



HCI 2010

Play is a serious business

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University of Abertay Dundee



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Lynne Coventry has a joint background in Psychology and Computing Science. She is an applied researcher with fifteen years of industrial experience (general consultancy, NCR and Lifescan). During this time she has led research to understand the needs, abilities and attitudes of users within financial, retail and medical markets. Lynne has also worked with development teams to ensure usability and accessibility requirements are specified, evaluated appropriately and hopefully met. She has been involved in all stages of research and

development. She managed internal resources, external usability consultants and academic links (funding MScs, PhDs and specific research contracts). This gives her an interesting perspective on the positioning of HCI and usability within organisations.

Lynne has recently moved back to academia and is the co-director of PaCTLab (Psychology and Communication Technology) within the School of Psychology and Sport Science at Northumbria University. The focus of the lab's research is privacy, persuasion, security and trust. Lynne has broad experience of applying different research methodologies to her work with an emphasis on qualitative methods to explore issues in-depth. She works as part of a multidisciplinary research and design team where her analytical research skills complement the creative, synthesis skills of the designers.

Lynne has been keynote at Financial Cryptography; International Biometrics, RNIB Accessible Biometrics and the first Symposium on privacy and usable security. She is probably best known for her research on usable security and biometrics and her pragmatic approach to research methods. She was vice-president of The Usability Professionals' Association (Scottish chapter).

Lynne is currently working on two research projects, firstly looking at older adults' use of technology and secondly exploring what factors influence students' use of online information. Lynne is looking forward to being the new Editor of Interfaces.

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Interfaces welcomes submissions on any HCI-related topic, including articles, opinion pieces, book reviews and conference reports.

Forthcoming themes

Interfaces 83, Summer 2010: Competency and employability. Deadline **1 May 2010**

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Submission guidelines

Articles should be MS Word or plain text. Send images as separate files: these must be high resolution digital originals suitable for commercial printing, cropped if desired but not resized, and if edited, saved as tiff or highest quality jpeg. Please supply photographers' credits as appropriate.

Authors should please provide a 70–80-word biography and a high resolution head and shoulders original digital photo. Photographers' credits will be printed if provided.

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Well, four years ago I was straight off the plane in Germany and wondering how I could edit a magazine produced in another country. Not only was I geographically displaced, I was also outside of the base community I was to serve. Help came in human and technological form. Firstly on the people side; Fiona who does the production (and so much more) on the magazine made it possible to publish the magazine with an editor in another country and without her we would surely have sunk. I have to thank her so much as all editors have done in the past.

On the technology side I discovered Basecamp and, although a somewhat reluctant and late adopter, online collaboration, and POTS (Plain Old Telephone Services) too. Not only have these technologies made virtual colocation possible, but in addition I think they have really started to increase engagement and responsiveness in our communications work.

Coming full circle I am happy to pass on the baton to our new editor Lynne Coventry who I am absolutely sure will enjoy working on the magazine as I have. I am not disappearing either, but will be focusing on improving our Web communications and contributing to the magazine as well. So thanks to everyone who has contributed to the magazine during my tenure and especially Fiona and Lynne.

John Knight

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View from the Chair

Tom McEwan

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Hi folks. I write just as the deadline closed for HCI 2010 submissions. We've had an excellent response – 140 papers, including 92 full research papers – this is well up with the best of recent years – a testament to the hard work of the committee. The majority are from overseas: we have submissions from 27 countries. Forty-two per cent are from the UK, and the next biggest contributors are Australia, Canada, Germany, Netherlands, Ireland, Spain, France, Austria, and New Zealand.

Each paper will be reviewed by four or five from a selected panel of almost 200 experts (increasing our count of participating countries to 35). Only the very best

will be accepted and the fortunate authors will find Dundee in September a sunny and friendly place, and the three local universities (Abertay, Dundee, and, 13 miles away, St Andrews) already play host to students and staff from these and many other countries. I hope you'll be there – we know that money is tighter this year so we are keeping participation costs lower than last year.

I'm still on a high from chairing UXCF2010, the UX Competency Framework Workshop, a few weeks ago. It's been a real pleasure working with John Knight, Jonathan Earthy (BCS/IET) and Claire Mitchell, Chandra Harrison, Nigel Bevan (UPA UK) and Tony Russell-Rose (Ergonomics Society), and the sessions on the day were lively, with a great mix of over 30 practitioners, academics and research students.

We made some useful progress both on defining what makes a good UX practitioner, and how organisations can mature in their use of these roles. Ultimately, while much of UX can be seen in existing role definitions (Business Analyst, Usability Evaluator etc), we need to define competency in the more novel aspects of UX, if we are to ensure it fits into the increasingly automated world of HR, and to make a start on professional accreditation and relevant degree courses. We plan follow-up workshops and if you are interested in this effort do contact me.

