Phatic Technologies: Sustaining Sociability through Ubiquitous Computing

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ABSTRACT
Recent research in ubiquitous computing has mostly concerned systems that support personal and informational issues. This workshop paper introduces the concept of *phatic technologies* – systems that establish and maintain the possibility of social interactions. These systems are not concerned with capturing and communicating information as such, but with building relationships. We present details of two field-based studies looking at strong-tie relationships, and explore the consequences for emerging ubiquitous and pervasive technologies.

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Phatic Technologies, Ubiquitous Computing, Sociability, Intimacy, Older people, Young People

ACM Classification Keywords
H.5.3 Group and Organization Interfaces

INTRODUCTION
Studies in Ubiquitous technologies have tended to focus on the personal (or individual) dimension and/or the informational aspects of interaction. Ubiquitous devices for individual support include those dealing with aspects of an environment (e.g. navigation systems), those helping to manage one's time and resources (e.g. diaries and personal sensors), and those exploiting situational opportunities for personal benefit (e.g. context aware systems). Ubiquitous devices for informational support include those that display location information or convey other information about the environment or individual (e.g. displays of health status). Many ubiquitous devices do both.

However research in ubiquitous computing does not often explicitly deal with human relationships, or communication. Of course there are exceptions [e.g. 6], but even here the emphasis is on context awareness and information display (e.g. modality issues) rather than relationship building.

In this paper we are concerned with ubiquitous technologies that help to sustain social interactions of a particular type, strong tie relations within family settings.

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PHATIC INTERACTIONS
Phatic exchanges, a term first introduced by Malinowski [5] and then adopted by Jakobson [4], do not inform. They do not express any particular thought or aim to exchange facts about the world. They do however strengthen social bonds and establish and maintain the possibility of communication. Phatic communication occurs when, for example, comments are made about the weather ('nice day'), inquiries about health ('how do you do?') or affirmation of some obvious state of the world ('we won!'). The phatic function endeavours to keep channels of communication open and to maintain the physical, psychological or social contact. Phatic exchanges confirm that communication is in fact taking place (e.g. eye contact, nods, idle chat) and reaffirm connectedness.

The phatic exchanges occur when messages are not intended, by the sender, to carry information for the receiver. The phatic dimension to an interaction concerns the process of communication, not its substance. The purpose may be to prolong communication, to discontinue communication, to check whether the communication channel is operational ("Hello, can you hear me?"), to attract attention, or to confirm continued attention ("Are you listening?") [4]. Phatic acts ensure existing communication channels are kept open and usable. These interactions maintain and strengthen existing relationships in order to facilitate further communication.

Thus *Phatic Technologies* are those specifically designed to sustain social interactions, rather than convey information. Phatic Technologies are not concerned with the utility of the interaction, the usefulness of the information nor the ease-of-use of the device - though each of these may contribute to the end user experience. Phatic Technologies are measured by the degree to which they contribute to a feeling of ongoing connectedness.

Technologies that support phatic exchanges are similar to devices that support peripheral awareness [3], such as a lamp that glows in one room when a dear friend walks into another room far away. However, whereas awareness devices would tend to support phatic interactions, phatic interactions are not limited to being peripheral. Phatic interactions are often embedded within the routine of everyday life, and so can be focal as well as peripheral.

CASE STUDY 1: EXPRESSIONS OF INTIMACY

The value placed on ongoing connectedness was observed in a study of intimate communication we conducted, drawing on fieldwork with six couples [8]. In this study, cultural probes, interviews and focus groups were used to document expressions of intimacy over seven weeks.

Simple expressions of affection within notes, emails, and mobile text messages were acknowledged as being important. For example, signing off an email with the phrase 'love you lots', a phrase that carries weight because it is used regularly, reciprocally, and though perhaps not exclusively it is insufficiently commonplace to be experienced as 'our'. Such exchanges may have seemed trivial to outsiders, but they were laden with emotional significance

We found significance and meaning in what may appear, too easily to an outsider, as 'idle chatter'. The regular and frequent exchanges, that have little if any informational value, are key to the strength of ongoing social binding. This finding shares much with the earlier work examining the retention and later reviewing of SMS messages that carry little instrumental value [7].

The facility to chat idly, to 'waste' time with someone you care for was a valuable expression of the care they shared for each other. The substance of their communication was not always important. It was the reassurance that they were connected, that a channel of communication was available to them, and that this somehow strengthened and nurtured the relationship. These phatic exchanges were genuinely valued.

CASE STUDY 2: INTER-GENERATIONAL PRESSURES

The opportunity to pass time phatically can be seen in other strong tie relationships. Grandparents in retirement and pre-school grandchildren, for example, tend to be time rich and when co-located, often enjoy opportunistic play – rich in phatic exchanges.

However, traditional notions of the family in general and grand-parenting in particular, are under strain. Families are becoming more nomadic, for reasons of both employment and lifestyle choice. Regardless of whether ageing occurs in the home or within supportive facilities, the extended family is increasingly distributed. In particular grandparents are becoming isolated from their children and grandchildren.

Furthermore, the home is becoming a space in which work and family life coalesce. Changes to the nature of work, e.g. 24/7 availability, casualisation of workforce, significant travel to workplace, is blurring the distinction between work and family and squeezing opportunities for traditional family activities. This is particularly confronting for grandparents, who partly as a result of their children's complex work arrangements, have limited access to grandchildren. Opportunities to socialize and play with their grandchildren are severely curtailed because they are separated by distance (e.g. due to work commitments) or time (e.g. due to shift work routines).

The intergenerational relationships are important for many reasons. Firstly as baby-boomers enter retirement, it is a relationship increasingly being invested with social significance and targeted by government policy for interventions. For example, an Australian government report clearly identifies the problem.

> "Older people are concerned about the breakdown of family units and in particular the problems that sometimes occur for grandparents in continuing to maintain links and contact with their grandchildren in these situations." [1]

Additionally, sociable connection has been shown to improve the wellness of aged people helping them to remain living in their own homes thus reducing the cost to the residential care system. Recent research [2] also shows that simple telephony is not sufficient support for the grandparent-grandchild relationship. A more personal, richer context, such as play activity, is required.

WORKSHOP PROPOSAL

We will describe our previous work on intimacy, and current work examining the nature and role of phatic exchanges in intergenerational relationships. In particular we will discuss opportunities for support in these areas offered by emerging ubiquitous and pervasive technologies.

In the workshop we will:

1 Review our work on mediating intimacy, and highlight prospects and hurdles for ubiquitous support

2 Describe the characteristics of phatic exchanges, and outline some reasons why ubiquitous solutions are particularly appropriate for supporting phatic activity, including the background nature of phatic activity and the importance of 'zero usage cost' solutions.

3 Present our ongoing work, examining the phatic exchanges between grandparents and grandchildren, and illustrate some early ideas on the role of 'play' as the mediator of phatic activity. Play is an interesting activity for many reasons including:

   a. Intergenerational play is a relatively unexplored relationship for Computer-Mediated-Communication (CMC).

   b. It is a challenging relationship that will stretch the capabilities of current technologies due to the disparate physical and mental abilities/skills of those concerned.

   c. The findings are likely to be extensible to other strong-tie relationships such as interaction between

parents and their children or siblings living together or living apart.

4 Finally, throughout the presentation we will describe our research methodology, and where possible highlight how we have identified opportunities for ubiquitous solutions.

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