

# IC0904 Newsletter

March 2011 / N. 2

## About the IC0904 Newsletter

The **IC0904 Newsletter** is a communication tool used for publicizing the activities carried out by the IC0904 TwinTide network to the Human-computer Interaction (HCI) community. Printed versions of the newsletter are distributed in major HCI events and conferences and both current and previous newsletters are available online for download on TwinTide website <http://twintide.org/newsletter/>.

In this issue:

- ◆ **TwinTide open workshop** in Cyprus: 1<sup>st</sup> European Workshop on HCI Design and Evaluation: the influence of domain.
- ◆ **TwinTide Training School**, Autumn 2011, University Residential Centre of Bertinoro, Italy.
- ◆ **Progress Report of Working Groups activities**: highlights on Working Group 1 and Working Group 2 activities.
- ◆ **Short Term Scientific Missions** (2010-2011): Martin Mihajlov, Marta Lárusdóttir and Carmelo Ardito.

## TwinTide open workshop

In collaboration with the Cyprus University of Technology (<http://www.cut.ac.cy/>), the European University Cyprus (<http://www.euc.ac.cy/>) and the ACM SIGCHI Cyprus local chapter (<http://cyprus.acm.org/>), the TwinTide network is organizing the **1<sup>st</sup> European Workshop on HCI Design and Evaluation: The influence of domains**.

Keynotes Speeches by:

- ◆ **Alistair Sutcliffe** (*Manchester Business School, University of Manchester, UK*): **Future directions in User Experience Evaluation**.
- ◆ **Davide Rocchesso** (*Dep. of Art and Industrial Design of the IUAV University of Venice, Italy*): **Design and evaluation at a crossroad between art, science, and engineering: the case of Sonic Interaction Design**.

The workshop took place at Apollonia beach hotel, Limassol, Cyprus on April 8, 2011. It is organized in conjunction with the 4<sup>th</sup> TwinTide management committee meeting run from April 6-7.



For further information about this workshop please visit the web site: <http://sites.google.com/site/ehcide/> or contact the Program Co-Chairs: George Christou (European University Cyprus), Panayiotis Zaphiris (Cyprus University of Technology) & Effie Lai-Chong Law (University of Leicester/ETH Zürich).

The workshop will include 16 presentations in addition to the 2 keynote talks. Out of the 18 presentations half of them come from the members of the network and the rest from the international community.

## TwinTide Training School

In order to bring together researchers, practitioners and students to discuss emergent design and evaluation (D&E) approaches, TwinTide network is planning a training school in **Autumn 2011**.

The overall goal of this training school is to improve participants' theoretical and practical understanding of emergent D&E methods for interactive software and media, as well as techniques and tools being employed in different IT-enhanced sectors, through exploring differences and commonalities. Reviews of case studies and hands-on exercises will be employed as instruments to realize this goal. Of particular significance is to enlighten young Software Engineering (SE) and Human-Computer Interaction (HCI) researchers and practitioners through in-depth discussions with their experienced counterparts, enabling them to develop a holistic view of the overlapping fields of SE and HCI.

The training school will take place in the University Residential Centre the small medieval hilltop town of Bertinoro (Forlì-Cesena), Italy. This town is in Emilia Romagna about 50km east of Bologna at an elevation of 230m above sea level. Bertinoro is easily reached by train and taxi from Bologna and is close to many splendid Italian locations such as Ravenna, Rimini on the Adriatic coast, and the Republic of San Marino (all within 35km).

Further information about the technical program and registration procedures for attending this training school can be found on the TwinTide's website: <http://twintide.org/>.