Afterwards we all enjoyed the hospitality of UPA UK's career evening – it was fascinating to see over a hundred UX practitioners networking, along with quite a few hopefuls who were getting a good hearing from the ten recruitment companies (or recruiting companies!) who were exhibiting and hungry for staff: a good area to be looking for work in. One snippet from UPA UK's salary survey, of around 200 UK UX professionals, is that HCI is the most common academic qualification.

There was a huge amount of work for the organisers (and the presenters) to combine with our day jobs, but we all felt the day was worth it. Our community runs on the efforts of volunteers and the good will of employers in freeing us up to organise, review for, attend and disseminate UXCF2010, HCI 2010 and our other collaborative events such as Create10 (30 June – 2 July in Edinburgh Napier) and HCI Educators (which is being rescheduled). Yes, some of this work can be justified within academia as contributing to status, impact, REF, etc., and some in industry as a form of promotion, recruitment or knowledge transfer. But for most of us this is what we do in our personal time.

Volunteer time will be more sustainable if more of you help organise. To this end we have formed our regional groups, as you can see on the back page of this issue – look up your local contacts and ask how you can help. If you are some distance from the nearest group, then offer to start a group for your area.

See you in Dundee in September.

Tom McEwan

BCS Interaction SG Chair

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we need to define competency in the more novel aspects of UX, if we are to ensure it fits into the increasingly automated world of HR

Vienna and the elves

Rod McCall

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I am writing this article while on yet another flight, this time to Birmingham. Which seems, on the face of it, to be slightly less exotic than the recent visit to Vienna for the IPCity summer school. But as I am unfortunately reminded by (for once) my own memory, my last trip to Birmingham was as a student – which is of course only a few years ago and quite clearly not 1997. However, sadly there are no elves in Birmingham, so this story instead moves to Vienna.

Being a project co-ordinator always brings out the respectable side in one, and on this occasion I felt the rare need to dress smartly in order to give the introductory talk on presence. Presence is as yet the great unknown; in the eyes of many it is simply the feeling of being here or with others, or in the case of virtual environments the feeling of being there and not here (i.e. reality). Others would say it is simply the feeling of being aware of self in relation to others, and the environment. For example, I am not the table, I am me. Fortunately recent medication had worn off so I was not confusing myself with the table, and fortunately no one had mistaken me for one either.

However, I now became acutely aware of presence, indeed my own sense of presence. I was me and not one of the students sitting listening. I had, if you like, crossed the line into the land of the ageing lecturer... Indeed my own sense of presence, while based on the social dynamic, was shaped by the idea of not being any of them. Things on the ageing side picked up the following day when I dressed down and was mistaken for a student; it's amazing the effect a black t-shirt can have. Still, all good things have to come to an end

and I ended up having to dress smartly again and sadly no one mistook me for a student. Therefore this seemingly strange experience does point out how appearance can change other people's perception of you.

I can fully recommend the summer school experience for any project. In our case we kept the talks to one day, covering anything from theory through to more technical aspects.

The remaining three days were given over to students who were asked to conduct studies, try out our technologies or even develop a new game based around some tools we had already given them.

I have to say that the experience indicated to me the value of short and intensive result-focused meetings. Indeed the work turned out by the students was very impressive. I was significantly impressed by the output, so much so that not only will future projects contain a summer school or two, they will also contain three or four days of intensive workshops. As many who are serving time on the inside of EC projects will know, large-scale project meetings often take the form of focusing on administration and perhaps small discussion groups on particular elements, rather than intensive workshops that actually create results.

Over the last three years while in Germany I have started to develop a relationship with the small elves of Cologne, known affectionately as Heinzelmännchen – they currently appear in a game called TimeWarp we developed in the IPCity project. It's only on a friendly level, nothing more, but we have been through a lot together, two and shortly three user studies. I forget how many dozens of reboots, re-designs and voices. Sadly, though, this is their last year and like many in the economic crises they face an uncertain future

the experience indicated to me the value of short and intensive result-focused meetings

– unlike banks there is no rescue deal followed by large bonuses.

However, no one could have predicted the mass redundancy that was to follow. No sooner had they touched down in Vienna than the students decided that they would not use them in the game we had asked them to develop. Instead the students developed their own game around the city of Vienna, using local characters and narratives. While this may seem obvious it does point to the need to really spend time getting to know the location where such games are situated, something which is often not considered within augmented reality gaming.

While I am a great fan of AR Pacman and the like – it certainly looks cool as a game – it could be situated anywhere. However, this not only removes the game from the surrounding context but also in my opinion reduces the strength of such experiences, namely the blending between reality and virtuality, whether this is from understanding the ambience of underlying city elements within any game or simply making use of the physical environment more heavily.

