Playfully situated messaging in the home: appropriation of messaging resources in entertainment

Mark Perry¹, Dorothy Rachovides¹, Alex Taylor² and Laurel Swan¹

{mark.perry, dorothy.rachovides, laurel.swan}@brunel.ac.uk, ast@microsoft.com ¹School of Information Systems, Computing and ²Microsoft Research,

Mathematics, Brunel University, Kingston Lane, Uxbridge, Middlesex, UB8 3PH, UK ²Microsoft Research, Roger Needham Building 7 J J Thomson Avenue, Cambridge, CB3 0FB, UK

ABSTRACT

In this paper we discuss an alternative view to the traditional perspective on entertainment media, moving away from a gaming paradigm towards an embodied, everyday one in which people artfully employ the everyday resources in the world around them to entertain themselves and others. We develop this notion, using data from a field study of domestic communication, to explore some of the issues in how people engage in playful activity through (asynchronous) messaging in their homes – notably, the very environments in which computer gaming technologies are seen to dominate in the field of entertainment. Finally, we develop the findings into some implications for the design of entertainment technologies.

Author Keywords

Playfulness, entertainment, communication, messaging, appropriation, ludic computing.

INTRODUCTION

This paper attempts to move away from the traditional notions of entertainment media as an immersive gaming system (be this a Playstation, Xbox, Gameboy or PC) to one in which entertainment is a part of everyday activity, something that we, as members, regularly and unproblematically engage in and understand. It is a commonplace observation to see that we manage to entertain ourselves well enough without playing within a structured gaming environment, whether this is technically or non-technically mediated. Taking the dictionary definitions of entertainment, we see this to involve 'the action of providing or being provided with amusement or enjoyment' and 'an event, performance or activity designed to entertain others' (Oxford American Dictionary), which opens the scope for thinking about what entertainment technologies might encompass beyond these 'boxed in' gaming devices.

Following the definition of entertainment given above, we frame this question within a social context and seek to examine what people do for entertainment, and will attempt to uncover the practices that people are involved in when they are engaged in it. Problematically, the area has few clear boundaries, and typically, terms like fun, play and playfulness, creativity, humour, jokes and joking (amongst

others) are all used to encompass the domain. We use all of these terms somewhat interchangeably and loosely to explore the issues arising, although this apparently vague terminology is empirically grounded in the terminology used by our own study participants.

Studies of human activity and communication within the domain of interactive technology (such as CHI and CSCW) tend to focus on improving the effectiveness of the communication (in terms of its quality, efficiency and 'fit' with existing activities and practices), with technology designs usually (although often implicitly) expressed in terms of making communication 'better'. This is true even in instances where it is recognised that home and non-work environments are different from the workplace, and that the design and evaluative criteria used in the workplace are not necessarily appropriate. We argue here that while this is one view into what technology can do (i.e. improving the and appropriateness of interpersonal effectiveness communication), this perspective misses out a great deal about a major component of the social interaction that occurs through messaging media: people making entertainment for themselves and others through the expression of humour and in playful creativity. This is of course true in both the workplace and the home, and is an important binding part of the fabric of social structures that we are part of. This is not to say that the technologies are entertaining, or particularly 'fun' in themselves (and most usually they are not!), but that they allow people to artfully express aspects of their own creativity through their use for the purposes of entertaining themselves and others.

It would be a mistake to say that the forms of entertainment practiced are universally 'fun' or good humoured for all of those involved. The everyday expression "making fun at someone else's expense" illustrates this quite clearly: we may well remember from our own experiences when we were the butt of someone else's fun, or where we provided amused entertainment for others unbeknownst to ourselves. What is important here to recognise is that there is an element of creativity in our 'making fun' – the juxtaposition of unlikely ideas together, drawing of satirical pictures or scribbled comments, displaying annotating pictures, posting of puns, jokes and humorous materials in shared social areas, and so on. That these materials may be used in nontrivial ways, from what we might consider as positive (e.g. building a group identity) to negative (e.g. bullying) does not concern us here, and we remain deliberately nonjudgmental about this, at least in terms of our definitions, although, as we see, the uses to which messaging displays may be put may have implications for design.

The notion of entertainment that we are attempting to convey here is not that these artefacts are funny by themselves (perhaps by an inept mistake of their creator), but that they are deliberately designed to entertain. To complicate the issue, the notion of entertainment is not always the primary purpose of the act, and the entertainment value may itself arise out of cleverly wrought materials, with some good examples of this being seen in advertising materials (e.g. 'go to work on an egg'). Moreover, what is designed to be entertaining, may not be a) recognised as entertaining (e.g. it was not seen to be funny), b) as being intended to be entertaining (e.g. by missing the point of a joke), or c) as something that people might want to recognise as being entertaining (e.g. as in the case of sexist/racist jokes). Notably in these instances, it remains the intention of the actor to provide some form of entertainment, and this is the issue that we wish to explore here, and not the perceived entertainment value derived from the recipient/s (intended or not) of that message. It is this intentionality, and the provision of resources to creatively support this intentionality, that are of concern to us here.

