Balancing Work, Life and Other Concerns: A Study of Mobile Technology Use by Australian Freelancers

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ABSTRACT
In this paper we present initial findings from an empirical study of the mobile technology use and mobile work practices of freelancers in the domain of Film and Television. Our findings demonstrate that mobile phones were primarily used to manage other personal activities and concerns unrelated to the local work. They were used only intermittently to support local practice when that practice itself moved away from fixed resources. The fact that people were consistently using their mobile phones at work to attend to other concerns is an important feature of mobile technology use. This personal aspect of use in the work context has been largely overlooked within the Mobile HCI literature. In particular, our findings reveal the ways in which freelancers manage the blurring of contexts that is facilitated by mobile phones. We consider implications of these findings for the ways in which we currently talk and think about mobile technology use within Mobile HCI.

Author Keywords
Studies of practice, mobile technology use, work/life

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

INTRODUCTION
With the widespread use of mobile technologies, researchers in the area of Mobile HCI have observed that the boundaries are being blurred between previously delineated areas of people's lives. For example, increasing numbers of work calls out of work hours and social calls during work hours [4], and the invasion of public spaces by mobile phone conversations about private and work concerns [6]. Mobile devices facilitate this overlapping of local activities and remote contexts by providing the potential for instant connectivity. As a result, whether we are mobile or not, the technology we carry allows us to co-exist in a variety of social contexts [9]. Within the Mobile HCI literature to-date, there are few empirical studies that explore the ways in which people manage the interleaving of contexts introduced by mobile devices. Further research can build deeper understandings of how to support mobile users in handling the multiple roles they assume while they are immersed in their local situation [9].

Empirical studies within the Mobile HCI literature tend to focus on mobile technology use for work purposes within the work setting, or on social use within social or public settings. For example, in the work context, O'Hara et al. [10] and Perry et al. [11] examine the ways in which mobile technologies (including paper artefacts) are used to support mobile work on business trips. In the social context, technology use is considered in a diverse range of settings, such as trains, cars, pizza delivery vans, shopping centres and bedrooms of teenagers or lovers (see [5] for a discussion of these). With the notable exception of Gant and Kiesler [4] and Brodie and Perry [1], there are few studies within the work domain that specifically discuss the use of mobile phones for managing personal concerns.

In this paper we present initial findings from an empirical study of the mobile technology use and mobile work practices of freelancers in the domain of Film and Television. Freelancers are defined for the purposes of this research as people who are employed on short-term projects with a single employer for brief periods of time, such as three months. Specifically, this paper discusses the ways in which freelancers manage the blurring of contexts that is facilitated by mobile devices and remote interaction. This study revealed that mobile phones allowed people to interact with remote others to coordinate, seek information and promote awareness, irrespective of the context of the activity. It is in fact this commonality across contexts that facilitates the blurring of traditional boundaries. The following section of this paper provides a brief overview of

the approach taken in the study. The subsequent section presents findings from this research specifically related to managing unrelated contexts. Finally, this paper discusses implications of these findings for the ways in which we currently think about, and talk about, mobile technology use within the domain of Mobile HCI design and development.

THE STUDY

This study is part of an ongoing series that draws on ethnographic techniques to explore practice in context. It further considers some issues identified in a previous scoping study of the mobility and mobile technology use of freelancers [12]. Broad questions that shape this ongoing research include: How can we conceptualise mobility based on an understanding of current practice? How do mobile technologies enable, contribute to, and support the mobile activity of users? What is the relationship between mobility and mobile technology use? This research focuses upon freelance workers. The intention in selecting this group of users is that they are continually relocating from one work location to another, and may experience periods of unemployment between contracts. There is a high level of mobility in the lives of freelancers that offers rich experiential insights into how mobile technology is used to support mobile practice.

In this project, freelancers developed a fifteen second television advertisement for an advertising agency. The project spanned five weeks, including a week for pre-production, one day for production or shooting, and a further period of four weeks for post-production and stakeholder approval. At each stage of the project, varying numbers of staff were involved, ranging from as few as two people during editing sessions, to twenty-nine people on the day of the shoot. Of these twenty-nine people, twenty-three were freelancers and six were advertising agency and client representatives. Thirty hours of observational data were collected over the life of the project. The collected data (photos and notes) were analysed by systematically coding transcribed field notes and memo-ing emerging ideas, using NVivo software [3].