Rod McCall is the deputy head of the Collaborative Virtual and Augmented Environments Department at Fraunhofer FIT in Germany. In between sipping fine wine and hanging around with the small elves of Cologne he actually does some research. More information on IPCity can be found at www.ipcity.eu and [www.twitter.com/ipcity](https://twitter.com/ipcity)

Festschrift for John Long

Ann Blandford & Alistair Sutcliffe

Contrary to the understanding of a few people, and we won't name them, a Festschrift is not a memorial or an extended obituary, but a celebration of the life and work of someone while they are still around to enjoy the recognition. And John Long is definitely still alive and kicking (or should that be around and cycling?).

Over the past year or so, we have been editing a special issue of *Interacting with Computers* as a Festschrift for John Long. The special issue has just appeared (look out for it!). It contains five papers and, of course, a response from John, always keen to have the last word.

Two of the papers (from Jack Carroll and Alan Dix) focus on John's conception of HCI as a discipline and present the authors' viewpoints on where the discipline is heading. Jack argues that the sharp distinction between HCI as craft, science or design is unhelpful, and that a more integrated view (based around the task-artefact cycle) is more relevant to an age in which technology pervades all aspects of life and not just work. Alan Dix also argues that John's disciplinary conception was right for its time, but that as HCI has matured, and as the scope of contexts and concerns has broadened, the focus needs to shift towards design methodology.

The other three papers (from Becky Hill, Ian Salter and Peter Wild) are more recognisably in the methodological tradition that John established, applying the approach that John developed with various colleagues, and extending and adapting it to fit new demands across the domains of service-oriented systems, emergency management and (possibly surprisingly) economics.

Taken together, we hope that the five papers and John's response present a current snapshot of the character of John's work and the influence it continues to exert.

While we were preparing the Festschrift, some people offered less formal reminiscences of John, and tributes to him. These items are collected here. They are varied in their style and content – from short tributes, through somewhat grainy photographs, to an extended interview with Rachel Benedyk, whose tireless work organising and developing the Masters programme at UCL was as central to the success of that programme as John's visionary leadership was.

Rachel's account of the history of the Ergonomics Unit (EU) really sets the context for the current UCL Interaction Centre (UCLIC) and for much of the HCI activity in the UK and more widely. The influence of the programme is immense, if we consider how many researchers and practitioners have passed through the Masters or PhD programme in the EU, or have worked with John as researchers.

UCLIC, the successor to the EU, very clearly builds on the foundations established by John, though (to push the analogy) the building is a different shape and size from the one he left. This is true both literally and metaphorically. In a literal sense, UCLIC has moved from the suite of rooms in Bedford Way that were occupied by the Ergonomics Unit to modern, partly open plan, space colocated with Computer Science. Whereas the EU was entirely within Psychology, UCLIC is a research centre across Computer Science and Psychology & Language Sciences.

UCLIC is still taking a rigorous approach to understanding and practising the design and evaluation of interactive systems that are fit for purpose, whether that purpose be saving lives

or enjoying a game. The Masters programme is going from strength to strength, continuing to evolve to reflect developments in the subject and respond to new demands and opportunities.

John's legacy, both intellectual and material, is clearly standing the test of time.

Tributes

Dear John

In our shared domain you have led a generation of researchers and practitioners to think more deeply and carefully about what it means to design the interaction between humans and computers. For those who have followed, we have been lifted above our everyday concerns and given the means to face the troubles of theory and of ideas. Sometimes, of course, this can feel like a mixed blessing. But once on the path, none of us would choose to turn back.

For all this, my greatest thanks.

Wally Smith



In summing up and passing judgement on John's career in HCI, I could easily generate a list of several hundred positive memories, comments and analyses.

But I am simply not going to do that.

He would, of course, question the memories, deconstruct the comments, dispute the analyses and appeal any overall judgement.

That is precisely why it has been so cool to know him as a colleague, to count on him as a friend and to have had so much fun with him both at work and outside of it over the last 37 years.....

Phil Barnard

John with the 1983 MSc Ergonomics students after a morning down pit at the Cadley Hill mine near Burton on Trent. On such real world field trips – that were considered an essential part of the masters degree – John transformed from the prolix professor into being a bit of a lad, drinking pints, playing pool and joshing with the students. There was even an occasion when his verbosity came to an abrupt halt, as he watched incredulously when a miner removed one of my earrings in exchange for some of his chewing tobacco.

Yvonne Rogers



John Long is to be warmly congratulated, not only for his seminal contributions to the literature on cognitive ergonomics, but also for his determination to create educational opportunities in a field often regarded with suspicion by traditional university departments. He's also an extremely nice chap to meet personally and professionally.

