Mobile Wellness – Collecting, Visualizing and Interacting with Personal Health Data

Abstract
Mobile devices are now able to connect to a variety of sensors and provide personalized information to help people reflect on and improve their health. For example, pedometers, heart-rate sensors, glucometers, and other sensors can all provide real-time data to a variety of devices. Collecting and interacting with personal health or well-being data is a growing research area. This workshop will focus on the ways in which our mobile devices can aggregate and visualize these types of data and how these data streams can be presented to encourage interaction, increased awareness and positive behavior change.

Keywords
Mobile computing, health, wellbeing, data collection

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

General Terms
Guides, instructions, author's kit, conference publication
Introduction

How can the mobile society make people more informed about themselves and improve their well-being? Recent research suggests that the logging and/or keeping track of daily habits, like food and exercise, could have numerous positive effects, e.g. mobile activity tracking can encourage people to reflect on their goals through continuous monitoring [1,2].

Following on these findings we note that one of the strongest growing app-market categories is for applications that collect well-being data and everyday habits. These apps have the potential to offer “free” tracking services to many people. When data is collected and displayed on devices that are with people for most of the day, new opportunities arise for interventions in the moment when potential issues are discovered.

However, the field has traditionally been fragmented among many different professions and academic areas. Often, doctors and those in medical informatics work independently from computer science researchers and those in the ubiquitous/pervasive computing domains. Many designers lack access to the rich medical expertise of medical professionals or the detailed information that patients have about their conditions or desires to improve their well-being. Social Scientists form yet another group that often studies the well-being of a population or the success of given programs in isolation. One of the main objectives with this workshop is to bring together people from these diverse areas in the context of mobile HCI to discuss the opportunities for wellness data collection, visualization and interaction on everyday mobile devices.

Workshop Goals and Plan

One goal of this workshop is to explore current solutions for collection and display of wellness data on mobile devices. We are particularly interested in systems that promote understanding and reflection on the data and promote positive behavior change. Another goal is to share expertise between different disciplines: medical professionals, interface designers, mobile researchers, and psychologists interested in behavior change among others.

The workshop will be a full day event combining presentations of workshops position papers with discussion and brainstorming. The workshop will consist of two main parts. In morning (9am-12pm) will attendees will have 10 minutes to present their research and background based on their position paper. Following this, in the afternoon (1pm-4pm), we plan to facilitate break-out discussion sessions on the topics of mobile health data collection, mobile data visualization, and guidelines for creating systems that allow for positive behavior change and reflection on the data. Last (4pm-5pm), in a wrap-up session, conclusions and future plans like journal publication will be discussed.

Workshop proceedings will be available on the workshop website before and after the conference. We will also set up and maintain locally a web page for the workshop.

Topics of Interest

We invite contributions from health professionals, researchers, industry participants, social scientists, and others that have interest and experience in Mobile Wellness. Potential topics of interest include, but are not limited to:

- Mobile health systems
• Development and/or field testing mobile wellness applications
• Behavior change and reflection (esp. Social Scientists)
• Mobile well-being sensors
• Data aggregation and sense-making
• Mobile visualizations of health data
• Mobile behavior change strategies
• Studies and evaluations of mobile health systems
• User interfaces and interaction techniques for mobile health data

Background of the Organizers
Frank Bentley is a Principal Staff Research Scientist at the Motorola Mobility Applied Research Center in Libertyville, IL USA. His work focuses on understanding social interaction around data and encouraging connections in strong-tie social networks. Current work is examining mobile health mashups and ways in which people can be made aware of connections between different types of well-being data.

Konrad Tollmar is an Associate Professor at The Royal Institute of Technology (KTH). His is currently leading the Mobile Service Lab at KTH. His main research interest is to better understand how mobile technologies becomes a part of our everyday practice and life, where he studies both use of and platforms for building mobile services.

John Moore is a PhD candidate in the New Media Medicine group at the MIT Media Lab. He is a physician and technologist working to fundamentally change the role that patients can play in their care by empowering them with knowledge, understanding, confidence, and channels for communication. Leveraging the software platform that he is building called CollaboRhythm, he is studying the effect that new technology-mediated paradigms for doctor-patient collaboration can have on education, adherence, and behavior change.

Alex Olwal is a post-doctoral fellow at the MIT Media Lab and a research scientist at KTH (Royal Institute of Technology) in Stockholm. Alex's research (www.olwal.com) focuses on interaction techniques and technology, including spatially aware mobile devices, medical user interfaces, ubiquitous computing, touch-screens, as well as novel interaction devices and displays.

References