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KEYNOTE LECTURES

Securing the end-user:
What they know and what they do

Dr. Steven Furnell (University of Plymouth, UK)

Virtual Reality and Games - does it mix?

Dr. Wojciech Wiza (The Poznan University of Economics, Poland)

Flexible and Transparent User Authentication
for Mobile Devices

Dr. Nathan Clarke (University of Plymouth, UK)

Providing Activity-Centered Computing Infrastructure
for Intelligent Environments

Dr. Dipak Surie (Umeå University, Sweden)

Watching the Internet - from numbers to images

Dr. Bogdan Ghita (University of Plymouth, UK)

Human-Computer Interaction in Mobile
and Collaborative environments

Dr. Avouris Nikolaos (University of Patras, Greece)

Eye Tracking: I know what are you staring at!

Angelika Farat, Magdalena Kitowska and Monika Szankowska

(The Poznan University of Economics, Poland)

Third International Conference on



USABILITY ENGINEERING

EUITIO, University of Oviedo, MAY 19-20, 2008

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Organized by the Human Communication and Interaction Research Group in collaboration with: Escuela Universitaria de Ingeniería Técnica en Informática de Oviedo (EUITIO), EUIS Society (User Experience Society) and eMinds: International Journal on Human-Computer Interaction
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CONFERENCE

Venue

Escuela Universitaria de Ingeniería Técnica Informática de Oviedo.

Universidad de Oviedo.
Edificio Valdés Salas - Campus de los Catalanes.
33007 Oviedo
Spain.

The official language of the conference is English.

Free admission.

If you like to obtain a certificate of participation, please register at www.euitio.uniovi.es

Organization

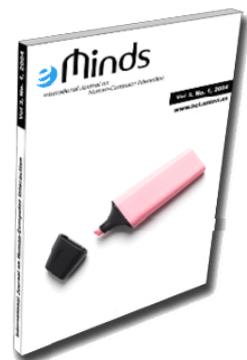
This event is organized by The Human Communication and Interaction Research Group (www.hci-rg.com) in collaboration with:

- **Escuela Universitaria de Ingeniería Técnica Informática de Oviedo** (EUITIO), Universidad de Oviedo.
- **eMinds**: *International Journal on Human Computer Interaction*.
- **EXUS**: Asociación por la EXperiencia del Usuario en las Tecnologías de la Información (Oviedo, Asturias).

Proceedings and Documentation

A selection of the most representative research projects and scientific work presented during this event will be published in future issues of e-Minds: International Journal on Human-Computer Interaction (ISSN: 1697-9613).

The journal is freely available online at www.eminds.hci-rg.com. Printed versions are available at the Library of the University of Oviedo (Facultad de Ciencias) and at the British Library (lending collection 3638.120000 - www.bl.uk).



The slides used by our speakers will be available for download shortly after the conclusion of conference in our web site located at www.hci-rg.com.



HUMAN COMMUNICATION AND INTERACTION
Research Group



CONFERENCE PROGRAM

Monday 19 May 2008 – EUITIO – SALÓN DE ACTOS

18:00 Flexible and Transparent User Authentication for Mobile Devices

Dr. Nathan Clarke (University of Plymouth, UK)

As the functionality and services provided by mobile devices increases, the need to provide effective user authentication against misuse and abuse becomes ever more imperative. With traditional secret knowledge based techniques having proven themselves weak, a requirement exists for authentication techniques to provide stronger protection.

This presentation introduces research being undertaken that proposes the use of a portfolio of authentication techniques to provide a robust, accurate and transparent authentication mechanism for mobile devices; extending security beyond point-of-entry into a continuous and user convenient approach.

A Non-Intrusive Continuous Authentication (NICA) system is described that provides a continuous confidence level in the identity of the user, removing access to sensitivity services and information with low confidence levels and providing automatic access with higher confidence levels. The presentation also discusses the barriers that exist in the realization of NICA.

19:00 Providing Activity-Centered Computing Infrastructure for Intelligent Environments

Dr. Dipak Surie (Umeå University, Sweden)

There are many research efforts that focus on converting everyday environments into intelligent and computationally active environments that support and enhance the abilities of its occupants in executing their activities. Such environments must have the ability to recognize the activities performed by its occupant, maintain a real-time model of the environment, address the occupant's privacy and personalization issues, and provide interaction capabilities in a way the occupant would with other people.