Bob Spence

The origins and survival of Ergonomics at UCL

A personal view

Rachel Benedyk talks to Dominic Furness

This informal interview with Rachel Benedyk, Ergonomist at University College London (UCL) for 30 years and the current Course Director, offers a unique perspective into the early history of one of the oldest ergonomics departments in the UK. This illustrates how the University College London Interaction Centre (UCLIC) got to where it is today, by giving access to departmental concerns that have remained invisible to past, present and future students and other people outside of its academic administration. Spanning a 42-year period, we learn of the roles people have played, changing research interests and course direction, and the political struggles concerning academic presence, funding, space and support. For the Festschrift, specifically, it provides a record of the unique contribution John Long has played in the development of this group, which continues to play a leading international role in HCI and Cognitive Ergonomics.

What are the origins of the Ergonomics interest at the University of London?

As I remember, the creation of an ergonomics group at the University of London started around 1966, arising directly from a discussion of interested parties at a meeting of the Industrial Section of the Ergonomics Research Society which considered Ergonomics Education. Some of the big ergonomics names of the time were involved in that meeting: Shackel, Davis, Whitfield, Murrell, Edholm, Venables and Rodger, for example.

The Ergonomics Unit itself was set up in 1967. And around then, there were a number of people in various departments in the University of London who realised that they had some commonality, which was a human-centred focus to their Science, and an interest in Ergonomics. One prime mover was in Applied Human Physiology at University College London, Joe Weiner. Then, there was Harry Maule, who was an Occupational Psychologist, and there was Otto Edholm who studied heat and cold at the MRC Extreme Environments Lab, and Heinz Wolff in Instrumentation at the National Institute for Medical Research. There were Harry Billett and Tom Lambert in Systems Engineering at UCL, Ralph Hopkinson in the Bartlett School of Architecture, Don Grieve, a Biomechanist at the Royal Free School of Medicine, and Rainer Goldsmith in Human Physiology at Chelsea College. And I believe there were people in Experimental and Occupational Psychology – Alec Rodger and Arthur Summerfield at Birkbeck were two of them, and there was Sayers in Electrical Engineering at Imperial and people in Experimental Design at the London School of Tropical Medicine, whose names I can't recall just now. They came together to plan to teach a course that combined all their interests into Ergonomics.

In those days, there were almost no University inter-departmental or interdisciplinary subjects, so it was really breaking new ground. They managed to set up an MSc in Ergonomics by combining interests from no fewer than ten Boards of Studies! Teaching came from University College London, Birkbeck College, Chelsea College, Imperial College and the Royal Free Hospital School of Medicine, along with two of the MRC Clinical Research

Labs, at Hampstead and at Harrow. However, in order to set it up between departments and between five different University of London colleges, they had to make it a university-based degree instead of a college-based degree. So this was the MSc in Ergonomics, University of London. And it opened its doors in 1969 with four students to start with. It grew to about 18 students, and ran in that form, I would say, until about the mid-1980s.

What was different about the set up of the Ergonomics degree?

In those days, all the Colleges of the University of London were separate, so they all awarded University of London degrees, but they normally administered their own courses. The Ergonomics degree was different; it was administered by the University as a whole because it was inter-collegiate. And so it was run by a big committee over at Senate House, the HQ of the University. The Ergonomics Unit was set up to do the day-to-day admin, but there was a large committee of people who were actually the board of governors, so to speak, for the degree. Careful thought went into the composition of this committee, which was called the Special Advisory Committee (SAC) for Ergonomics, because they wanted to represent a range of applications of Ergonomics. So, along with university people, there were people from industry, from commerce and from the military. They wanted the degree to prepare people for jobs as well as being research based. And this broke new ground. It was not the first Ergonomics degree in Britain, that was at Loughborough, but it was unique in its applied focus.

Right from the very beginning, the link with outside organisations was very much emphasized by the committee, and so it featured in the timetable of the course, as field visits to industry and as invited speakers from organisations. So it included, in those days, between 15 and 20 visits a year to different organisations, in which the students would either understand about work systems and interfaces and equipment and severe environments and so on, or they would actually learn from other ergonomists about applications in those different domains. There would be a whole range of different visits particularly to cover a range of industries, so anything from food processing to coal mining, or whatever. And because it was Ergonomics, it involved all different kinds of technology.

What was the role of the Ergonomics Unit?

As a result of the inter-collegiate set-up, the administration of the course was particularly complex, and was managed by the Ergonomics Unit. The first Ergonomics Unit consisted of Harry Maule, who was appointed Director of Studies, and a secretary – who was his wife, Gunvor Maule. There were just the two of them and that was the Ergonomics Unit from 1967 for many years.

