

# USINET Newsletter

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*Enjoy your holiday and Happy New Year!*

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*Dear USInet members,*

*It is the end of the year again! This second half of the year began with the USInet BBQ, the first time not in front of IPO building. In this newsletter edition, you will find Design Case stories ranging from sleeping experience to different interaction techniques.*

*Kentaro Toyama shares with us about what are being done by his team at Technology for Emerging Markets group, Microsoft Research India. This exclusive interview would enrich our knowledge about HCI solutions in the developing world.*

*The newest USIs tell us their experience looking at this year's graduation. And this time two USI alumni who chose the PhD path share a little story about their work: Javed Khan and Aga Matysiak.*

*The USInet team is still changing with the newest USIs joining! Do not hesitate to send us feedback and suggestions. Enjoy the holiday and we wish you a happy new year!*

*The USInet team*

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# USIvents

## The new BBQ venue: @TU/e Tennis Pavilion

-Dirk Verhagen-

On the last Thursday before the big, and of course entirely deserved, summer break, all USI's, teachers, ex-USI's, and otherwise related individuals gathered at the tennis pavilion for what promised to be a great and tasty BBQ-session (Food and drinks graciously paid for by upper management, as it should be). The new venue (the tennis pavilion) proved to be an excellent decorum for this gathering. It helped that the Dutch weather for once was sunny, warm, and generally beautiful.

Of course the food, carefully prepared by the attentive ladies, was excellent; though I would say its largest quality was its abundance. Beer flowed richly and soon old was mingling with young, teachers with students, management with the plebs ;), and non USI's with the USI's (often desperately trying to come up with any conversation subject besides User-Centered Design). All in all the atmosphere was as it should be on such a festive occasion.

The location offered one other significant advantage: the tennis courts. Our regional tennis-champion Maria brought a couple of rackets and a couple of tennis balls, and soon us amateurs were showing some of the best, and some of the worst (more of the latter, less of the former) tennis the world has ever seen. This proved so much fun some of us are now practicing to win Wimbledon.

The evening ended with Tomaso receiving a gigantic bag of left-overs, which he duly accepted. Of course the evening didn't REALLY end here, but those stories are better left unwritten. You will have to ask someone as to what else happened that night.....



# OUR OFFICIAL PARTNERS



# Graduation: through the eyes of new USIs

- Ioannis Politis & Rafał Kocielnik -  
 edited by: Beant Kaur Dhillon

As proud representatives of USI 2009 generation, we had a unique opportunity to be part of the graduation ceremony of our colleagues from 2 generations before. This event took place quite early on our agenda, at a time when everything was new and exciting for us. Everything is still exciting of course, but now we have also a couple of months' experience, allowing us to look back on this graduation day and picture ourselves in those USIs' shoes.

The official tone of the event was obvious even by the time we entered the Auditorium and came across all the well dressed people and professors in ceremonial outfits. All of us were chatting in a pleasant tone, until the pedel (the master of ceremonies) entered the room, accompanied by the team of professors and graduates. Everybody then stood up and the pedel took a seat overlooking the ceremony.



This was followed by a speech of the director of Stan Ackerman's Institute, gave a short speech about the increasing value and popularity of PDEng degrees worldwide, stating that the graduates of such programs working in all the fields of industry are a live advertisement of this fact. Then it was time for the individual handing in of diplomas, during which the mentor of every USI described not only his

abilities and knowledge, but also his traits as a person. Since we had no opportunity to get to know our fellow USIs beforehand, we were very much pleased with this form of introduction which helped us get more acquainted with their work and experiences.





Watching all the mentors sharing encouraging comments and expressing their admiration about how well their students had done during their internships and judging by the short but impressive presentations of their work, it was obvious that the mentors were not exaggerating.

After the official part of the ceremony, we all had some drinks, some snacks and some small chatting outside Blauwe Zaal. In the evening and during the night according to USI traditions, as we were told later, we attended a party of 3 generations. The party lasted till 3am the next day. It was a great event and it was a real relief to have a day off the next day.