In this talk I will present an activity-centric wearable computing middleware for designing intelligent environments based on the occupant's usage and storage of everyday objects in that environment. Four components namely object manager, situative space monitor,

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activity recognizer and egocentric interaction manager will be introduced and described in detail.

A prototypical intelligent home environment capable of supporting 15 Activities of Daily Living with an activity recognition precision of 92% will be presented as a “proof of concept” in a virtual reality (VR) simulated home environment.

20:00 Human-Computer Interaction in Mobile and Collaborative environments

Dr. Avouris Nikolaos (University of Patras, Greece)

This talk reports experience of the University of Patras Human Computer Interaction Group with design and evaluation of a number of mobile applications: a museum multimedia guide, two museum educational games, a library assistant and a supermarket advisor.

All these applications share some common characteristics related to services to users who are supported in interacting with their environment, enhancing the capabilities of the objects surrounding them. However design and evaluation of these applications is not a trivial process. Challenges include adaptation of the user centered design process and defining usability evaluation techniques that are suitable for this kind of applications. In this direction we will discuss use of semi-ethnographic approaches and we present the *ActivityLens* tool (hci.ece.upatras.gr/activitylens) that has been built to support the design and evaluation process.

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Tuesday 20 May 2008 – EUITIO – SALÓN DE ACTOS

17:00 Watching the Internet – from numbers to images

Dr Bogdan Ghita (University of Plymouth, UK)

From corporate network administrators to occasional users, everybody shares an interest in the performance of the network. The area of network monitoring evolved significantly over the past decade to accommodate for the needs of all users; subsequently, a range of techniques, tools, and services emerged to satisfy these needs. While home end users would require only generic information about the current status of their connection, corporate managers would need to identify (and possibly prevent) problems within their network infrastructure, and researchers would prefer a holistic view of the Internet.

This presentation will provide an overview of the current available mechanisms to observe networks, highlighting their mechanisms, their ease of use, and their relevance for the targeted users.

18:00 Securing the end-user: What they know and what they do

Dr. Steven Furnell (University of Plymouth, UK)

End-users now face security threats in a variety of online scenarios. As a consequence, it is vital that they not only have appropriate protection mechanisms on their systems, but also a sufficient awareness of where and why they are at risk. The presentation will examine common end-user attitudes and perceptions of security, and the protection practices that can occur as a result. Specific consideration will be given to the adequacy of user awareness in threat scenarios such as phishing and social engineering, as well as the ways in which their own behavior can put them at increased risk. The discussion will also examine how users' capabilities are likely to be shaped by the quality of the guidance available to them, and the tools that they are expected to use.

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19:00 Eye tracking: I know what are you staring at!

***Angelika Farat, Magdalena Kitowska and Monika Szankowska
(The Poznan University of Economics, Poland)***

Eye tracking tests make usability testing look extremely interesting, scientific, high-tech and sophisticated. But do they really matter? What is the value of those strange colorful spots on the computer screen received the eye tracking research?

The goal of our presentation is to introduce you the idea of the eye tracking. We want to present how to read and use the information gained from eye tracking tests and what are the application areas for this technique. After the lecture you will be familiar with the concepts of eye tracker, gaze trail or heat map. We will also focus on the most prominent field of commercial eye tracking research which is the web usability.

20:00 Virtual Reality and Games - does it mix?

Dr Wojciech Wiza (The Poznan University of Economics, Poland)

Computer games play an important role in the development of computer technology. For many years, the 3D game industry has been one of the main drivers of computer science and the entire industry due to its large audience and its strong economical basis. One of the most significant examples is the emergence of fast and cheap 3D graphics cards (GPU) over the last several years. Latest 3D games use cutting edge software technologies, such as real-time 3D and sound rendering and artificial intelligence engines, which are also the technological basis for virtual reality applications.

With its significance game industry plays extremely important role in development and acceptance of virtual reality. In the presentation we would try to answer the question: how virtual reality applications and game technologies mix together and how influence each other.

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