*Panoramic View of the University Residential Centre, Bertinoro, Italy.*

<http://twintide.org/>

# Advances on Working Groups Activities

## WG1: Critical Reviews of D&E Method Potential and Value-Realisation in IT-enhanced Sectors

WG1 is responsible for Critical Reviews on Design and Evaluation Method Potential and Value-Realisation in IT enhanced sectors. We have begun by drawing on the knowledge and experience of WG1 members at the Reykjavik meeting in October 2010. Before this, we refined and discussed the work plan in both Brussels and Newcastle. The main WG1 activities and task leaders are:



Gilbert Cockton



- ◆ **Sector** audit (Gilbert Cockton),
- ◆ **Research methods** audit (Christian Jetter),
- ◆ **Technologies** audit (Nickos Avouris),
- ◆ **Design and evaluation methods** review.

One group also organised sectors on the basis of their technology needs. Another focused on the core values that characterised a sector, both as regards positive values (benefits) and negative (harms). Together, these cover the common critical success factors across a sector, as well as further concerns that distinguish one sector from another. They also correspond closely to critical aims and issues that had already been identified as key sector attributes. Similarly, technological platforms had also been identified as a key sector attribute. An important question arises from the differences between groups in Reykjavik: which attribute(s) provides the basis for sector distinctions? Using types of cars as an analogy (e.g., in the UK: sports cars, estates, MPVs, 4-wheel drives, saloons, hatchbacks, etc.), it is clear that attributes such as colour, size or weight cannot be used in isolation to distinguish between car types. Both sports cars and hatchbacks can be small, and both MPVs and 4-wheels can be heavy. We thus need to consider sets of alternative dominant attributes when analysing IT sectors and application domains.

All the structures and groupings identified at Reykjavik require further examination and critique. For example, after eliminating 23 listed items, the value-centred partitioning of sectors identified 17 potential sector types (e.g. games, tourism, care, science, business, education...). By way of comparison, there are 21 main groups in the ISO Standard Industry Classification (SIC) <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27>. The group *business* seems too broad and 10 of these ISO SIC did not emerge from the value-focused card sort. This probably reflects the experience and expertise of TwinTide members, rather than errors in the card sort. The missing SIC groupings included: Agriculture, Forestry and Fishing, Mining and Quarrying, Water Supply, Sewerage and Waste Management and Real Estate.

TwinTide focuses on method transferability, which is a physical metaphor that involves the movement of one entity from one place to another. For example, footballers transfer between clubs, students transfer between courses and universities, money is transferred between bank accounts, and files are transferred between computers. In all of these examples, something is transferred whole from one place to another. A more useful metaphor may be fit: methods may or may not fit with the realities of an IT sector, which differ in their critical aims (worth as balance of benefits over costs/harm), preferred technologies and development team structure and roles. A method that does not fit will not transfer. However, the converse is not true. A method that fits may still not transfer because it does not deliver sufficient value to justify the cost of using it. WG1 will fill out this framework for method transfer based on value, costs / harm, fit, critical aims, preferred technologies and development team structure and roles. Existing HCI design and evaluation methods, including research methods, will be reviewed within this framework ■

## WG2: Transferability of Design & Evaluation (D&E) Methods across IT-enhanced Sectors

The goal of WG2 is to set the stage for developing a notion and an operational framework for transferability of methods, as TwinTide aims to look across IT-enhanced sectors when studying D&E methods. So far, diverse methodologies have been used in order to develop a common understanding of the constructs *method* and *transferability* by the members of WG2.



Matthias Neubauer

In the Newcastle workshop in March 2010, we have started a concept analysis for the construct *method*. *Concept Analysis* is an established technique used in the social sciences, such as philosophy and education, in order to derive a *formula* that in turn can be used to generate definitions and descriptive phrases for highly complex systems. The concept analysis approach rests on obtaining consensus on three major dimensions of a given concept:



Christian Stary



- ◆ A list of **key attributes** that must be present in the definition, vision, or mission statement,
- ◆ A list of illustrative **examples**,
- ◆ A list of illustrative **non-examples**.