This experience made us feel happy with our decision to join this program, but also a bit intimidated by the high quality and complexity of the projects, wondering how it will be when it is our turn to go through the challenging experience of our second year.

Now, a couple of months later, we are confident that we're gathering valuable knowledge to face the difficulties of our internship.

# OUR MAIN PARTNERS

**PHILIPS**

sense **and** simplicity

# Kentaro Toyama:



***“What makes the difference is human intent and human capacity”***

- Javed-Vassilis Khan -

It is in our studies at USI that we are primarily focused in addressing technology challenges for developed world. However, there are hundreds of million of users in this world who are far from even having access to a PC. The Technology for Emerging Markets (TEM) group of Microsoft Research India, based in Bangalore, is trying to address this issue. Bill Gates’ keynote speech at the ICTD conference 2009 in Doha, Qatar<sup>1</sup> depicts the growing importance of HCI in creating solutions targeted to the developing world.

Kentaro Toyama, director of TEM and initiator of the ICTD conference, was a keynote speaker at MobileHCI09 in Bonn, Germany, where he gave an exclusive interview to Usinet. He talks about his motivation in moving to India, the challenges and opportunities of doing research in India, and what TEM’s work means for the developed world. Moreover, Mr. Toyama introduces Microsoft OneApp, a solution Microsoft developed to address the success of mobile phones in the developed world. Finally, for those interested in pursuing a career in India, read on to find out more as Dr. Toyama sketches the ideal candidate for the TEM group.

<sup>1</sup>More information at: <http://www.ictd2009.org/>

***Having an already established career as a researcher in Microsoft in the US, what made you move to India?***

I had many reasons. I had been doing computer vision research for about 12-13 years and although it is very intellectually challenging I was becoming a little bit bored, because it was hard to see how the results of the work we do there have a tangible impact on the world at large. Another reason was that while I felt that I learned a lot as a researcher in Redmond, there was nothing strongly pulling me to stay. So I was considering leaving the company at that point and that's when my manager, who is Indian, asked me whether I would be interested in going with him to India to set up the lab and I thought that would be exciting. And, with the idea of starting a new research area in technology and global development, it was really very exciting.

***What are the objectives of Technology for Emerging Markets group that you are leading?***

The objectives are very simple: we are interested in both understanding everything we can about technology and its interaction with poor communities in developing countries, and then to see if we can do some kind of innovation with technology that would help those communities do more of what they want to do.

***Why did you particularly choose Bangalore since there are other parts of the world developing such as China, Brazil, etc.?***

To be honest, that was not a choice that I personally made. Obviously, the company at a larger level made this decision to put a lab in India. Having said that, I think that the reasons why the lab was placed in India as well as what we found once we got there is that Bangalore is one of the most interesting places to do that kind of work. In global scale, India is obviously a very interesting place because it has a rapidly growing IT industry, and that is the major reason that the lab was placed there. If that community of people who are technically very capable did not exist, it would be hard to do the research we are doing. But at the same time India is also interesting because despite this upscale economy at the high end, two-thirds of the country is still very, very poor by any Western standards. So it creates a very interesting environment because the technology expertise is there, and yet there are many communities that could benefit much more, if we do the right thing. Finally, **one more thing that is interesting about India, that I feel is different from many other developing countries is that for whatever reason, culturally there is a very rich tradition of people trying to serve those who are less privileged than them.** It is amazing the number of non-profit organizations that are in the country. Not all of them are legitimate, of course, but there are still many that are earnest and sincere. Every other person I run into is either associated with a non-profit organization, has a non-profit organization, or has a cousin who runs a non-profit organization. So the cultural inclination is also there to do work in development.



***What are the differences conducting research in India and in Europe or the US?***

The differences are great. Especially coming from any kind of background where you have completed a university degree in any developed country, there is such a stark contrast between the way you perceive the world and the way a very poor, undereducated, let's say, farmer in the middle of a rural village perceives the world.

And it's not about money, even though that is a significant aspect. So much of it has to do with formal education. The things we get out of formal education are not just the individual facts and skills that we learn but also a particular way we look at the world. We believe by learning certain things it has a positive outcome in our life, right? For many of these communities that lesson has not been absorbed because they did not have the chance to see that kind of positive feedback work.