Another aspect concerned the 'housing' of the activities. The Ergonomics Unit just consisted of an average-sized office, in the Dept of Mechanical Engineering at first, chosen because the teaching Degree was in the Faculty of Engineering, and the Faculty Dean, Prof. Billett, was supportive. There was no base for the students, so they were peripatetic, moving around between teaching facilities in the different colleges. The Biomechanics was given

by Don Grieve and Steve Pheasant, who were based at the Royal Free Hospital School of Medicine. The Applied Physiology was given by Rainer Goldsmith at Chelsea College, with the added use of specialist equipment such as climatic chambers at the MRC Labs. The Applied Psychology was given by Paul Barber and Vernon Gregg, who were at Birkbeck College, and the Occupational Psychology was given by Alec Rodger and Pat Shipley, also at Birkbeck. David Broome at UCL taught Systems Engineering, and Research Methods teaching was given by staff at the School of Hygiene and Tropical Medicine.

Then after about ten years, the SAC decided Ergonomics needed to be more than just a teaching course, and introduced a lectureship with potential for research activities. As a consequence the Ergonomics Unit was given extra space by the Bartlett School of Architecture in Wates House. The first lecturer was Chris Peace. Unfortunately, he became very unwell, and after less than two years he had to retire on medical grounds. My appointment followed his. I was recruited in 1978 to a lectureship; but actually to cover what would nowadays be called course administration. In those days in universities, all course administration was done by academics.

Although there were only two people sitting at the Ergonomics Unit, they had a huge number of reins to hold to keep the whole thing going. In addition, there was a lot of building to do every year, because the course was so reliant on other people for whom our teaching was not their main remit in life, although they were always interested. So teachers would move on, or they would have to withdraw their services in favour of other activities, and we would have to find a replacement. It became quite an unstable setup

and it needed a lot of holding together, a lot of handholding every year, just to be able to run the course. And registration of the students used to be distributed between several different colleges, so that all would share the fees, and thus continue their commitment to the course.

At the point when I joined, Harry Maule, who was in charge, was less than two years off retirement. In fact, he was beyond retirement age, but he was less than two years off his intended retirement. There were moves by the University of London Senate at that point, 1977, to close the Ergonomics Unit and the Ergonomics course; these were successfully parried by the Special Advisory Committee under Joe Weiner. Instead, I was recruited to take over the complex academic administration of the course, and permission was given to recruit a new Director of Studies. This time, it was important to recruit somebody who was strong at research, because they could see that a Director who was leading in research would benefit the Unit's place in the university. They recruited John Long, who was at the time a senior researcher at the MRC Applied Psychology Unit (APU) Laboratory at Cambridge, and who had completed his PhD under Donald Broadbent. He had a very strong track record in research and proved so, because within a few years, he'd brought in research funding and expanded the Ergonomics Unit from three to 20 people with a whole group doing Ergonomics research.

How did the Ergonomics Unit develop under John Long?

As part of John's taking on the job, in 1979 the Ergonomics Unit moved to the department of

The origins and survival of Ergonomics at UCL

Rachel Benedyk talks to Dominic Furness

Psychology, under the auspices of Bob Audley. It was felt that the teaching could be based anywhere because it was interdisciplinary, but the research needed a home. John was a Cognitive Ergonomist with a degree in Psychology and a PhD in Applied Research, and he knew he had to be in Psychology so that he could nurture the cognitive lines of research that he was doing through fruitful interaction with other psychologists. It was also important to make his publications count in the right domain, in the right department. The move to Psychology was initiated by Bob Audley who was the Head of Psychology at UCL in those days; he was an interesting man. He had no Ergonomics in his department, but he listened really well and he saw the potential. He was very keen to see the Unit survive and prosper. In fact, he went against the grain among some of his colleagues to admit the Ergonomics Unit to the Psychology Department. And in line with this, after some years the MSc Ergonomics Degree also changed from the Faculty of Engineering to the Faculty of Life Sciences, which also reflected the general move in Ergonomics focus from heavy physical work to cognitive work.

So, thanks to John Long being recruited, the whole Ergonomics Unit moved to Psychology. Psychology had just moved into the newly built Bedford Way Building. They had been in a much smaller building in Gordon Square. Although already a big department, they didn't fill the Bedford Way space at that time, so they had the space to offer. And of course, later on that became a difficulty, when Psychology grew much bigger and needed that space back.

Not long after that, Human-Computer Interaction (HCI) started to ramp up. So if you think about it historically, the culture, this was

in 1979 ... John came in the same year and the first PC landed on people's desks in 1983. So that was when HCI was invented. In fact, the first meeting of the British HCI Group, as it was to be known, happened in the Ergonomics Unit. It was convened by Tom Stewart, but it was a group of Ergonomics people, who thought HCI may be the way to go. And in 1984, we sat around in our meeting room and said we wanted to form a new group. I was there! But it was no accident that the meeting was hosted in the Ergonomics Unit; John Long and many of his research group were already exploring the HCI area; as he had been, with IBM, since his time at the MRC APU in Cambridge, from around 1974.

