Making a Home for Social Media

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ABSTRACT

In this paper we report on the design and implementation of an initial prototype to explore how to better situate in the home social media content individually generated by family members. We considered whether existing infrastructure and practices of social media might be leveraged to offer new kinds of shared family experiences. We found that families perceived the system to be "cosy" and intimate, especially in contrast to Facebook, and as a result 'shared to care'. While aspects of the design had a strong role to play in faciliating this perception, participants enacted their own boundaries of sharing and disclosure based on pre-existing practices and attitudes toward social technologies. The study demonstrated that there are productive design opportunities in home systems that can leverage content via a broad range of social media applications.

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Social media; domestic technologies; situated display.

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms
Design; Human Factors

INTRODUCTION

The family is embedded into overlapping networks of relations outside the home. These networks used to intersect and mingle in the home through incidental encounters, as friends and acquaintances had to contact family members by seeking them out in their homes. Such unintentional interactions are no longer apparent as communication technologies are increasingly individualised. People socialise, coordinate and share information and experiences with specific individuals and whole networks through applications such as Facebook, Twitter, Instagram, email or Google Calendar. It seems apparent that the 'goings-on' of the family as a whole and of its members individually are increasingly mediated through technologies in a way that is decoupled from the home. They happen on individual devices, through individual accounts and often in transit, in-between home and other destinations. At the same time, communication with the whole family at once can be harder to accomplish and family members have less peripheral awareness of each other and of the social networks each maintains. This is not necessarily a negative development, but it does suggest potential shifts in communication practice in the home.

As social media systems become ubiquitous and increasingly mobile, the boundaries between familial and broadly targeted communication blur. Parents comment on Facebook status updates along with best friends and peripheral acquaintances. This proliferation of broadly targeted social content seems to suggest a design opportunity, particularly in relation to the domestic environment where family members eventually intersect and perhaps share intimate family moments. In this exploratory research, we are interested in how to go about situating social network activity in the home. We seek to understand how to design appropriately for the family, to investigate how families manage social media in practice, what they share with each other and what is revealed to relations outside the home and how. We attempt to do so through a study of practices and meanings that emerge from situated use of an exploratory prototype. The system developed here is not a suggestion of a final design but a research tool for understanding the situation.

RELATED WORK

In the last ten years a significant amount of research in Ubicomp has focused on designing for the home environment, through development of a range of family awareness systems. These efforts were for the most part aimed to support or even increase social cohesion and connectedness of co-located and distributed family members. More pertinent to our work are systems that support family communication and sharing.

Communicative exchanges amongst family members are seen as a way of establishing and maintaining awareness of each other, such as leaving a 'gone for a walk' note on a kitchen countertop. Lightweight communication between members of a family or between households has been extensively investigated through text or written messaging [3, 5, 7, 8] and multi-modal media [1, 6].

Yet much of the functionality proposed by these earlier Ubicomp efforts in the home could now be accomplished through the use of social network sites and mobile devices.

Surprisingly, little research has addressed how might we design for the intersection of far-reaching communication by family members via social media and the intimacy of the home environment. We are not aware of work which specifically leverages social network use to the extent of our initial prototype, although many other systems have integrated with commodity hardware and services such as text messaging and email. Existing commercial social networking systems often support – in principle - sharing between family members or small groups, but the complexity of configuration and uncertainty surrounding privacy [4] can hinder adoption.

In what follows, we briefly describe the exploratory prototype we developed and its deployment to three homes. We discuss initial impressions of its deployment, relating to existing work in domestic technologies and suggesting future design opportunity. Unlike the bulk of similar systems our work is not specifically designed to serve an awareness or communicative purpose, nor was it designed to support extended families. We aimed not to solve a problem, but begin exploring the design space of situated family social network activity.

PROTOTYPE DESIGN

Figure 1. Schematic of the hub interface (top), and detail of content grid display (bottom)

Our initial prototype consists of full-screen interface viewable on a seven-inch tablet device (the "hub"), and a supporting backend server and web interface. Participants sign in to the backend and associate their Facebook, Instagram and Twitter accounts with their hub profile. Henceforth the system fetches and stores content that each user posts. Each family hub (Figure 1) shows only the aggregated content of what each family member has posted, and supports simple vertical swipe gestures to browse time-ordered content, or to star favourite content. Favourite content appears on a separate view (as does customisation settings) and allows individual items to be kept aside from the main content stream. The hub displays a variety of kinds of content, such as status messages, photographs, posted links and videos, which can be tapped to view in full-screen. Simple text messages can also be posted directly to the hub through the backend interface from a regular browser.