The paper then, attempts to examine this aspect of entertainment as observed in a field study of communication in the home. We focus on asynchronous messaging and the playful techniques that people employ in their messaging through the use of resources that they coopt in their messaging activities. Moreover, we focus on situated messages – these are messages that are left in a place (not to a person) and which are interpreted as being related to that place, with all of the contextual baggage that this carries. However, before we attempt this, we outline the broader literature on domestic technologies used in computing to support messaging activities and the previous research that has been done on understanding communication patterns within the home to ground our own research within this broader context.

COMMUNICATION USING DISPLAYS AT HOME

A growing research interest in Ubiquitous Computing, and its related fields HCI and CSCW, has begun to point towards the roles that different display surfaces play in the home. Attention has been given to pin-boards (Laerhoven, *et al.* 2003), fridge doors (Norman, 1992; Taylor and Swan, 2005), kitchen countertops, tables and walls (Crabtree, Hemmings and Rodden, 2003), and even floors (Harper and Shatwell, 2003). Parallel to this research, there is also a sizeable body of research on the design of digital display surfaces, although most of the existing work on public displays has centred on supporting co-worker awareness and co-ordination within the workplace, educational, or public domains, and not activity within the home.

An example of such work in the area of electronic displays in the workplace is the Hermes system (Cheverst et al. 2003), a small screened 'situated send-to display' that sits on its owner's office door allowing other people to scribble messages on a touch screen. The display's owner can also remotely send messages to the device to be viewed by other users. In a similar vein, Churchill et al.'s work (2003) on the Plasma Poster describes a large 'send-to' display, which allows remote users to send information to the display and gives co-located users 'low effort, collaborative browsing and networking' through the posted interactive multimedia content. The screen is interactive, allowing users to select information and scroll up and down pages on the interactive surface (see also Snowdon and Grasso, 2002). Like the Hermes system discussed above, its intended use is in the workplace, and it is has been designed primarily as a community and awareness building technology, and is not designed to support the particular activities and interactional demands of the home.

One project that has moved electronic displays into the home environment is the Appliance Studio's txtboard. The txtboard is a slim, self-contained display device that is intended to be hung on a communally visible wall (possibly in a home), which displays text-messages sent to a dedicated phone number. The design of the txtboard is appliance-centric, in that it is intended to follow a set of principles that match the interactional resources to the requirements of the task that it supports - critically, the appliance should not operate like a general-purpose PC. In a field study of the use of the txtboard in a home environment (O'Hara et al., 2004), a range of important findings were revealed about its use; however, more revealing than an evaluation of the interface design were details arising from its use about communication within the home, and the lived practices of the participants in the study.

Other studies in a similar vein include the ASTRA system (Marcopoulos et al. 2004) developing a 'home awareness' system using mobile devices to capture images, short messages and reachability information for later viewing on a monitor in the home by remote family members. This display functionality was found to be important, in that the personal effort costs put into sending the messages at an appropriate time and personalised to the recipient was highly valued, and in evaluation the system was said to have built an increased sense of connectedness for its users. In another related example, the Casablanca project (Hindus et al., 2001) developed the idea of the media space within a home, developing an application based on a notice board metaphor, the CommuteBoard. The CommuteBoard allowed co-ordination between commuters to support sharing journeys to work, using a shared screen for drawing on between homes, with an audio-based activity monitor to support unobtrusive household activity for co-ordinating the initiation of messaging. Both papers on the ASTRA and

Casablanca projects provide a valuable indication of the utility and use of such displays, but unlike the txtboard study, their focus is more on the design of the devices, and less attention is paid to the incorporation of the display into the everyday life of the home and the communication (and of specific relevance for this paper, asynchronous messaging activity) that is undertaken in this context.

Despite these various studies, there has been little theoretical discussion of the nature and role that display surfaces play in communication. In one of the few papers directly addressing this, Crabtree *et al.* comment on the role of the display as a site, or series of sites for co-ordination and communication:

"... we consider displays as heterogeneous collections of fragmentary sites constructed where trajectories collide and where displaying goes on to provide for communication and the coordination of practical action." (2003)

Building on their ethnographic work, they pull out the *situatedness* of displaying activities, and point to the increasing role that multiple, networked displays could play in domestic communication and co-ordination. This is a point of departure that we take in our research, examining how displays are used in messaging activity, and how distributed and situated displays in the home are crafted towards the purposes to which their creators intend them to be used in making their own entertainment.