How did the teaching develop over this time?

The MSc Ergonomics course, under John and me, stayed as it was for a while, and then he decided that we needed not just to build the research, but to enrich and broaden the teaching. The first thing we did – I hope I'm getting this in the right order – the first thing we did from 1991 was offer a Diploma as well as an MSc, a Graduate Diploma, which was quite unusual. We were getting interesting applicants, who did not qualify to come in on the MSc, professional people, without a degree, that kind of thing. There were rules in those days that were quite strict about getting you in. The Graduate Diploma, which was a level between the first degree and the masters, the requirements for entry for that were less, so we could admit these people. Essentially, it was the same teaching as the MSc without the project, but with a lower pass level. Instead of 50%, it was 40%. So they could do exactly the same teaching and the same exams but

they could pass at a lower level and get the Graduate Diploma. And that was really good, because there were plenty of applicants who didn't need the research project because they were practitioners, or they wanted to be; they just wanted to get a qualification. We managed to get recognition from the Ergonomics Society for both degrees, which was really helpful. I was really pleased we did that.

The next major development, under John's influence and under the influence of his research group, and under his far-sighted recognition of the way the world was going, was to start to introduce Cognitive Ergonomics and HCI into the syllabus. John's own contribution to the course, called Foundations of Ergonomics, was really quite perceptive and he would move it in the direction that technology was moving, updating it every year. He gained professorial status, choosing the unique title Professor of Cognitive Ergonomics, and in his Inaugural Lecture in 1989 he integrated HCI into a unified framework, at a memorable event that attracted the biggest Inaugural Lecture audience UCL had seen for some time. It put John and HCI at UCL firmly on the University map. John got quite a name really for HCI research and teaching, and he started to be active in the British HCI Group and in CHI, Interact, and other places, and recognised that there was now a world movement in this area. In line with this, the focus of the research group then became Cognitive Ergonomics and HCI.

We decided, around 1992, that we should try and split our degree and offer HCI very specifically, as well as Ergonomics. But we didn't want to run two degrees, the overheads of that were too difficult. So, what we did was to run optional streams within the degree.

Unfortunately, though explicit, the option title was not exactly snappy. Students would do an MSc in Ergonomics, with an Option in the Human Factors of Human–Computer Interaction. Or they would do an MSc in Ergonomics, Generalist Option. Now, calling a specification a ‘general option’ is a contradiction in terms. It had to be called something, because it had to contrast with the HCI option. But it was in fact the original degree and the other one was a more specialised one. And what the HCI Option did was to omit the Applied Physiology and most Biomechanics from the timetable, and replace it with HCI and cognitive material. It was quite popular. It took off straight away, attracting an extra 20 or so students to the class. At the same time the generalist course was still strong.

Now, that went on for a few years, probably through to the late 1990s. It helped give us a firmer footing, because the numbers of students went up, from about 18 to about 40. And then a number of things started to have an effect. First of all, Health and Safety Legislation became much stronger in Britain, as a result of which a lot of companies wouldn’t let visitors in anymore. We stopped being allowed to go down a coal mine. We stopped being allowed to go to British Steel. It was becoming too difficult even to go to a food factory, partly also because our student group was now so large. And for companies, whereas they saw this originally as a way of building relationships with universities, which was approved by the government and so on, it turned out in the end, that those relationships were not the type the government had in mind. They would much rather it was collaborative research going on, or collaborative development, or that they provided placements for students. So running the course, in the form in which it

previously appeared, was becoming very, very challenging. And every year, we were tearing our hair out saying, this visit has dropped out; what can we replace it with?

In addition, calling something a Generalist Option did it no favours. People didn’t really see it for being a strong course. They saw it for being a dumping ground for everything. What we recognised was, when we looked around the country, all the Ergonomic courses had become specialised. John recognised this as a sign of a maturation of the discipline. In the end, it becomes diversified and it becomes specialised. Then, you don’t have any general courses anymore; or, if you do, they are foundation courses and you move on from there to specialise. Psychology was going in that direction, for example. Nobody actually got a job as a psychologist: they became a specialist psychologist. So, at that time, Nottingham had set up a specialised course in Manufacturing Ergonomics, Birmingham had gone to Engineering Ergonomics, Loughborough had specialised in part-time students, Surrey had become Medical Ergonomics. So John said, right, we’re going to be the HCI Ergonomics. As a result we changed the name of the Unit from the Ergonomics Unit to the Ergonomics and HCI Unit, which was a start to develop that identity. We wound down the Generalist course and focused on the very successful HCI with Ergonomics (HCI-E) course that we have today.

