Technology at Mealtime: Beyond the 'Ordinary'

Hasan Shahid Ferdous
Department of CIS,
University of Melbourne,
Parkville, VIC 3010, Australia.
hasan.ferdous@unimelb.edu.au

Abstract

In this research, we investigate the everyday interactions
of familial uses of technology around mealtimes and
explore how family members configure the dinner space
and the technologies within it. We seek to understand
how technologies are used and negotiated amongst family
members and the influence of technologies on the content
and context of their interactions. We aim to pay special
attention to understand how our everyday technologies
support our regular mealtimes as well as special occasions.

Author Keywords

Commensality; Communication Technologies; Food;

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g.,
HCI)]: Miscellaneous.

Research Situation

I am at the beginning of my second year PhD research
(total duration of three years). I have successfully
completed the first formal review regarding my thesis
proposal and hope to pass the PhD confirmation in
October 2014. I have completed the first study for my
PhD and submitted a full paper at CHI 2015, which is
currently under review. I am now designing the second
study and will continue working towards the third study
before submitting my thesis, due by August, 2016.

Context and Motivation

Family meals have always been a source of social interaction, cultural heritage, enjoyment, and celebration. While the social foundations of commensality have long been an important concern within sociological [3] and anthropological fields, such orientations were first raised as a concern for HCI by Bell and Kaye [1]. They discussed the need for food-related research to go beyond efficiency, to consider the experience, affect, and desire of eating and sharing time together. Grimes and Harper [4] explored these ideas further to discuss the creativity, endowment, relaxation, and nostalgia found in the togetherness of family meals. When viewed this way, food preparation and consumption became celebratory.

Throughout this thesis, we have taken this celebratory approach of research. So when we discuss about technology usage during family mealtimes, it is neither technology nor meals that remains in the central focus, it is the achievement of commensality that interests us. We want to explore and understand the current technological practices around family mealtime to better inform us regarding future design.

Related Works

For many decades, research about the use of technology during mealtimes has been dominated by the television. This is important, as television is traditionally the most prolifically used technology at mealtimes. Fulkerson et al. [3] and many others discussed the role of television in family mealtime. These studies focus on the tension between the use of technology during mealtime and possible risks to sociality and healthier living generally, with the aim to reduce any adverse effects. Albeit laudable, this approach tends to overlook what, if any, benefits families may accrue from their technology use during mealtimes.

There are far fewer studies concerned with the use of technologies other than television at mealtimes. This is surprising, given the growing proliferation of new technologies such as mobile phones, tablet computers, laptops in the domestic sphere. There is, however, a growing interest in the use of ICTs for food related activities generally.

One of the few research papers that adopts a celebratory approach to investigate shared technology during mealtime for collocated diners was conducted by O'Hara et al. [6]. Their findings illustrate how the use of mealtime technologies can motivate shared reminiscence, support discussions of family ties, and invoke conversational asymmetries. Hupfeld and Rodden [5] provides a detailed account of the everyday practices associated with domestic food consumptions and how it relates to the ecology of mealtime artifacts and spaces - both technological and otherwise. They discussed the role that tabletops, dining spaces, and culinary artifacts play in the social organization of domestic eating practices.

In this research, we use the work of Hupfeld and Rodden [5] as a springboard to explore the technological practices of families during mealtimes. Whereas they investigated the ecology of domestic food consumption broadly (including all forms of tableware), our emphasis is specifically on the use of technologies during mealtime. We recognize commensality as a social concern and examine how related technological practices contribute to it [4, 6]. When commensality is preeminent, we expect the enabling technology to be unremarkable [7]. Therefore our research will highlight mundane technologies and examine how they affect commensality.

Research Questions

Based on the research gap explained before, the main research question of this thesis is - "How people use communication technologies during family mealtimes?" The following sub-questions will be addressed during each phase of the thesis. Each question corresponds to one of the studies outlined in the research methods section.

- Which communication technologies are generally used and shared during the family mealtime? How are they used?
- How the contrasting roles of everyday technologies during special meals inform future design?
- What is the experience of the technology (developed in study two) regarding commensality and celebration for regular and special family mealtime?

Research Method

We have designed study one to be an exploratory study of what technology people currently use and how they use these during family mealtimes. In this ethnographic study, we collected qualitative data from six families through two in-depth semi-structured interviews combined with home tours and video recordings of two family meals.

In study two and three, we aim to develop novel technological intervention for domestic use, through which we can evaluate some of our findings from study one. We would use it as a lens to investigate about the technology usage practice during regular and special meals.

