Chapter 16
Using Ambient Social Reminders to Stay in Touch with Friends

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ABSTRACT

Social interactions among a group of friends will typically have a certain recurring rhythm. Most people interact with their own circle of friends at a range of different rates, and through a range of different modalities (by email, phone, instant messaging, face-to-face meetings and so on). When these naturally recurring interactions are maintained effectively, people feel at ease with the quality and stability of their social network. Conversely, when a person has not interacted with one of their friends for a longer time interval than they usually do, a situation can be identified in that relationship which may require action to resolve. Here we discuss the opportunities we see in using ambient information technology to effectively support a user's social connectedness. We present a social network visualisation which provides a user with occasional recommendations of which of their friends they should contact soon to keep their social network in a healthy state.

INTRODUCTION

When modelling the social interactions among a group of friends, certain recurring rhythms are identified between participants. Within this

group, a single person may have a range of different rhythms with each of their friends, due to the similarity of their schedules, the differing strengths of those friendships, and a range of other social factors (Viegas et al., 2006). When these rhythms are maintained well—that is, the person interacts with each friend at the regularity that they

normally do—the health of that friendship will feel natural. If on the other hand the friendship falls out of rhythm, through neglect or unfortunate circumstance, and the two people do not see each other or otherwise interact, this gap will be felt, though perhaps not always understood.

We refer to this as a person's social rhythm, and it describes the rate and regularity with which they interact with the various people they know. It is an intuitive, fuzzy metric; if asked how often you interact with a certain friend of yours, you may reply with "about twice a week" or "most days", not something more specific like "once every 37 hours." These frequencies will differ among subgroups of a social network: interactions with family members may have a different regularity than with work colleagues, and some friends may have special significance and be seen much more often. Still others may have a very low level of engagement—only being seen at annual events like birthdays or academic conferences.

A person's ability to effectively regulate their own social rhythm relies on their perception of time running like clockwork, but the human mind's perception of the passage of time is capricious at best (Harrison et al., 2007). Numerous studies have pointed to the fallibility of this ability, due to stress, anxiety, caffeine intake and a range of other factors (Chavez, 2003). Without external prompts, keeping up with friends—especially peripheral friends, who are not part of one's close social circle—can become a matter of chance and circumstance. Because social interactions are inherently vague and intuitive, there is no single point in time at which one is motivated to rekindle a relationship in decline. We believe that explicit cues based on historically observed rhythms will help alleviate this problem, just as they have been shown to support a user's health in other studies (Consolvo et al., 2008). We will discuss these issues in depth in the next section.

Intuitively, you may have experienced a digital or physical artefact that you come across arbitrarily which spurs you into thinking of a friend and then contacting them. For example, seeing a photograph of you and a friend may prompt you to send them a message to talk about a shared experience. Similarly, hearing a friend's name or reviewing past correspondences with them may remind you to contact them (Viegas et al., 2004). It is along these lines that we seek to provide subtle reminders of a friend at the right time, to induce a user into re-establishing contact. We have developed a visualisation for this purpose, which we present in section 4.

Attention and Awareness in Social Networks

One aspect of human memory is the remembrance of past experiences, known as "retrospective memory." A second form of memory, "prospective memory", works in the opposite direction and can be thought of as remembering to remember something (a task or object) at a certain time in the future (Winograd, 1988). For example, remembering to call a friend after work at 6 o'clock, or remembering to bring a book you have borrowed with you when going to visit a colleague.

Though the workings of prospective memory are not yet fully understood, the cognitive process is thought not to require external artefacts to trigger a memory (Meier et al., 2006), but can certainly be aided by such objects, like shopping lists. Setting an alarm on a phone or other device that is triggered at a certain time of the day is also effective, as it takes the burden of remembering when to do a task off the person's mind.

Facebook, a prominent social networking website[1], offer a feature they call a "news feed", which is a way to keep track of activity within your network of friends. The news feed presents a reverse-chronological list of events, such as photos being uploaded, public messages being exchanged, or status messages being updated. This gives the user a constant stream of activity and information about the members of their social network, though as the number of friends

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