A second lecturer was recruited to teach HCI and also to carry out research in that area. That lecturer was deliberately a Cognitive Ergonomist or an HCI person, in order to teach the HCI option. The first HCI Lecturer was Andrew Life and then it was Peter Timmer, and finally, in John Long’s era, the post was shared between Becky Hill and Steve Cummaford. We were also

successful in being awarded student grants from the government which helped support students.

What challenges did the course and the group face?

The course and the group were successful and productive in the 1990s, but behind the scenes there were a number of complicated things going on; different movements that presented several challenges. Firstly, the Government withdrew the student grants for established MSc courses like ours, meaning that all students had to support themselves. Then, the College was setting new targets of numbers for the course. We were under threat if we didn’t meet the targets, because we had to be financially viable. Next, we lost the support of two of the outside colleges because the people who were interested had moved on or the colleges themselves didn’t have the wherewithal anymore, so the students were no longer registered there. In addition, the University of London, the overarching organisation, was being basically re-scoped and responsibilities were being devolved to the other colleges. Big colleges like Imperial and UCL were fighting for independence. The University ended up devolving the management of our course and it had to be devolved to one place. So (thanks to Bob Audley) it ended up at UCL, and we no longer registered students at any other colleges. The big board of governors, the SAC, that we’d had over at Senate House disappeared. And with it, so did any independence that we had had, any autonomy, because now we simply were hidden within the machinations of a huge UCL department. One of the main fallouts from that was we didn’t have direct control of

The origins and survival of Ergonomics at UCL

Rachel Benedyk talks to Dominic Furness

our own money. And indeed, we didn't have any rights to any money other than through the Psychology Department, which gave us much less independence. It was very difficult to handle that.

Thus, in the mid 1990s movements began in Psychology to edge the Ergonomics and HCI Unit out – Bob Audley had retired and there were other issues, such as QAA starting to come in – the Quality Assurance – and the RAE, which is the government assessment of departments for research money. The criteria of that, at the beginning certainly, are research publications and research contract money. There was pressure on our group because each department had to choose a theme for research publications, and the theme that was chosen by the UCL Psychology Department was Experimental Psychology at that time. There wasn't any way you could easily shoehorn HCI and Ergonomics publications into Experimental Psychology because we used to publish in *Behaviour and Information Technology* or *Ergonomics Journal* or *International Journal of Man-Machine Systems*. And none of these are the *Journal of Experimental Psychology*! Indeed, we didn't even have an experimental lab. So the message seemed to be: 'you don't fit; you're not going to get us any brownie points; we could do with your space; we're expanding'. There was big pressure to edge us out and possibly to close us down.

Now, for a few years, John Long, who was a skilled negotiator (learned, no doubt, from his experiences as a line manager with Shell Oil International), defended our back successfully. I don't know how he did it, but he was spending half his time trying to fight the politics. It was really difficult, but he did it

really well. And so for a while, we survived. And then came the fact that he was nearing retirement age and he wouldn't be in the job anymore, after a while. The Department then said, right, at that point we're closing you, because they reckoned – and in this they were correct – about 80% of the people who worked at the Ergonomics and HCI Unit were there because of John, because they were his research group. There was a very big research group full of PhD students, and RAs and they had four or five contracts going on, etc. But if he went, they would go too, because they were all on soft money. So Psychology said, oh well, in that case, you're going to go down to only these few people and your research is not of much note, and the degree that you're teaching is only partly Psychology; we're not bothered about it, and you only have this small number of students compared to the very popular Psychology degrees.

Psychology colleagues accused us of being isolationist, because in a sense, we were self-sufficient. Apart from the occasional small collaboration or joint teaching venture, essentially we were doing other things. For example, our main professional conference every year was HCI or Ergonomics. It wasn't a Psychology conference. So you could see why they thought that.

We tried to shore up our presence in the department. We started teaching an Ergonomics and HCI undergraduate course unit and we started doing undergraduate seminars, tried to be a more active presence. At the same time, we began developing collaborative links in the Computer Science Department, with Angela Sasse, Anne Adams, John Dowell among others. Various joint research activities began, and we contributed some teaching to CS courses.

Anyway, John's retirement was due for 2001, and so our survival was threatened yet again. However, John managed to get Ol Braddick, the HOD at that time, to agree to a major independent review of us, rather than just shut the door. This review happened in 1999. We contacted all the people, from many organisations, who had helped us with the teaching or the research over the years, and we got approbationary statements from all sorts of different places, from other institutions, and from the International Ergonomics Association. Many external colleagues in the world of HCI and Ergonomics thought very highly of our teaching and research, and even that we were a centre of international repute. Essentially, they opened up awareness at UCL of our value, and they gave reasons why we shouldn't be closed down. And it worked somehow. I don't know how it worked, but it worked. The Review made some strong, positive recommendations and conditions for our survival, which were implemented, much to his credit, by Ol Braddick.

