Empowering Children to Initiate Communication with Remote Parents

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ABSTRACT

In this position paper, I describe my work in connecting parents and children who live apart with a video-mediated communication system known as the ShareTable. One of the goals of the system was to empower the child to initiate the interaction with the remote parent rather than always relying on an adult to set up the conversation. I share our experiences and the ways in which our approach was both successful and unsuccessful. Finally, I describe my interest in participating in this workshop and questions for general discussion.

Author Keywords

Children; parents; video-mediated communication; home; divorced families

ACM Classification Keywords

H.5.2. [Information Interfaces and Presentation]: User Interfaces – *User-centered design*

General Terms

Human Factors; Design.

INTRODUCTION

It is no longer a given that parents and children live in the same household and see each other in-person every night. Common reasons for parent-child separation include temporary time apart (such as, travel for work or military deployment) and permanently living in different households (as is the case with divorced families). In both situations, continued contact between parents and children may rely heavily on remote communication technologiea, such as phone, videochat, and email. My previous formative investigations of both work-separated [1] and divorced families [2], have shown that this remote interaction is almost always initiated and motivated by adults rather than children. There are many reasons for this: (1) remote interaction is not as fun or meaningful as in-person interaction, so children are not motivated to engage in it, (2) difficulties with technology and parental control over

Figure 1. Parent and child using the ShareTable at home.

systems like videochat require the child to get help from a collocated adult to use the system, and (3) while parents may want to schedule interaction to preserve household routines, children connect more meaningfully in a spontaneous manner. Unfortunately, this asymmetric ability to connect may create unmet expectations and unwanted obligations for communication in the remote parent-child relationship. In this position paper, I discuss the ShareTable, a system I built with my colleagues at Georgia Tech that helps empower the child to initiate conversation with a remote parent through a physical metaphor for connecting and activity-centered communication.

SHARETABLE SYSTEM

The ShareTable[1] system consists of two cabinets, one in the home of the parent and one in the home of the child. To make it easy to initiate a connection and to empower the child to connect without help, we use a physical metaphor. To place a call through the system, the user simply needs to open the doors of the ShareTable cabinet. The paired table in the other household rings, as would a phone. Opening the cabinet doors answers the call; closing the cabinet doors ends it. Once a call is connected, the monitor screen of the ShareTable shows a standard face-to-face videochat view

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[1] A video demo of the system and its deployment is available at http://youtu.be/n8k5mYbCXhs

(Fig. 1). Additionally, the local table surface of the ShareTable shows a projected view of the remote table surface and vice versa. This allows the system to support the parent and child in shared activities rather than only conversation. For example, the child can draw a cat on her side and the child's parent would be able to draw a hat directly on the head of the projected cat on his table. Since the drawings are aligned and scaled on both tables, both would see the same image of the cat wearing the hat. The design process for this system and implementation details are described in related publications [3,5].

METHODS OVERVIEW

The ShareTable was deployed with two Atlanta-area divorced families (four households) in an A-B design with a two-week pre-deployment and a four-weeks deployment period. The system was evaluated using a mixed-methods approach combining multiple sources of data.

Participants

The two families participating in this study (all names anonymized) were selected through a professional recruitment firm, with a call for divorced families with young children interested in testing a new technology. In Family 1, **Simon** is the 7-year-old son of **Matt** and **Nadia**. Matt and Nadia have been divorced for 5 years and they currently live a 45–60 minute drive apart. Both parents are now remarried. Simon spends 2–3 nights per week with his father and the rest with his mom. In Family 2, **Taylor** (11, boy) and **Kennedy** (7, girl) are the children of David and Kelly. **David** and **Kelly** have been divorced for 7 years and they currently live 60-minutes apart. Taylor lives with his father, spending alternate weekends with Kelly. Kelly lives with her partner Jason and Kennedy. Kennedy spends alternate weekends with David.

Procedure

During the pre-deployment, we interviewed each family. For each communication medium that the family used regularly, we asked both the parents and the children to fill out an appropriate version of the Affective Benefits and Costs of Communication Technologies (ABCCT) questionnaire [4]. We also provided each member of the family with a diary and asked them to log any remote contact between the parent and the child. Each family kept these preliminary diaries for at least 14 days and we conducted weekly interviews about the provided entries.

During the deployment, ShareTable was installed in each home and the system was introduced using example scenarios. We also explained that the system would log use and record any ongoing calls. However, videos were only stored locally and participants could mark any session for deletion. We asked participants to continue keeping communication diaries and we continued weekly interviews with participants for the next 28 days. Finally, each participant was asked to complete the ABCCT again. More

Family 1		
	Pre	Deployment
Avg. Mins/Week	5.25	17.50
Avg. Session Mins	2.63	8.75
Avg. Sessions/Week	2.00	2.00
Initiated by Child	0%	12.5%
Family 2		
	Pre	Deployment
Avg. Mins/Week	14.98	33.67
Avg. Session Mins	7.50	7.35
Avg. Sessions/Week	2.00	4.58
Initiated by Child	14.3%	64.3%

Figure 2. Aggregate session characteristics data.

details about the methods of the deployment, the analysis, and the limitation of our approach can be found in our previous publication [5].