Each user has filtering settings for each of their social network profiles that determines whether their posted content appears on the hub. With Facebook for example, users can choose to have content posted automatically, only when the hub is tagged, or only on a manual basis. The manual setting requires the user to review their recently posted content and select which they want to publish to the hub, or use the social networking system's direct messaging functionality. A second setting determines what kinds of content are posted, for example photographs and links, but not status updates.

STUDY DESIGN & PROTOTYPE DEPLOYMENT

In October 2012 we recruited three families in the Copenhagen metropolitan area that were not associated with the university. We began our study with an initial domain analysis, by conducting hour-long semi-structured interviews to probe participants' current use of social media, the role it plays in family life and their general stance toward various communication technologies. The goal here was to get a sense of the existing communication and social media use practices that were already in use by the families. Approximately one month later, we deployed the hub to the three families. Each deployment took around 1.5 hours, during which time the prototype was introduced, configured and demoed. We used the opportunity to gather participants' initial thoughts of the system and expectations of its use. We assisted family members with associating their accounts with the system, in some cases even creating new accounts and installing appropriate mobile apps. Families were invited to situate the display in their home as they saw fit, however short power cables hampered initial deployments, requiring access to a convenient power-plug.

Three weeks after the initial deployment we conducted follow-up interviews with the families, and offered them to keep the prototype for a while longer. Two of the three families decided to keep the hub and continue to use it, one returning it due to Christmas-related logistics.

Families involved in the study

All families consisted of married and employed parents, and all children were students, ranging from primary school to tertiary education.

F1: Parents aged 53; two daughters, aged 20 and 16.
F2: Parents aged 54; a daughter and son, aged 25 and 12, respectively.
F3: Parents aged 43 and 42; one daughter and two sons, aged 16, 13 and 9, respectively.

FINDINGS

The idea of having a central place in the home where notes, pictures, requests and memorable items might be collected is by no means new. The refrigerator has served and still serves this function in many homes. Yet it is much harder to attach a Tweet or status update with a magnet. Families in

our study described various efforts to create a central communication and sharing place in their homes. F1 used sticky notes placed in a specific location in the kitchen to leave each other coordination messages, while F2 was using cloud-based photo storage so that mobile phone photos were automatically available for viewing on a tablet. F3 used a combination of text and media messages, online and physical photo albums and a family laptop.

In all cases the use of the hub largely followed previously established routines in terms of the nature and intention of shared content. F1 primarily posted short notes and coordination messages, almost entirely switching from using sticky notes for this purpose. They posted 23 items in total, posting from the backend interface and Facebook. F2's predominate use was posting mobile photos captured via Instagram - "to us it's natural to just take some photos" (mother, F2) – posting 20 items in total. In F3, 20 photos were posted through Instagram, and 5 messages via Facebook. The parents and the youngest child posted a combination of photos and status updates, while the older children continued to occasionally post to Facebook assuming that parents may see their content but do not necessarily have to. Even within three weeks, we observed small ways in which patterns of media use shifted or changed as our participants tried new uses of their social media for communicating with the family: "I am no superman at the whole sending photo messages, so it has actually made me do that" (father, F3).

While our post-deployment interviews were conducted soon after starting to use the prototype, we identified three themes to inform the design of future work.

Physicality and placement matter

The hub is designed as an appliance, rather than application. It is always on, always connected, and does much of its work without any user intervention: once the initial configuration is complete, content is automatically aggregated and displayed, relying only on network connectivity. Placed in the lounge rooms of the family homes and with a backlit, albeit small-sized display, the hub has a form of assertive presence in the room that attracts attention. Participants reported frequently checking the display, and were excited to see what had appeared on the display while they were out of the house: "every time I come home I just rush over there to see if mom has taken a photo" (son, F2).

With a family's constituted observational practices and acknowledgement of content appearing on the hub, family members also seemed aware that the hub was a way of being seen and an "act of displaying" [2]. In a usual social networking system, one may publish content with a sense of potential audience; with the hub, participants additionally published with a sense of the context within which the content will be experienced. Unlike technologies already employed by our participants, the hub only had to be glanced at, it didn't need to be 'checked' and there was a

general expectation that all family members observed posted content, even those who did not post themselves.