In Newcastle we managed to collect key attributes for the construct *method* using card sorting and have tried a first clustering of these attributes. The results were documented in the TwinTide Wiki and examples and non-examples for the attributes were collected in between the Reykjavik meeting in October 2010. In Reykjavik we reconsidered the contributions in the Wiki for the construct *method*. Doing so, we collected non-examples and examples for the key attributes within group settings and discussed them. Moreover, we discussed the relevance of the key attributes concerning transferability and documented the results again in the TwinTide Wiki. Based on the developed understanding of *method*, a discussion on transferability followed in a question *café setting*. A question *café* is quite similar to a world *café*:

- 1) Café tables are set up with paper + markers,
- 2) To each table a concrete question is assigned,
- 3) At each table a responsible host is defined,
- 4) The members discuss at a table about 20 minutes and afterwards switch to another table,
- 5) After a number of "cafés" the results at each table are presented by the hosts.

The question *cafés* on transferability discussed the following questions which have been derived from a literature research considering transferability:

- ◆ What do we have to ask to understand project specific factors (**application context**)?
- ◆ What do we have to ask to understand method specific factors (**method context**)?
- ◆ What do we have to ask to understand transfer specific factors (**transfer context**)?

The results of the question *café* in Reykjavik have been documented in the Wiki after the meeting. Furthermore, a set of consolidated questions has been developed which will be evaluated in next TwinTide meeting in Cyprus (April 2011) using case studies on method applications and method transferability. The Wiki and the upcoming content management will allow interested researchers to participate actively in our future work via the web ■

## Martin Mihajlov

*E-business Department, Ss. Cyril and Methodius University, Skopje, Macedonia*



*Martin Mihajlov*

The two-month long STSM held in February-March 2011 at the Laboratory for Open Systems and Networks at the Jozef Stefan Institute is a complementary activity to my PhD thesis where I research usable security of recognition-based graphical authentication mechanisms. In the first week of the STSM I learned how to use an eyetracker to perform eyetracking experiments and subsequently learned how to interpret eyetracking data. I then proceeded to complete three experiments. Two of them were related to my PhD research work and one additional experiment idea.

**Experiment 1: Eyetracking graphical authentication.** In line with my PhD thesis research I needed to evaluate a proposition for a novel graphical authentication mechanism that uses images with single item content. We eyetracked subsequent uses of the graphical authentication mechanism over different periods of time in order to analyze the cognitive differences in the learning effect occurring with continuous system use. We analyzed different areas of the password selection grid to evaluate whether image selection is influenced by image position. We also tested the usability of the generic interface components and gained knowledge on user behavior when dealing with graphical authentication.

**Experiment 2: Eyetracking task performance time.** With the advent of eyetracking and the increased availability of both hardware and software platforms, eyetrackers have been extensively used in many usability and user experience experiments. Nevertheless, the influence that the eyetracker itself has on the experiment has never been thoroughly studied. Although modern eyetrackers are less obtrusive than strap-on devices from years past, we believe that in some aspects the eyetracking process affects variable analyzed in the eyetracking process. Specifically, this experiment tested the following hypothesis: "Task performance time is significantly affected by the eyetracking process." We repeated popular web-based eyetracking tasks with two separate control groups, the main difference between the groups being the involvement of eyetracking. The eyetracking group performed the tasks at the E5 laboratory, while the non-eyetracking group completed the experiment in Macedonia prior to the STSM. As this experiment has just been completed we are in the process of aggregating and analyzing the data. As essentially performance time is the only variable relevant to this study, we have discarded the eyetracking records.

**Experiment 3: Ubiquitous eyetracking.** With the increased popularity of mobile devices the interest in usability studies of these devices grow accordingly. Current methodologies for evaluating mobile devices and applications are: laboratory experiments, field studies, observational fieldwork, remote tracking and data logging. However, carrying out eyetracking tests on mobile devices and applications is not straightforward as eyetracking requires complex methods to overcome the limitations inherent with ubiquitous device testing. In this experiment we initially plan to test the suitability of different eyetracker set-up propositions that can be used in ubiquitous eyetracking. We will then proceed with mobile application interface usability and design testing on an application for graphical authentication developed as part of my PhD research. As a result of this STSM the cooperation between E5-IJS and the E-business department has intensified. Along with Professor Borka Jerman-Blazic we have submitted two journal papers and two conference papers. We are also preparing a proposal for a joint project.

