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# Mobile Application for Developing Self-Awareness of Personal Communication Patterns

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**Abstract**

Mobile communication technology has become an integrated part of our everyday lives. Yet, do we recognize the patterns of how we communicate with each other? In this paper we describe our work on increasing users' self-awareness of their communication with their social network. We have developed a mobile phone application, which logs and visualizes these patterns, enabling users to recognize the activity and responsiveness of their communication behavior more easily.

**Keywords**

Mobile communication, social networks, persuasive design.

**ACM Classification Keywords**

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

**Introduction**

Mobile phones play a central role in keeping in touch with one's social network as mobile communication technology has enabled people to have access to a communication channel virtually anytime, anywhere.

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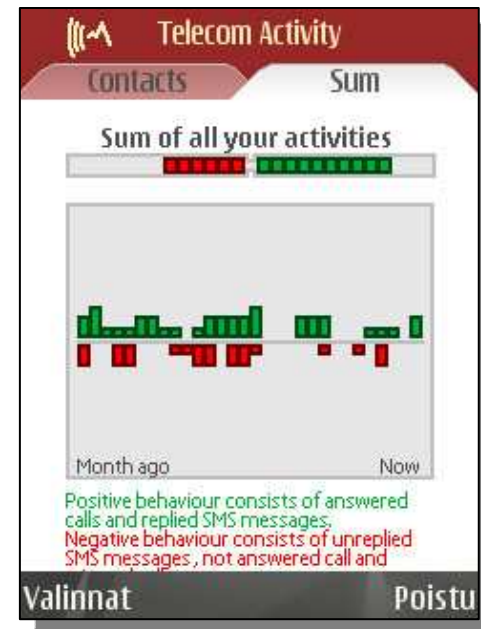
During the recent decade, relatively much research looking at mobile communication culture and design has emerged, but it has so far concentrated more on looking at usage patterns among distinct user groups and designing for them, e.g., for elderly users [4] or mobile workers [6]. So far persuasive design in the mobile phone domain has been a rather little investigated research area.

However, mobile phones are often perceived as highly personal devices [7], where users store their personal, emotionally important content [3], and which people are keen to personalize and make feel their own [2]. This makes them an interesting platform for self-monitoring and reflection, as demonstrated in [5] and [1]. Here, [5] introduces concept designs where the quantity of mobile communication is visualized as animated mobile phone screen savers, and [1] describes a mobile phone application that tracks daily activities and has a positive impact on motivation for daily physical activity. In our research introduced in this paper, we have looked at tracking the user's mobile phone communication patterns with his or her social network.

### Monitoring Communication Patterns with Telecom Logger Application

We were interested in looking at mobile phone user's self-awareness of communication behavior, aiming not only at visualizing the raw data, but having the emphasis on persuasive UI design aspects. The use of calls, SMS and MMS is logged, and the behavior is categorized as positive or negative according to the 1) initiator of the communication and 2) user's actions with incoming communication attempts. The negative event was recorded if the user was

- not answering an incoming call
- declining an incoming call
- not replying to a received message.



**Figure 1.** Mobile phone UI screenshot depicting the overall communication behavior of the user over a period of one month. Negative behavior is presented in red and positive in green.

The device screen size being a limiting factor for the information presentation, we decided to aim for a design that would give a good overview of the

communication patterns with one glance. Based on this, the negative and positive communication were summarized and presented as red and green bars, the length of a bar indicating the amount of activity, see Figure 1. The user was provided a visualization of each phonebook contact, and a presentation of the overall communication patterns over a selected time period, illustrated in Figure 1.

The application has been implemented with Symbian, and runs with several S60 mobile phone models. Currently, we are mostly using it with Nokia 6210 for research purposes.

### **Discussion**

The research is still on-going, and we are currently working on collecting user feedback on the application. In addition to presenting our work in the workshop, we seek feedback and discussion on the possibilities of persuasive design with mobile technology.

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