SELECTED FINDINGS

While there were many successes of the ShareTable in terms of increasing parent-child communication between the homes, its role in empowering the child to initiate interaction was more mixed. The two families provide two contrasting case studies.

Family 1: Social Practices Diminish Initiation by Child

Family 1 established social practices around the communication that required the remote parent to let the other parent know before making a ShareTable connection. Even when a ShareTable call was planned and a ShareTable connection was established, there were several times when the collocated parent decided that it wasn't a good time to talk. The formal nature of this communication practice discouraged the child from being able to initiate communication spontaneously throughout the day. In fact, the number of communication sessions per week stayed
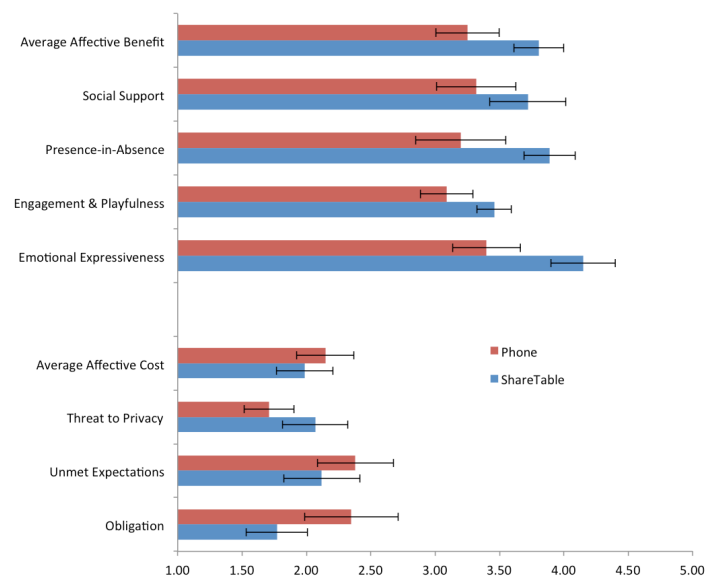

Figure 3. Results of the ABCCT questionnaire from 4 parents and 3 children in the study. Overall, ShareTable provided greater benefits but lower cost (except on the privacy scale).

constant from before the ShareTable deployment (Fig. 2), as this was the number that was considered appropriate by the mother. However, despite this curtailing of spontaneous communication, the average communication length was much longer during the ShareTable deployment, reflecting that the connection was much more expressive, engaging, and memorable (Fig. 3).

Family 2: Children Become Primary Initiators
By contrast, in Family 2, the remote parent prioritized continued contact over the worry of interrupting the other home and both parents encouraged the children to use the ShareTable spontaneously. This led to some conflict between the parents about disruptions of routines, but served to greatly encourage child-initiated interaction. The mother credited this increased interaction to the physical metaphor of connecting: "I think the biggest thing is just being able to just open the doors and connect. We don't have to log in or anything. It's just already there." The father credited the "cool" factor of the system and being able to use it to do fun things rather than just talk: "It's definitely getting the kids more motivated to talk! It's cool! It's so cool that getting to use it is almost like an incentive to stay in touch more regularly." The children in Family 2 agreed that the experience provided by the ShareTable was compelling, as Taylor said: "It was more like 'Yeah!' Like you wanted to do it." Through the confluence of favorable social practices, physical metaphor for initiating the conversation, and new possibilities of engaging in fun remote activities, ShareTable interaction in Family 2 was primarily child driven. Compared to pre-deployment measures of 14% of communications being initiated by a child, children initiated more than 64% of communication during the deployment. The number of sessions in this family more than doubled during the deployment, mostly due to this increase in child-initiated sessions.

Overview
Though the total amount of parent-child contact more than doubled for both of the families using the ShareTable, only Family 2 experienced particularly significant increases in child-initiated contact. The increase in overall communication came free from increased obligations to communicate or new unmet expectations from either party (Fig. 3) and was mostly due to the more engaging and expressive manner of communication over the ShareTable (compared to phone) and ease of use (compared to standard videochat). However, it appears that empowering the child to initiate the interaction also involves navigating and negotiating complex social relationship and practices already in place in each family. Because of the formal scheduled nature of communication in Family 1, communication remained largely parent-driven. However, relaxed constraints on disrupting the other home and loose

rules around ShareTable use in Family 2 made child-initiated interaction possible.

INTEREST IN THIS WORKSHOP
My goal with the ShareTable work was to give children a more equal voice in their remote interaction with the non-residential parent. My system was successful in solving two prerequisites to make this happen (easier to initiate and more focus on activity rather than conversation), but could not resolve the barriers introduced through social practices around the system use for one of the families. I hope that through participation in this workshop, I will be able to raise and discuss the following questions:

- What social arrangements make children more or less likely to share their voices and opinions?

- How can we develop systems that better afford social arrangements that increase children's motivations to contribute to the conversation, initiate connections, and make their voices heard?

- What is the appropriate way to approach situations where the children's goals and motivations in communication differ from those of the other partner?

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