FINDINGS

The focus of this study was on the participants' current work projects, and it was found that mobile phones were used to support this work when away from alternative fixed resources, such as landlines and email. However, it was also observed that mobile phones were consistently and predominantly used across all locations to manage personal activities and other concerns. These personal concerns for the participants included both social activities and also the ongoing organisation and overlap of future work opportunities. When they were at work they balanced their current activities, life and other work projects.

Participants used their mobile phones for a variety of purposes, which are represented in the matrix in Table 1 below. Examples from the study are included for each of the identified categories. This matrix, with the two axes of time and activity context, demonstrates the temporal and contextual aspects of mobile device usage in relation to the local work activity. From the matrix, it can be seen that participants used their mobile phones for different types of interactions including: firstly, awareness of others activities and general well-being; secondly, seeking or accessing information by calling others; and thirdly, the coordination of the future availability of people, places, and resources. These fundamental forms of technologically mediated interaction are documented within the literature, e.g. [2, 8, 11, 13] and are not described further in this document.

By presenting our findings about what people were using their mobile phones for, it is possible to see that people were essentially using their phones for the same purposes across all contexts. This suggests that it no longer really matters if mobile phone communications are supporting local practice or other concerns. The same mechanisms are common across these often unrelated activities. That is, in fact, how people blur their contexts. Mobile phones allow participants to conduct a wide variety of activities that require awareness, coordination or information seeking, while they are mobile and wherever they were located.

Participants seamlessly and effortlessly managed their availability to incoming calls. They chose when and where to respond to or initiate calls. Sadler et al. [12] describe various mechanisms that are used to manage availability. These include employing features of the device, establishing availability in the opening sentences of the call,

Context Time	Current Work (calls to/from distributed colleagues)	Other (calls to/from family, friends, other employers)
Present	Awareness I'm just going to call Jane to let her know what's happening here.	Awareness How is everything going with the kids? We just got the go-ahead on the shoot tomorrow.
	Information Seeking What format do you need the tapes in?	Information Seeking What type of oil does the car use?
Future	Coordination Can you get onto the booking agency and book the other people for Thursday?	Coordination I got a call asking if I was available to fill in for her on another job

Table 1. Purpose of mobile communications in relation to contextual and temporal aspects

and social protocols on the appropriateness of calls in certain contexts. Sadler et al. [12] note that being available for calls about potential work or from other employers was seen as a crucial aspect of the freelancer culture. In this study, mobile phones tended to be switched on and silenced, allowing incoming calls to be screened and almost always answered if the immediate work allowed.

When phone use was not related to the local work, participants in practice accomplished the blurring of contexts by walking away from the central focus of the work. This allowed them to attend to their phones without significantly disrupting the activities of colleagues. In addition, the blurring of contexts also enabled participants to overlap current and future work projects, significantly increasing the pace of work. These two aspects will be discussed in further detail below.

Walking Away from the Action

When using their mobile phones for conversations that were unrelated to the local activity, participants physically removed themselves from the focus of the work, to avoid interruption to others and for privacy. I often don't know if the next phone call is for a different client to the one I'm sitting with and so that conversation may have to stay confidential. In particular, mobile phone use for these personal purposes tended to be surreptitious, occurring during brief lulls in the participant's work. Participants took advantage of the natural pauses in their workflow, such as changes in camera angles, or the absence of key team members who were collecting resources, to tend to their devices, to send a quick SMS, or to walk quickly away from the action to converse with distant others, then quickly return and resume their work. Additional calls were placed during longer work breaks to check and respond to voice mail messages or to contact friends or family. If participants were not able to walk away to attend to their devices due to the demands of their work, they were simply not available to take incoming personal calls.

