



EUROPEAN COMMISSION

Directorate-General Information Society & Media

Components and Systems

Micro & Nano Systems

*IST-2006 Networking Workshop on
Wearable Technology and Intelligent Textiles*

22 Nov 2006, Helsinki

11:00-12:40

Helsinki Fair Centre, Room 210,

Messuaukio 1, P.O.Box 21, FIN-00521 Helsinki

Main Objectives

- Networking, gather together researchers in the field
- Give an overview of ongoing activities in the 6th Framework Program
- Identify new ideas and opportunities for collaborative research in the 7th Framework Program.

Program

- 11.00 – 11.05 Jukka Vanhala, TUT, Finland, opening
- 11.05 – 11.25 Michael Boronowsky, TZI - Universität Bremen, Applications of Wearable Computing
- 11.25 – 11.45 Edna Pasher, PhD & Associates, Human Aspects
- 11.45 – 12.05 Jan VanFleteren, IMEC, Belgium, Technology from IP-SHIFT and IP-STELLA
- 12.05 – 12.25 Jean Luprano, CSEM, Switzerland, European projects in Smart Fabrics, Interactive Textiles: sharing opportunities and challenges
- 12.25 -> Discussion

Presentations in pdf-format can be downloaded from <http://www.ele.tut.fi/kankaanpaa>



Presentations

Jukka Vanhala from Tampere University of Technology, Finland (chairman) introduced the goals of the workshop, which are to provide opportunity for networking by gathering together researchers in the field, give an overview of ongoing activities in the 6th Framework Program and identify new ideas and opportunities for collaborative research in the 7th Framework Program.

Jukka Vanhala introduced the activity of its group in Tampere University of Technology, Institute of Electronics satellite unit. Invited participants to visit the booth, stand 1K.



Commissioner Viviane Reding at Kankaanpää stand

Michael Boronowsky from TZI – University of Bremen, Mobilecity Bremen, Germany. “Wearable computing applications – an integrated European Project as an European Challenge”.

Michael Boronowsky gave an introduction to wearable computing, e.g. how will an appropriate system support an inspection, service, or repair worker? wearIT@work IP is targeting these worker applications and links with the normal worker practice, e.g. the workers have to use their hands freely. Boronowsky presented an overview of wearIT@work –IP with 36 partners. There are four scenarios: firefighter (Paris’ firefighter brigade), production (car plant in Sweden), healthcare demonstrator (hospital ward round in Germany), and airplane maintenance (EADS). Invitation to visit project booth 1J.



Michael Boronowsky and the WearIT@Work –IP

Edna Pasher from Edna Pasher PhD & Associates, Israel, “Human Aspects” (no slides)

Exploitation of the research and the diffusion of information are normally not used enough. The bottleneck is neither the software and nor the hardware, but the social aspects. Conducts social science research in wearIT@work project, to create a unified approach of man and machine, so that technology is adopted and not resisted. The way they work is: (1) use literature, (2) make interviews, (3) analyse how the stakeholders (physicians, patients, etc.) are using the technology.

Advertised on Open Wearable Computing Group, IFAWC 2007, Israel.

Question about firefighter interview feedback: as project partners (wearIT@work), they are co-creating the solution which is developed in the project and the answers maybe biased. Introduction of computers by blue collars, which have not used computers before, democratize the technology and they feel that their “social status” is raised.

Are there business models ready to exploit the results (within the project partners or outside)? One or several from Gespack, Austrian hospital, EADS and Skoda hopefully will take over the project results to show the appropriateness of the approach.



Edna Pasher talking without slides on social aspects

Jan Vanfleteren, IMEC, Belgium, “Technology from IP-SHIFT and IP-STELLA”.

Presentation of SHIFT project which will end December 2007 (11 partners). The project does development of generic base technologies in thin die-based packaging. Application are for communication (e.g. NOKIA, Thales Airborne, Zarlink) and medical applications (Oticon, IMEC).

The goal is to add stretching ability to flexibility for electronics in STELLA IP. STELLA focuses on interconnection and not on the sensors. The project works with other projects BIOFLEX and SWEET (washable electronics). Vanfleteren gave an introduction on stretchable electronics and the limits caused by the components rigidity. Examples of developed technologies presented were stretchable waveguides, antennas and interconnections.

There will be a workshop in September 6-7, 2007 in Leuven, Belgium on stretchable-flexible electronics.

Question: is wave propagation taken into account? Should be taken into account for the realization of 5 demonstrators and qualify them.

Question: how is energy taken into account? One partner of STELLA is in charge of energy. There is no energy scavenging in STELLA.



Jean Vanfleteren presenting STELLA

Jean Luprano, CSEM, Switzerland, “European projects in Smart Fabrics, Interactive Textiles: sharing opportunities and challenges”

Jean Luprano gave a presentation on a Cluster of European projects in SFIT. Current participating projects are: PROETEX, STELLA, BIOTEX, CONTEXT, MyHeart, OFSETH and MERMOTH. The goal of the cluster is to share experience and collaborate on common issues, avoiding to waste resources on non-main objectives of the projects. Interfacing textiles connections, interfacing POF in garment, and assessing performances are examples of foreseen collaborations. More information on the SFIT cluster are on website <http://www.csem.ch/sfit>.

Question: is the project taking into account user fear to technology and its (possible) danger (e.g. GSM worn all day long)? Several (application) projects interviewed the users (patients or professionals) about their needs; most project are also based on users wish to use the developed system (they have the choice); the use of GSM for data transmission is an additional use of the users already carrying a GSM with them; user sensitivity / acceptance of technology / acceptance of technology risks (whether scientifically proven or not) should be considered.



Jan Luprano giving an overview of EU-projects in the field of wearable technology

LIST OF PARTICIPANTS

NAME	COMPANIES
VANHALA Jukka	TUT, Kankaanpää Unit (FI)
BORONOWSKY Michael	TZI, University Bremen (GE)
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