So there are lots of these kinds of fundamental attitudinal differences that are very significant, which completely change the way even technology works or does not work in different environments.

One thing that people often say is that internet is an amazing thing because it democratizes everybody. All of a sudden anybody can write a blog and it will be read by millions of people. On the one hand that channel is there. So, if you are educated and you know how to write and you have something interesting to say, you can take advantage of that and make it work.

If you don't have the education or the attitude or the desire to do that, then even if that channel exists, it doesn't do anything for you. So there are very large differences of that nature that exist across almost every axis of social consideration.

***Seeing your work, what are the implications that you envision for those communities?***

For me personally, what I find is that in the end, **what makes the difference is human intent and human capacity.** Where technology can play a role is any time you find a place where human intent is good and the capacity is there, technology can play a role to amplify the intent.

We find that in almost all of our projects, anytime we work with a community or with a non-profit organization that really has the right desire and has competent staff, then, when we help them with technology, they can really take advantage of it.

On the other hand, a common mistake is to believe that technology can fix broken organizations or problems not currently addressed effectively by any organization. That is something that we find incredibly difficult to do.

In the best case, the technology will not do anything. And in the worst case, it can even be used with negative intent, which is exactly what you don't want. Having said that, there is a lot of potential for technology to help amplify the good things that are happening in this world.

**What would be the lessons for the developed world?**

On the technology level, when you go and try to make technology work under the constraints of the developing world you sometimes find interesting solutions that are just as effective in the developed world. In our lab, one of the examples of that is a project called MultiPoint, where you allow multiple mice to connect to a single PC and allow multiple children to interact with one PC. Originally when we started this it came out of the simple financial constraints of schools not being able to afford many PCs. But, the reality is, at least in primary school, children seem to enjoy the computer interaction better when they play with other children. So, we think that this is actually a nice way to encourage collaboration for developed countries, as well, even if you can afford a PC per child. We get a lot of queries from all over the world not just developing countries. Even schools in the US, Canada, and some parts of Europe are interested.

**Being in the MobileHCI conference, I was wondering how is Microsoft planning to utilize the great adoption of the mobile phone in India?**

I would start by saying that Windows Mobile is only relevant for a small slice of the population in India; it obviously does not make any sense for the vast majority of Indians who can only afford low-end and mid-tier phones. **At this point I can tell you about a new product that Microsoft has announced and is about to release.** It is called **OneApp<sup>2</sup>**. OneApp is a uniform API that works across many Java-enabled mobile phones. This is a product that Microsoft's Unlimited Potential Group is releasing. The idea is that it will help you write applications very quickly that allow those phones to do things online or with other phones. I think that this is something that the community will find interesting, and hopefully it will help Microsoft gain entry into a market that so far has eluded the company.

<sup>2</sup>More information at: <http://www.microsoft.com/oneapp/>



Warana Unwired, a project of TEM in which PCs in rural kiosks in India, were replaced with mobile phones to deliver information about harvest details to farmers

***Lately, several companies have opened research labs in Bangalore. How important is HCI for those labs?***

I would say that it depends on the lab and what the company believes that they can get out of the lab. There is a lot of interest in HCI; it is growing in India. In fact, right now there is a conference called USID<sup>3</sup>, which is entirely about HCI. That is being hosted by a man who has been running this conference for 4-5 years. All of the technology companies are certainly very conscious of HCI ideas. So, even if they don't have an explicit lab to look at those things they certainly have people who work on usability and interaction design, who are designers themselves. I also find that there is a grassroots technology community, such as people who attend "bar camps" and so on and those people are also very interested in HCI.

<sup>3</sup>More information at: <http://hci-hyderabad.org/>

***Since we are an alumni organization, what would be an ideal candidate for TEM?***

What I look for is very deep research capacity in the group as well as diversity in the group. However, the diversity should be at the group level, not necessarily at the individual level. So, what we tend to look for, are people who have very focused, deep research capacity in one discipline but who have broad interests and demonstrated some genuine interest in problems that are addressing society in a larger way.