Mobile phone conversations that directly related to the local activity were always answered or initiated whilst remaining within the centre of activity. This allowed others to listen in on the exchange and also contribute by interjecting questions. Often, if work was temporarily stopped by the need to find out additional information, overhearing half of the conversation allowed staff to proceed with their work whilst the mobile phone exchange also continued. After hanging up the phone, participants asked if the others had heard the details, "did you get that?", and provided further details if needed. Weilenmann and Larsson [14] suggest that mobile phones can be used for "multi-party talk" rather than forcing the phone user to absent themselves from their local environment. Similarly our findings suggest that in the work context, public talk on the mobile phone can be beneficial for local collaboration between team members.

Overlapping Projects

One of the interesting aspects to emerge in this study was the different patterns of mobile technology use by different freelancers. Use of mobile phones was distinguishable between team-members who coordinated (initiated) upcoming projects, and those called in to work on the projects. In particular, team members who initiated project work, i.e. producers, made calls to set up projects and establish the availability of other freelancers for work whilst away from established workspaces. They attended the location of their current work project in a support role whilst using their mobile phones to coordinate future work. As one participant noted, I'm not really doing anything here today related to the shoot, instead I'm already organising my next job, and we're now able to do this from location using our mobile phones.

One participant noted that the use of mobile phones allowed work to be completed at a faster rate, and maximized previously under-utilised time on location away from established workspaces. He was able to attend location to keep an eye on the project' s time-schedule and be available to others when needed, while also conducting other work. In this case, the go-ahead was given on another project with the shoot proceeding the following day. The participant used his mobile phone to successfully coordinate all necessary staff, equipment and resources for the small project within a number of hours. In contrast, the flipside of this initiation work occurred when the freelancers received calls from other employers about future work or concurrent projects. Participants received calls that enquired about their availability for future work, and confirmed previously agreed work dates or stages of concurrently running projects. This overlapping of projects, and the resultant increase in the pace and immediacy of work, supports findings by Kakihara and Sorenson [7] of the increasing polychronicity of human activities due to technology use.

DISCUSSION

In this study mobile phones were used for two distinct purposes. Firstly, interacting with remote people allowed participants to support their immediate work when they were away from alternative fixed resources. Secondly, their mobile phones also enabled them to attend to other concerns while they were physically absent. These two purposes present distinct opportunities for the design of future mobile technologies and services. Messeter et al. [9] propose that designers should be sensitive to the diverse roles that people assume in different contexts as a result of their mobile technology use. We suggest that both purposes need to be considered in the design of mobile devices. As Sherry and Salvador [13] note, underlying the immediacy of mobile technologies, and the access they provide to other worlds, is the need to balance "what is here" and "what is not".

Our findings indicate that although the blurring of contexts is currently managed easily by people in practice, there are opportunities for designers to further facilitate this.

Emerging themes that influenced the use of mobile technologies to attend to other concerns included managing availability to incoming calls, obtaining privacy from others, and maximising otherwise under-utilised time on location. Technologies that support people in these areas could facilitate the transition between the often unrelated contexts and roles experienced on a daily basis. Possibilities for design include the separation of functionality within and between devices for distinct purposes or contexts. An example of this is the incorporation of mechanisms that allow users to quickly and easily switch billing modes to isolate calls made for work or non-work purposes.

Accessibility to participants was sometimes problematic in this study. In particular, a number of interactions were not observable as participants physically absented themselves to use their devices. When returning and resuming their work, often in the presence of employers, participants filtered and reported primarily on work use in the work setting. Hagen et al. [5] note that researchers are developing new methods to study mobile people in response to non-work, often sensitive, settings, and also the small-scale personal nature of the devices themselves. Studying the social in the work context is also potentially sensitive, and will be addressed in future studies.

In this study, we found that the types of interactions facilitated by mobile phones are indistinguishable across contexts, and it is exactly this that facilitates the blurring of traditional boundaries. Further to this, we found that choosing when and where to initiate or respond to interactions with others allowed participants in practice to manage the blurring between “what is here” and “what is not”. Participants’ co-existence across several social contexts due to mobile technology use has implications for our future conceptualisations of both technology and work design. Mobile technology users face challenges and changes as a result of the switching between multiple, often unrelated, activities while they attend to their local situation. The increasingly blurred lines between “what is here” and “what is not” provide a rich context for further investigation.

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