PLAYFUL MESSAGING: MAKING OUR OWN ENTERTAINMENT

Other authors have pointed out the role of situated messaging in their expressions of love for one another, and in their evaluation of in relationship management: Homenote (Sellen et al., in submission; see also Harper et al., 2005a,b), messaging is used in calls for home members to undertake some form of action, in promoting awareness and reassurance, to demonstrate affective awareness through reaching out to give a 'social touch', as reminders to others, in redirecting messages, and as an information store for later use. Our own studies of messaging in the home pick up on a number of these issues, such as its use in developing an awareness of ongoing and future activities, with explicit written reminders to do things, as well as more abstract reminders, displaying related materials, such as concert tickets. Similarly, and we have seen this in many of the homes that we have visited, calendars are often used for family co-ordination. We have seen examples of the typical monthly calendar in which (usually) the mother keeps track of activities and appointments for the entire family, with extreme cases of yearly planners set up in a shared spreadsheet to make sure that families do not double book weekends in their very active home life. Yet, whilst interesting, it is not these aspects of interaction that we are directly interested in for the purposes of this paper; rather we look at how messages (and perhaps these very same messages) are used playfully.

The choice of medium for the message is important in providing its entertainment value. We have hearsay

examples of this, where messages written on misty bathroom mirrors reappear – occasionally inappropriately – when they mist up again. Similarly, messages posted directly in the region of the topic allow a degree of indexicality, or situatedness, in which it's meaning is dependent on the context in which it is read.

Another aspect of playfulness that we have observed lies in users creatively making use of a message for two or more of the reasons noted above simultaneously, with the message acting in more than one capacity, perhaps to poke gentle fun at another household member, to provide a reminder to them about something that they had forgotten, to give them a gentle rebuke or feedback on an inappropriate message that they have posted, or to deliberately demonstrate an emotional response to another family member, whilst at the same time telling them about some functional issue in the home. We discuss some examples of these below.

As highlighted by Crabtree *et al.* (2003), centres of coordination feature prominently in the home. One of the widely used messaging centres found in these homes was the fridge through the use of fridge magnets (see also Norman, 1992; Taylor and Swan, 2005). Besides the usual information of charts, travel itineraries, urgent bills and shopping list, various other magnetic artefacts find their way there, fridge magnet 'poetry' (a genre of magnetic words or letters in different styles that can be arranged to form sentences) were commonly seen. The interaction with this can be seen in various ways: it can either be used to show love and affection, humour, or sarcasm, and this can be used to depict the 'mood' of the person creating it (if this is indicated in the content of the text), or of a more general mood in the home at a specific point of time.

Similar to this we observed many instances of doodling on message boards (whiteboards or chalk boards) and on existing paper messages posted in public places. A typical example of this was in a home where the parents decided to cover an entire wall in their living area with blackboard paint. The high and difficult to reach areas for the children had messages that the mother referred to every morning, while the areas that were accessible to the children were highly volatile over time, and were heavily annotated and drawn over. Even in the way that shopping lists were written, we saw "loo paper" with the "oo" dotted to appear as eyes, or, as one partner was vegetarian (male) and the other (female) not, they referenced ready meals as 'girly' and vegetarian meals as 'boy's' on the shopping list. Interestingly, this very functional document, the shopping list, was a 'floating' paper document that circulated around the home, but as the weekly shopping trip approached, it was moved to the fridge, and was appended with a magnet, awaiting its use at a supermarket.

DESIGN IMPLICATIONS: MAKING PLAY WITH AND THROUGH TECHNOLOGY

What we have seen in the studies that we have conducted are that playfulness and entertainment behaviours are not necessarily related to game playing, at least as a formalised turn-taking activity, with a final result, a winner or a loser. Of course, this does not need to just cover the home: there is no reason to suggest that playful systems could not be beneficial within the workplace, public spaces, or other settings, although these environments may have different design constraints, from the forms of play, numbers of users and social contexts that these activities are interleaved with.

The activities that we have seen are very much about household members creatively making use of the resources around them to entertain themselves, and (they hope) the others around them. Here lies a serious point for technology designers: systems that open themselves up for, perhaps unanticipated, use (cf. Robinson, 1993) give their users a powerful tool for artfully integrating them into other practices, a good deal of which in the home are playful and entertainment-related. By allowing users to generate, coopt, display and annotate a variety of media we can give them the resources to do many forms of communication, one of which is the ability to support play. And whilst play does embody social rules, it is the very socially constructed nature of these rules, and not their technological embodiment, that makes them powerful, and allows them to be applied in a variety of ways. We would therefore not encourage strong rule sets that form 'methods' of play, but would rather allow these to be generated on an *ad hoc* basis, and to draw from the existing social practices around messaging that household members already use in their everyday lives.

