young grandchildren [5].



Figure 2: Katie is changing the date through the calendar and is trying to choose a school activity under "School" category

Field Study

We conducted a field evaluation with two grandparent-grandchild pairs over two months to explore how and why the usage of such system might change the way they communicated and what benefits and challenges families would find in using such a system. A full description of this study can be found in [4]. We gathered our data through in-depth interviews with grandparents, parents and grandchildren, diary, questionnaires and usage log. Collected data was analyzed through open, axial and selective coding. Figure 3 shows two child participants watching a video sent by their grandmother. In the following we briefly describe some of our results.

Structured Routine-based Communication

To provide structure around communication, young children were able to develop a routine around staying

in touch with their grandparents. This contrasted their behavior prior to the introduction of G2G, which was less structured and more sporadic. This routine and structured style of communication was highly valued by all grandparents as it meant they could know when to expect communication exchanges and integrate them into their daily activities. We also learned that a routine-based communication tool tied to time could engage children and grandparents to talk about their daily activities and what was happening in their life.



Figure 3: Our child participants using G2G.

Mutual Awareness

Our results showed that by using a technology designed to support mutual awareness between grandparents and young grandchildren, they were able to get to know each other better and feel more emotionally close.

Autonomy in Communication

We learned that by having a technology designed to minimize parental scaffolding, young children were able to develop a personal relationship with their grandparents and communicate with them independent of their parents. This made the communication more personal between grandparents and grandchildren and made the children the main audience of grandparents' life stories and events. As a result, children were following up with their grandparents even if the topic was not very exciting for them. This gave the grandparents and parents more satisfaction; they felt the communication had changed from being forced to more genuine.

Self-Consciousness

We learned that grandparents can be very self-conscious when sharing their daily routines with their young grandchildren. At the beginning of the study, we observed that the grandparents in both families were hesitant to share their daily activities with their grandchildren through the stickers. Due to the slower-paced lifestyle that they had, the grandparents assumed that their life would be too 'boring' or too 'routine' for the children. However, our analysis showed that this self-consciousness eased over time as the grandchildren saw and began to comment on the activities that the grandparents were participating in.

This acted as feedback for the grandparents that the information they were sharing was of interest.

Conclusion

Our study of G2G revealed that systems designed around structured communication can help young children develop a routine around staying in touch with their remote grandparents. Autonomy in maintaining awareness can help children to establish an independent relationship with their grandparents separate from their parents. This can provide more confidence for grandparents to initiate communication with their grandchildren and can lead to positive effects and strengthened relationships.

Author Biographies

Azadeh Forghani is a PhD Candidate in the School of Interactive Arts and Technology at Simon Fraser University. Her research focus is on domestic computing, family communication, video-mediated communication and child-computer interaction. For her PhD she is focused on connecting grandparents and young grandchildren through technology over distance.

Dr. Carman Neustaedter is an Associate Professor in the School of Interactive Arts and Technology at Simon Fraser University. Research projects heavily focus on technology designs for family communication and the design and use of video-based communication systems. Dr. Neustaedter's edited book, *Connecting Families: The Impact of New Communication Technologies on Domestic Life*, details portions of his research.

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