*The Laboratory for Open Systems and Networks at the Jozef Stefan Institute is led by Profesor Borka Jerman-Blazic. The main research areas of the laboratory are: technology-enhanced learning, security and privacy in information systems, next generation networks and usability testing. The laboratory is implementing the "Future internet technologies: concepts, architectures, services and socio-economic issues" research programme. It also coordinates and participates in FP7, Leonardo da Vinci, eContentplus, COST and national projects ■*

## Marta Lárusdóttir

*University of Reykjavick, Iceland*



*Marta Lárusdóttir*

How are usability activities conducted by software practitioners using the Scrum development process? This is the main question that I explored in my STSM in November 2010 at the Royal Institute of Technology (KTH) in Sweden.

KTH is Sweden's premier university on engineering. The School of Computer Science and Communication has one of Europe's biggest HCI groups (45 people) and conducts research and education on User-centred design, Interaction design, Visualization, elearning, Human Robot Interaction, etc. Our TwinTide member Jan Gulliksen used to head the HCI group but has now handed over to Ann Lantz as he assumed the position of Dean for the school.



*Jan Gulliksen*

During the visit Åsa Cajander (also a TwinTide member) and I interviewed 20 people in the Swedish software industry that use Scrum as their development process. The main goal of the interviews was to understand to what extent and how usability activities are integrated into Scrum. The interviewees were from 14 different companies and had 9 different job roles. All the interviews, that took around 1 hour, were recorded and transcribed.

The main subjects that we asked about in the interviews were:

- how Scrum is used in the company;
- how usability activities are integrated into the Scrum process,
- how users are involved in the development,
- how usability requirements are defined and
- who is responsible for usability activities.

Our preliminary results show that because the focus in Scrum is very much on delivering functionality, it has been hard for the practitioners to find time for usability activities. Many interviewees mentioned that they gather feedback from users after each delivery in Scrum and not during the development of that functionality.

The STSM visit was very valuable for my PhD studies at KTH. I had very inspiring co-operation with both Åsa Cajander at Uppsala University and Jan Gulliksen at KTH on this research project. We had many good discussions on the subject and gathered really interesting data from the interviews during my STSM in Sweden. We have a couple of papers planned for publication of this data. ■

## Carmelo Ardito

IVU Lab, University of Bari, Italy



Carmelo Ardito

In June 2010 I went to the University of Patras (GR) for a one month long STSM at the HCI Group lead by Nikos Avouris. The aim of this STSM was to start a collaboration on the theme of designing mobile and ubiquitous systems in the cultural heritage domain. In Italy and Greece there are plenty of archaeological parks and other outdoor historical sites, and both research groups have competence in designing systems supporting visits to such places. the IVU Lab has designed Explore!, an m-learning framework which implements the excursion-game, an experience planned to engage groups of young visitors exploring cultural heritage sites through a pervasive game; the HCI Group has designed MuseumScrabble, a pervasive game for students, aged 10-12 years old, to be played in a museum.

The STSM was focused on studying heuristics for designing or evaluating educational games. The first phase of this joint research was an extensive review of the literature on pervasive games for exploring cultural heritage sites (museums, archaeological parks, historical cities, etc.) and guidelines for game design and evaluation. Then, the work concentrated on the analysis of three case studies representative of pervasive games for visiting an archaeological park, a museum, and an old town center. As a result, a large set of issues relevant to such games were defined. From these issues, preliminary guidelines were proposed: 36 guidelines classified along 5 dimensions. These early results have been reported in a paper presented at the international conference "Social Applications for Life Long Learning" (SALL 2010), while more recent advances and future work are in a paper accepted to HCI International 2011.