Findings from Study One

The findings show how technology is integrated in a dynamic and situated fashion into the mealtime activities. We revealed certain circumstances in which background technologies come to the foreground, visible devices are hidden, unwanted distractions become desired, and ordinary technologies support celebratory occasions.

The Availability of Technology at Mealtimes
Our first study explores about the technologies that are currently used during mealtimes and how. We base our analysis on the Heideggerian's terms 'ready-to-hand' and 'present-at-hand' [2]. We identified technologies as 'ready-to-hand' when they are immediately available and their usefulness is clearly apparent within the dining context (e.g., a television remote control placed on the dining table ready to be used by any family member). Technologies that are 'present-at-hand' are still available but somewhat removed from the dining activity (e.g., a mobile phone switched to silent in a handbag). Ready-to-hand technologies are available (socially and cognitively) for immediate use; present-at-hand technologies require a little more effort to discern their whereabouts and role in the social milieu. As we identified, the distinction does not reside within the capabilities or functionality of the technology itself; rather it resides in the everyday practices (behaviors and attitudes) of family members at mealtimes.

Spatial Arrangement of Technology during Mealtime
We observed four patterns of familial arrangement around the furniture and available technologies during mealtime. Firstly, the families arranged particular technologies that are ready-to-hand to enable easy access to them. Secondly, not only did the family members situate the technology near their dining place, they also arranged themselves around the technology so that all family members could have the best possible access to it. Thirdly, we noticed that various technologies were hidden but available if needed. Finally, several technologies were deliberately located away from the dinner table so as not to interfere with mealtime interactions.

Mutual Shaping of Technology and Commensality
Technology often served as a conversational resource during mealtimes - it was, in itself, a topic of conversation. Of interest was that certain forms of media could be backgrounded [7], allowing casual monitoring and noticing. Our observations also showed that such unremarkableness is not a static property of a particular technology but rather an emerging property of a particular mealtime context. The same technology or device (e.g., television) can be considered unobtrusive in one instance, but can become very remarkable or obtrusive in another.

What was also of further interest was that certain technologies were used as a resource for setting certain scenes and creating ambience. Such creative practices were not necessarily about the more everyday and routine but became a way of making special certain occasions. Hupfeld et al. [5] discussed how families used special tableware to mark special and mundane family meals. In contrast to this, we found that the technologies used in everyday and in special occasions were the same; only the ways in which families appropriated these everyday technologies chanted in order to mark a special occasion.

Finally it is worth noting that distraction was in itself not always at odds with the social conduct of the family mealtime. Where appropriate, technology was used deliberately to distract, as we saw in the strategic efforts to encourage child satiety or maintain family harmony.

Future Works
For our second study, we aim to develop some technological intervention to probe into everyday and ordinary nature of technology usage during family mealtime and differentiate its usage for special occasions. The third study will address similar issues from a different perspective and validate the findings from study two.

Current and Expected Contributions
Throughout this thesis, we aim to unveil the role of mundane technology in our everyday mealtimes as well as special occasions. Our first study shows that a technology does not require being special or separate from the ordinary technology used it our everyday life to support the celebratory occasions in the family, rather it achieves this feat through its usage in special ways. So our objective is to look beyond this ordinary and elaborate on how these technologies are playing a role in our life, and how we can support augmenting this celebration.

References
[1] Bell, G., and Kaye, J. Designing technology for domestic spaces: a kitchen manifesto. *Gastronomica 2*, 2 (2002), 46–62.
[2] Dourish, P. *Where the action is: the foundations of embodied interaction*. MIT press, 2004.
[3] Fulkerson, J. A., Story, M., Neumark-Sztainer, D., and Rydell, S. Family meals: perceptions of benefits and challenges among parents of 8- to 10-year-old children. *J Am Diet Assoc 108*, 4 (2008), 706–9.
[4] Grimes, A., and Harper, R. Celebratory technology: new directions for food research in HCI. In *Proc. CHI*, ACM Press (2008), 467–476.
[5] Hupfeld, A., and Rodden, T. Laying the table for HCI: uncovering ecologies of domestic food consumption. In *Proc. CHI*, ACM (2012), 119–128.
[6] O'Hara, K., Helmes, J., Sellen, A., Harper, R., ten Bhomer, M., and van den Hoven, E. Food for talk: Phototalk in the context of sharing a meal. *Hum-Comp Interac. 27*, 1-2 (2012), 124–150.
[7] Tolmie, P., Pycock, J., Diggins, T., MacLean, A., and Karsenty, A. Unremarkable computing. In *Proc. CHI*, ACM (2002), 399–406.