Whilst we do make a case for opening systems up to 'ludic' use (cf. Gaver, 2002; Huizinga, 1938), care may need to be taken in managing these systems. There are 'humorous' activities that may be deemed unacceptable within the home, such as commenting on what are deemed as sensitive topics (e.g. sex, death, drugs), or where such messaging might be used for bullying, or even where parental or another shared occupant prying into previous events was deemed to be inappropriate. These concerns give rise to management issues, not necessarily of content control, but of content management - who can access and delete information held on the system – when there may be no clear boundaries about what content is allowable, or who can access information held on it. Of course, this is similar to a paper-based system, many of which we have seen in the homes we visited. But there is a difference here, in that electronic systems can be invisible to external monitoring and 'social' policing (as with SMS text messages) and thus are open to what may be deemed as less responsible patterns of use.

Data collection and analysis is ongoing, and we will be able to report on further details of a technology probe examining ludic display behaviours at the workshop.

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REFERENCES

- Cheverst, K. Fitton, D. and Dix, A. (2003) Exploring the Evolution of Office Door Displays. In *Public and Situated Displays: Social and Interactional aspects of shared display technologies*, O'Hara, Perry, Churchill and Russell (Eds). Kluwer, CSCW Series.
- Churchill, E., Nelson, L., Denoue, L., Murphy, P. and Helfman, J. (2003) The plasma poster network. In *Public* and Situated Displays: Social and Interactional aspects of shared display technologies, O'Hara, Perry, Churchill and Russell (Eds). Kluwer, CSCW Series.
- Crabtree, A., Hemmings, T. and Rodden, T. (2003) The social construction of displays: coordinate displays and ecologically distributed networks. In *Public and Situated Displays: Social and Interactional aspects of shared display technologies*, O'Hara, Perry, Churchill and Russell (Eds). Kluwer, CSCW Series.
- 4. Gaver, W.W. (2002) Designing for Homo Ludens. *13* Magazine. 12, June 2002: 2-6.
- 5. Harper, R and Shatwell, B. (2002) Paper-mail in the home of the 21st Century: An analysis of the future of paper-mail and implications for the design of electronic alternatives. *Journal of Interactive Marketing*, *3* (4), 311-323.
- Harper, R., Jansen, M., O'Hara, K., Sharpe, B., Unger, A. and Wilkes J. (2005a) TxtBoard: from text-to-person to text-to-home. *Proceedings of CHI '05*, Portland, OR, USA.
- Harper, R., Jansen, M., O'Hara, K., Sharpe, B., Unger, A. and Wilkes J. (2005b) Text Messaging to the Home with TxtBoard. *Proc of HCII '05*, Las Vegas, USA.
- Hindus, D., Mainwaring, S., Leduc, N., Hagstrom, A., and Bayley, O. (2001) Casablanca: Designing social communication devices for the home. *Proc. CHI'01*, Seattle, WA, USA. p. 325-332.
- 9. Huizinga, J. (1938) *Homo Ludens: a study of the play element in culture.* London: Routledge and Kegan Paul.
- Laerhoven K V, Villar N, Schmidt A, Gellersen H-W, Håkansson M, Holmquist L E (2003) Pin&Play: the surface as network medium. *IEEE Comms Magazine* 41:90-96.
- Markopoulos, P., Romero, N., van Baren, J., Ijsselsteijn, W., de Ruyter, B. and Farshchian, B. (2004) Keeping in touch with the family: Home and away with the ASTRA awareness system. *Proc. CHI '04*, Austria, 1351-1354.
- 12. Norman, D. (1992) Refrigerator doors and message centres. In *Turn signals are the facial expressions of automobiles*. Addison Wesley.
- 13. Robinson, M. (1993) Design for unanticipated use... Proceedings of the third European Conference on Computer-Supported Cooperative Work, Milan, Italy, p. 187-202.
- 14. Sellen A, Harper R, Eardley R, Izadi S, Regan T, Taylor A S et al. (submitted) Situated messaging in the home. *Proc. CHI'06*, Montreal, Canada.
- Snowdon, D., and Grasso, A. (2002) Diffusing information in organisational settings. In Proc. ACM CHI'02 -Conference on Human Factors in Computing Systems, Minneapolis, MA, USA, 331-338.
- 16. Taylor, A.S. and Swan, L. (2005) Artful systems in the home. *Proc. ACM CHI'05*.