While we do not suggest superiority of an always-on, screen-based approach, it nevertheless engendered particular practices. One nine-year old participant exploited the billboard nature of the display to publish photos he took around the home, much to the delight of family members who saw this activity as a form of naïve, yet burgeoning creativity and expression. The child himself described this activity as something he did for fun, but whether the same activity would have emerged without living room family broadcasting is unclear. Although we had doubts as to the acceptability of an always-on display, participants thought this a positive attribute, with two families suggesting a

larger, more prominently placed display.

Figure 2. Hub deployed in a participant home

Sharing for caring and boundary management

A number of our participants disliked when people on social networking systems over-shared mundane life moments, or "posers" who showed off enviable events in photos and status updates. In light of this, all of our participants were careful and circumspect in what they shared. They acknowledged that Facebook could be made intimate but noted that it was difficult to accomplish and even harder to be sure it was setup correctly. Facebook users among our participants ranged from extremely conservative (father in F1 had one friend, his daughter, and never logged in to Facebook until we installed the hub), to very active (older children in all of the families used Facebook frequently though none posted content extensively, mother in F2 used Facebook to play games and to chat with other game-players she had met on the site).

Interacting with the hub however was perceived quite differently, as a "cosy … intimate sphere" (mother, F3). With the hub, participants had a strong sense of the audience and their viewing context, and thus we suggest felt more at ease with sharing than they did otherwise.

Participants who previously indicated hostility toward sharing on Facebook embraced and even actively explored sharing with the family hub: "there is just something about the fact that when the room is more closed, more centred around… the family as a unit, it just creates a different community around it" (father, F3).

Much of the sharing was of playful and at times practical nature, the sort of thing no different from Facebook. Yet here, the specificity of place and audience meant that shared content could be somehow differently meaningful: "the thought about this family-place and saying this is what we're doing … actually nice to share it in one place" (father, F2). The sharing then was meaningful not only for the information exchanged, but for the emotive content it carried: "a testimony of our lives, an opportunity to share right here and now, and we like that … in reality it brings us closer together" (mother, F2).

From "me" to "we" and back again

Throughout the pre-deployment interviews we noted how family members tended to be very specific about who owned what devices, and what belonged to the family. For two families, communal viewing of family photos took place around the designated family device. In the third family, one daughter's laptop was used for this purpose since she maintained the primary archive of photos.

By design, the hub was intended as a communal family technology, bringing together the individual social media content streams onto a screen physically situated in the home. All of the families noted the importance of its communal nature. Whether it remained a "fancy-pancy note system" for F1 or became something that "invites sending photo messages" for F3, all families commented that it somehow inspired a sense of togetherness through the messages on the screen. As the mother in F2 expressed: "we individually have our separate lives that we can share and there, you might say, this [the hub] is simply a kind of documentation of our lives separately but also together." It remained something that had potential to share more than solely coordination notes for F1, a "gallery … of what we as a family have done separately and together" for F2, and a "box of memories" for F3.

Without exception, all content appearing on the hub was purposefully posted for the family and not from their regular social network streams. If our participants had existing, more frequent practices of posting, we may have observed more cross-publishing of media: a core, yet unexploited feature of the prototype.

CONCLUSIONS

We presented an initial exploration into situating social media in the home. Contra to prior work on family-oriented communication and sharing, our research was conducted against a contemporary backdrop of commonplace media sharing practices and technologies. Rather than presenting our participants with an entirely new paradigm and capability, we offered a more finely-nuanced form of something they are already familiar with. In doing so, participants were able to relate their existing practices and understandings of media sharing to an exploratory prototype offering situated display of media in the home.

Within this framing, our contribution is a discussion of themes which suggest future directions for research and design. Taking "placeless" social media and situating it on a always-on physical display has critical implications for the nature of the media shared and surrounding family practices. Families perceived the system to be "cosy" and intimate, especially in contrast to Facebook, and as a result 'shared to care'. While aspects of the design had a strong role to play in faciliating this perception, participants enacted their own boundaries of sharing and disclosure. Even with many years of Ubicomp and HCI research and a varied landscape of technological possibilities for individual and group sharing and expression, this work suggests a ill-served need for sharing in more intimate settings such as the family.

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