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# Mobile Behaviours around Social Collocated Interactions

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**Abstract**

The increased popularity of mobile devices, combined with their smaller and more personalised nature, means that we have greater opportunities to use our devices all the time. This work looks at the behaviours surrounding device usage amongst groups of friends, with a goal of supporting future research in mobile HCI.

**Author Keywords**

collocated interaction, face-to-face interaction, socialising, mobile devices

**ACM Classification Keywords**

H.5.2 [User interfaces]: Evaluation/methodology.

**Introduction**

Mobile phone usage is common place; we carry many devices everywhere we go, and make use of them for a multitude of different activities. These can range from being utilitarian in nature, such as checking in on our loved ones to make sure they are OK, to entertaining us when we are bored or trying to kill time. As mobile devices are repurposed, from communications devices to an evermore personal computing device, capable of many more functions, and become available in many forms, observed usage patterns are changing [7].

This position paper focuses on work to gain an understanding of the impact of mobile device usage amongst groups of friends, while they are socialising together. The work in this paper looks at friends who are socialising in pubs and cafés as these are places used for leisure-time socialising. As a result of this, individuals may relax any typical standard of social interaction and exhibit behaviours they would normally consider hiding. This work contributes to a PhD that attempts to answer the following research questions:

- RQ1** What kind of behaviours do individuals exhibit in physically collocated social situations in relation to mobile device usage?
- RQ2** What form can technologies take to support or disrupt social face-to-face interactions?
- RQ3** What are the effects from the implementation and deployment of such technologies on the previously observed behaviours?

### **Related Work**

As devices become smaller and more personal, researchers within *mobile collocated interactions* have begun to look into a number of factors related to this phenomena. Researchers have looked at range of ideas, such as making use of the increased complexity of devices to support collaborative tasks (e.g. [3, 6, 10]), or how we manage the interruptive nature of mobile notifications (e.g. [4]).

Further to this, a 'mobile bubble' has been highlighted, in which individuals are focused on their individual interaction with their mobile devices, instead of those around them [9]. This research draws upon previous mobile collocated interactions research by combining both encouraged social collaborative work and the impact of

naturalistic mobile disruptions. This works towards an approach where mobile disruptions are used with an intent to support, or disrupt, the present context.

The context of friends socialising was chosen both for its potential to lead to a greater understanding in *mobile HCI*, and also because the popularity of socialising with friends and visiting pubs has been highlighted in national statistics as activities completed in free time [2].

### **Understanding Behaviours**

A key purpose of this research is gaining an understanding of the kinds of behaviours exhibited in collocated situations: both of how an individual behaves with respect to their own mobile device usage, and how others behave with respect to the mobile device usage of others in the group.

Circumstantially, most people will be able to recall a situation where they have tried to grab the attention of someone who is focused on their phone, and then felt annoyed at having to assert themselves to reach the desired outcome. When socialising this is ever more the case, in situations in which individuals have intentionally gathered to socialise, others may feel inflicted upon by another's mobile device usage. As devices become more personal and wearable, this may be further exacerbated.

This behaviour is particularly interesting when correlated with Goffman's discussions of dominant and subordinate involvements, where dominant involvements provide an obligation for an individual's attention and subordinate interactions play a lesser role [5]. Goffman gives an anecdotal example scenario: an individual is waiting to speak to an official who is presently engaged, and they converse with a friend while they are waiting. Their conversation immediately stops once the official is

available; thus demonstrating the two levels of interaction and the characteristics associated with them.

Mobiles devices, then, could be considered *transient* in nature; many people will change which involvement they consider dominant, based on many factors, and this will have an impact on the behaviour of others in the gathering. This research will work towards supporting or disrupting the situation, however the precursor to this task is to first understand these behaviours.

### Methodology

To understand the behaviours exhibited, groups of friends were recruited with the intent of allowing a researcher to observe them while they socialise. A pub was chosen as a venue, and groups who enrolled in the study were asked to attend the pub at a pre-agreed time and were free to do as they pleased for the duration of the study.



**Figure 1:** An example of a group where two individuals are using their phone, and a third has their phone on the table.

During studies, the groups are video-recorded for up to ninety minutes, with a researcher acting as participant-observer in situations where appropriate; the purpose of the interaction is to observe groups behaving naturally and exhibiting typical behaviours (again, where possible). Notes and observations are made during sessions for later discussion.

Following observations, individuals complete a questionnaire designed to solicit personal opinions of the study, and to allow for reflection upon their behaviours. Perceptions of mobile and wearable device usage when socialising are also captured. This questionnaire data will be used in later work building upon this study.

Groups are also engaged in a semi-structured interview following the observation phase. This is used to reflect upon the study, and to capture opinions and anecdotal

evidence on device usage. There is typically also a discussion around the observed behaviours, and additional details sought on behaviours that may not be obvious in video.

### Observations

This study is currently in progress, and preliminary observations and analysis is being undertaken. Feedback thus far has suggested that individuals have '*felt comfortable*' during observations, and through the group interview, individuals have discussed several anecdotal examples of mobile device usage, from during the study, and from elsewhere.

The purpose of capturing the video recordings is to allow for a more thorough interaction analysis to occur, and to allow the capture of subtle behaviours. One such example of interaction captured through the video is that, during studies, several individuals have their mobile phones out on the table. When a notification is received by one member within a group, other members are able to acknowledge this notification because of the positioning of the device.

This work is currently in development and it is intended a paper documenting the full findings of the study, and the potential implications of mobile and wearable device usage, will be published in the future.

### Future Work

Understanding the forms of behaviour exhibited in social collocated situations in relation to mobile devices can allow future technologies to be developed. These technologies could be more mindful of interactions, with the potential to either support or disrupt ongoing social face-to-face interactions. This work is likely to be an

iterative approach that makes use of existing practices and frameworks (e.g. [1, 8]) to continually gain a greater understanding.

It is hoped that participation in this workshop will allow feedback to be sought, through collaboration and input from others, on what is a relatively new research area. This work builds upon work done by researchers in the field, and it would be advantageous for the work to make a suitable contribution to the field, while also benefiting from recent developments by others.

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