***Do you currently have any openings?***

As you know there is a global economic crisis and the company is not hiring at the same pace as they used to. We will have openings probably in the coming year as people leave. There will be opportunities, so if there is anybody interested I encourage them to apply!



# Usability as a key selling point

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# Design Case 2009

## Enhancing the sleeping experience

*Toon van craenendonck*

*Paulo melo*

*Tomaso scherini*

*Wenzhu Zou*



Our design case group is focusing on the sleeping experience of remote couples, partners who live separately from each other. Our intention is to put those couples connected in such a way that they can have a more pleasant experience when they go to bed. The way we found to connect those people is through a pillow that warms up when the remote partner is in bed.

In this work we have two research questions, which are:

- 1 – Are remote couples more likely to go to bed at the same time if they have the information that his/her counterpart is going to bed?
- 2 – Quality of sleep research question
  - 2.1. Do remote couples spend less time to fall asleep when they use our prototype?
  - 2.2. Do remote couples experience a better quality of sleep when they use our prototype?

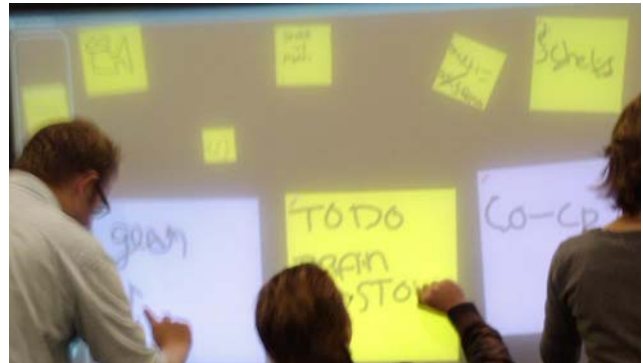
The 1st research question is related to an persuasion aspect we are exploring in this study. We want to know whether the fact that knowing that your partner is going to sleep at a certain point is a good way to persuade people to sleep as well.

We are expecting the end of the design case for the end of December. We are working hard during these last weeks of the year to set the experiment, recruit couples and make a working prototype. Luckily by the end of December we will have interesting findings to present.

## Siren Project

## TOUCH

Serendipity has been at the base of many discoveries in the past. Serendipity is the happy accident that leads you to connect seemingly unrelated facts. For example, Newton saw an apple fall down and figured that whatever was pulling the apple downward was the same force that held the moon in its orbit. For our Design Case we are trying to increase the chances of serendipity occurring.



*Nikos Batalas*  
*Hester Bruikman*  
*Dominika Turzynska*  
*Vanessa Vakili*  
*Natalia Voynarovskaya*



(meet me)  
 (take me)  
 (doe mee)

The Siren Project  
<http://sirenproject.id.tue.nl>

Everyone here at USI knows that brainstorming is serious business. However, not all the knowledge workers in the world really have full control over this collaborative process. Nowadays there is technology available which allows people to collaborate in more efficient ways and one promising technology is a large multitouch display. We have designed a way in which people can use a multitouch wall to augment and support their brainstorming experience, while still allowing people to collaborate, talk and generally be creative.

*Sophia Atzeni*  
*Dirk Verhagen*  
*Aljosja Jacobs*  
*Annemiek van Drunen*

## Design of a new way of interaction for hand-held devices

Hand-held devices have little display space. One more dimension can be added to the display to virtually increase its space, making it three-dimensional. However, traditional methods of spatial navigation do not adequately support three-dimensional interaction. Augmented virtuality could solve this problem, integrating real world 3D interaction into the device's virtual environment. This project consists of: design, prototype, user test and analysis of the acceptance and potential of this new way of interaction.

Luz Caballero  
Ting-Ray Chang  
He Huang  
Valentina Occhialini  
Maria Menendez



## OUR PARTNERS



# Life After USI: The Doctors

This second half of the year, we celebrated the ceremonies of two doctors post-USI: Javed Khan (11 November) and Aga Matysiak (9 December). Here is a little story about them and their PhD works.