During the STSM also dissemination activities were organized. On June 15th at the University of Patras the full day workshop "Games Narratives and their Evaluation" took place. Researchers of the Hellenic Open University and University of Peloponnese participated in this event.



A  
Presentation  
of design  
guidelines  
during the  
workshop on  
Game  
Narratives  
and  
Evaluation.

The collaboration between IVU Lab and HCI group that was initiated during this visit is still going on. We are planning a more systematic study in order to involve a wide number of designers in the validation of the proposed guidelines. To this aim a website is being created; it reports the motivation of the research, the adopted methodology, the guidelines and the dimensions identified. In this site the guidelines are presented and concrete examples of their use are included, while visitors can post comments on them. In order to induce people to reflect more deeply on the guidelines, for each guideline a set of simple questions is provided.

In addition, in the frame of the International Symposium on End-User Development (IS-EUD 2011) we are going to organize the workshop "DEG: Involving End Users and Domain Experts in the Design of Educational Games", in which we invite researchers and practitioners involved in designing and evaluating technology supported games to discuss their experience in relation to means for involving the end users in the development process, during and after the product has been completed.

My STSM at the University of Patras was very productive and I would like to thank TwinTide for making this possible. I'm very glad to Nikos and the whole HCI Group for the warmest welcome and pleasant stay in Greece ■

## IC0904-TwinTide Events

### 1<sup>st</sup> European Workshop on HCI Design and Evaluation

Organizers: G. Christou, P. Zaphiris & Effie Law  
Contact : gchristou@yahoo.com  
Location/ Dates: Limassol, Cyprus / April 8<sup>th</sup>, 2011  
Web page: <http://sites.google.com/site/ehcide/>

### 4<sup>th</sup> Management Committee Meeting

Organizer: Effie Law  
Location/ Dates: Limassol, Cyprus / April 6-7, 2011

## Related IC0904-TwinTide Events

**CHI 2011:** ACM SIGCHI Conference on Human Factors in Computing Systems  
Vancouver, BC, Canada ♦ May 7-12, 2011  
<http://chi2011.org/>

**IS-EUD 2011:** Int. Symposium on End-User Development  
Torre Canne (Brindisi), Italy ♦ June 7-10, 2011  
<http://iseud11.di.uniba.it/>

**EICS 2011:** Engineering Interactive Computing Systems  
Pisa, Italy ♦ June 13-16, 2011  
<http://eics2011.org/>

**UPA 2011:** 20<sup>th</sup> int. conf. Usability Professional Association  
Atlanta, Georgia, USA ♦ June 20-24, 2011  
<http://www.upassoc.org/>

**EuroITV .2011:** Interactive TV&Video Conference  
Lisbon, Portugal ♦ June 29<sup>th</sup> – July 1<sup>st</sup>, 2011  
<http://www.euroitv2011.org/>

**HCI International 2011**  
Orlando, Florida, USA ♦ July 9-14, 2011  
<http://www.hcii2011.org/>

**MobileHCI 2011:** 13<sup>th</sup> Int. Conference on Human Computer Interaction with Mobile Devices and Services  
Stockholm, Sweden ♦ August 20<sup>th</sup> – September 2<sup>nd</sup>, 2011  
<http://www.mobilehci2011.org/>

**INTERACT 2011:** IFIP TC 14 Conference on Human Computer Interaction  
Lisbon, Portugal ♦ September 5-9, 2011  
<http://interact2011.org>

**QoMEX 2011:** International Workshop on Quality of Multimedia Experience  
Mechelen, Belgium ♦ September 7-9, 2011  
<http://www.qomex2011.org/>

**ICEC 2011:** 10<sup>th</sup> IFIP International Conference on Entertainment Computing  
Vancouver, BC, Canada ♦ October 5-8, 2011  
<http://www.icec2011.org/>

## Contact us

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### Dissemination Activity

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