MobileHealth 2011 Workshop

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First ACM MobiHoc Workshop on Pervasive Wireless Healthcare

May 16th, 2011 - Paris - France

Workshop Agenda

8:45 AM - 9: 15 AM Registration

9:15 AM - 9:30 AM Welcome to MobileHealth 2011

9:30 AM - 10:30 AM

Keynote Speech : I.G. Niemegeers, TU DELFT, DELFT, The Netherlands.

Title : Personal Networks and Federations for Health

Abstract : ICT supported health-care and health-support at home are promising ways to deal with the rising cost of healthcare, while maintaining or improving its reach and quality. Although the opportunities are clear, there are many hurdles to be taken. Many of them are of an organizational, cultural and economic nature. The technology is in principle available but is employed in an ad hoc way, leading to multiple different systems each aimed at a particular health issue.

We present a generic approach to creating communication platforms that can be used for a variety of health applications, and offer the capabilities of self-organization, security, re-use of resources such as sensors for different purposes, adaptability to context and ease-of-use by all stakeholders: patients, health-care providers and application developers. The approach is based on Personal Networks, an automatically configured, secure and self-maintaining overlay network of personalized devices, and on the concept of Federations that supports secure cooperation between all involved stakeholders. The ideas have been tested in prototypes, and are the subject of standardization activities.

10:30 AM - 11:00 AM Coffee Break

11:00 AM – 12:30 PM

Session 1 : Communication architecture and data management.

Session Chair: Dr. E. Baccelli, INRIA, France.

1. Managing Resources for Healthcare Service Calls in a Cellular Network with Relays.

Ki-Dong Lee (LG Electronics Mobile Research, USA); **Athanasios Vasilakos** (National Technical University of Athens, Greece).

2. Low Duty-Cycle UWB Communications Design for Body Area Network. Keisuke Sodeyama, Ryuji Kohno(Yokohama National University, Japan).

- Efficient Vehicle-To-Pedestrian Exchange of Medical Data: An Empirical Model with Preliminary Results.
 Gustavo Marfia, Marco Roccetti (University of Bologna, Italy); Claudio E. Palazzi (University of Padua, Italy); Alessandro Amoroso (University of Bologna, Italy).
- 4. Multi-Sensors' Data Gathering Management System for a Wireless Health Monitoring Platform.
 Saadi Boudjit (University of Paris 13 - France);
 Nadjim Chelghoum (INSERM, France);
 Miloud Otsmani, Salim Allal (University of Paris 13 - France).

12:30 PM - 2:00 PM Lunch Break

2:00 PM - 3:30 PM

Session 2 : Healthcare detection and recognition systems.

Session Chair: Dr. S. Boudjit, University of Paris 13, France.

1. A Low-Power, Distributed, Pervasive Healthcare System for Supporting Memory.

Dirk de Jager, Alex Wood, Geoff V Merrett, Bashir Al-Hashimi, Kieron O'Hara, Nigel Shadbolt, Wendy Hall (University of Southampton, United Kingdom).

- Fingerprinting-based Wireless 3D Localization for Motion Capture Applications.
 Matteo Giuberti, Marco Martalo, Gianluigi Ferrari (University of Parma, Italy).
- Food Intake Recognition Conception for Wearable Devices. Sebastian Pabler (Fraunhofer Institute Photonic Microsystems, Germany); Matthias Wolff (Technische Universität Dresden, Germany); Wolf-Joachim Fischer (Fraunhofer Institute Photonic Microsystems, Germany).
- A Mobile System for Precise Wireless Pulse Transit Time (PTT) Monitoring.
 Andreas Weder (Dresden University of Technology, Germany);
 Sebastian Zaunseder, Martin Zimmerling (Fraunhofer Institute Photonic Microsystems, Germany).

3:30 PM - 4:00 PM Coffee Break

4:00 PM – 5:30 PM

Session 3 : Algorithms and mobile applications architecture.

Session Chair: Prof. K. Kanchanasut, IntERLab, Thailand.

- 1. Fitness Tour: A Mobile Application for Combating Obesity. Mooi Choo Chuah, Steve Sample (Lehigh University, USA).
- iResTrac: An Architecture for Maintaining Medical Resource Status with Mobile Devices.
 Yang Liu, Robert Kelley, Phani Polina, Sunderesh Heragu, Anup Kumar (University Of Louisville, USA).
- Feasibility Study of a Real-Time Wandering Detection Algorithm for Dementia Patients .
 Khue Vuong, Syin Chan, C. T. Lau (Nanyang Technological University, Singapore);
 K. M. Lau (University of Sheffiled, United Kingdom).
- 4. Model-Based Architecture Analysis for Wireless Healthcare. Amitabha Ghosh (Princeton University, USA); Ying-Kei Hui (Pennsylvania Hospital, USA); Mung Chiang (Princeton University, USA).

5:30 PM - 6:00 PM Discussion and next steps