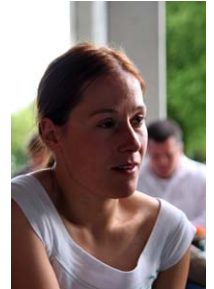
Javed-Vassilis Khan graduated from Computer Engineering department of University of Patras, Greece, and then worked as software engineer at the Computer Technology

Institute (CTI) in Greece. His experience there stimulated an interest in the field of human computer interaction, so he came to The Netherlands to do USI program. He worked at Vodafone Maastricht for USI final project on interface and interaction aspects that affect a user's trust in a system.

He started the PhD at department of Industrial Design, TU/e. For his PhD dissertation he researched the role of pervasive computing and more specifically awareness systems, in supporting intra-family communication. The Experience Sampling Method, one of the methods applied during his doctoral research, was the inspiration for him to continue as a post-doctoral researcher at the same department. His current research objective is to make a tool for researchers to conduct Experience Sampling studies from the comfort of their desks.

Other than PhD, he also co-founded KidzFrame.com.

Aga Matysiak Szóstek comes from Poland where she studied linguistics at Warsaw University. In 2000 she joined the USI program and became one of the third generation



USIs. After graduating she worked as a consultant at a Belgian usability consultancy in Brussels and then as a member of the scientific staff at Océ Technologies in The Netherlands.

Due to her involvement in the Smart Surroundings project by Ministry of Economic Affairs of The Netherlands, she was offered a PhD position at the Industrial Design department at TU/e, which she started in 2005.

During her PhD, she spent 5 months at Google labs in Zurich, Switzerland, where she conducted research on the subject of email overload in Gmail.

Soon she will begin working as a post-doc at the Industrial Design department. In the further future she considers going back to Poland to teach and promote UCD and UX domain.



### **Javed's work: Mediated Awareness for Intra-Family Communication**

Javed's PhD work has two objectives. The first objective is to investigate the current communication practices of family members to stay in touch with each other, in order to elicit requirements for new pervasive communication systems, called awareness systems, which aim to support intra-family communication. The second objective is to develop those awareness systems based on the elicited requirements and evaluate them.

He focused on families who consist of working parents with dependent children living under the same roof. Awareness systems can be defined as a class of computer mediated communication systems that support individuals to maintain, with low effort, a peripheral awareness of each other's activities and whereabouts.

In the context of the research conducted, a variety of methods were used and several applications to conduct the research were developed. More specifically interviews, field studies of two prototypes, web surveys and an adapted version of the experience sampling study were used.

The contributions of his thesis are twofold. First the thesis presents the intra-family communication needs that would drive the adoption of awareness systems. Moreover the thesis presents the implications for the design of such systems. Second the thesis examines a modification of the experience sampling method (ESM), the experience sampling and reconstruction method (ESRM). Evidence is presented which indicate the potential of the ESRM when compared to the ESM.

### **Aga's work: Social Ways to Manage Availability in Mediated Communication**

In her PhD work, Aga started from the fact that for communication to be successful both the initiator and the recipient need to constantly monitor and ground their communicative needs, which is possible with gestures, mimics and elements in the environment, but not the case in the digital domain. Current tools supporting mediated communication are blind to social signals people so effectively and gracefully produced in the physical domain.

She proposed an approach to address the aspect of communication negotiation in mediated settings which aimed at leveraging social behaviours of communicators through attaining sufficient level of visibility regarding one's availability state and also by ensuring the mutual awareness regarding that status at the point of communication initiation.

Her thesis advances previous work by empirically confirming the importance to support the development and maintenance of social rules in mediated communication that can be achieved through making socially significant information about one's availability status visible in the system and also by ensuring the mutual awareness of that status among communicators. Also, the results indicate that, although it is crucial to ground the joint understanding of each other's communicative state at the point of communication initiation, it is equally important to provide mechanisms to maintain that common understanding throughout the entire communication process. Only then communicators are able to develop new rules that leverage their social behaviours.



Merry  
Christmas  
and Happy  
New Year!!!

<http://usi.id.tue.nl>



For partnership conditions and proposal, please, contact us at [info@usinet.nl](mailto:info@usinet.nl)