What changes followed the success of the review?

The fallout from this was a number of things which have shaped the UCL Interaction Centre today, really. The number one was that Psychology agreed to the Unit continuing, but only as a joint inter-departmental venture with the department of Computer Science, splitting the responsibilities, housing and finance between them. We had to become a two-department group, with neither of the departments able to take us in our entirety. It was not only a resources thing, to do

with how much it cost to provide space and salaries, but also a recognition that the mix of disciplines was important for HCI activities.

So, now we belonged to two departments and neither department at first provided the best kind of support at all. For example, technical support was hard to set up. So when you belong to two departments, you can actually end up falling through the cracks. It was hard to know where we belonged.

All the students continued to be registered with Psychology, and stay in the Faculty of Life Sciences, but the numbers would have to go up to keep the course viable. This put considerable pressure on the recruitment and teaching side of our activities.

And then John had to be replaced. A new Director had to agree to build up research that was going to have the same international impact as John's had, in order to maintain the repute of the group. The person they recruited was Harold Thimbleby. Harold had grand ideas about what he was going to build. He also managed to engineer a swap of space. There were several satellite groups of the Psychology Department by then, because it was now the biggest Psychology group in Britain, and didn't have enough space in Bedford Way, so other groups were based out in outlying buildings. The Ergonomics and HCI Unit was very short of space in Bedford Way but they couldn't give us any more. Harold managed to broker a deal by which we swapped space with the Hypnosis Group, who wanted to come into Bedford Way, and we were able to move into their bigger space in Remax House.

Of course, there were two consequences of that. One was that Remax House was geographically very isolated from either department. Now some of us were OK with this. It

brought UCLIC people together with UCLIC people and we managed fine on our own. But others were frustrated, because they wanted to have cross-fertilisation with other academics and so on. And the other thing was that there was only a four-year lease left on Remax House and it was going to close. This was known right from the beginning. What would happen then? This was about 2003.

Harold left in 2005, to go to Swansea, where he has founded the FIT Lab (with whom we have collaborated since), and Ann Blandford, who had been his deputy here, stepped into Harold's shoes. When she took over, she made her own conditions, because she had seen what had gone wrong previously in the two-department set-up. She brought UCLIC gradually to a more secure situation. She also looked ahead to when Remax House was closing, and worked out a way to resolve it, so that we have ended up in our current improved premises in the Malet Place Engineering Building, close to both Computer Science and Psychology. We contribute to teaching in both our parent departments. The research group has expanded, the academic staff has grown to six, and HCI and Ergonomics are firmly part of UCL now. The postgraduate course in HCI-E has modularised, and the number of modules on offer has grown. It has its largest student numbers ever this year, and our alumni are well established in all sectors of the profession.

What do you conclude, at the end of these personal reflections?

The fact that UCLIC still exists is really rather miraculous. What had started off as

something extremely innovative, which was to be an interdisciplinary group, became really a sort of Achilles heel in terms of our identity within the university and our ability to persuade people to support us. The history of this group, and of Ergonomics at the University of London, is a history of attempting to survive in the face of people who had other priorities. That has been tricky. Other Ergonomics courses have gone under in the face of such pressures within universities; Birmingham is an obvious case.

Why is it that Ergonomics and HCI have always had to fight their battles, to persuade people, because somehow we're not owned by anybody in particular? Our value is actually that we work between disciplines. But you reflect that into an administrative structure that doesn't quite fit a university, and you find it's a weakness. It gives you less foundation and less support. Historically, the reason why we have ended up surviving has been entirely due to strong people fighting the fight, John Long being a major one.

Nowadays, things are a lot more positive, and interdisciplinarity ticks the boxes for universities; at UCL it is quite the flavour of the month for research funding and for UCL's mission! The UCL Interaction Centre has recently been held up as a role model for other research groups. And our Ergonomics and HCI teaching – well, it's not the course that it was 30 years ago, but nor should it be – it's a successful and respected course for the 21st century.

Reminiscence Systems

Maurice Mulvenna, Arlene Astell, Huiru Zheng & Terence Wright

The Reminiscence Systems workshop presented nine papers and was held at Churchill College, Cambridge on 5 September 2009, as part of HCI 2009. Intentionally, the papers reflected the broad swathe of academic and care-based disciplines that are involved in the research and provision of services using reminiscence systems. The papers are published at <http://ceur-ws.org/Vol-499>.

The first short paper 'Reminiscence Systems', by Maurice Mulvenna, Huiru Zheng, and Terence Wright, provided an introduction to the area of reminiscence systems and described some of the technologies that impact or will impact in the design of such systems.

The second paper 'REAFF – A framework for developing technology to address the needs of people with dementia', by Arlene Astell, described a protocol that provides guidance on the development of technologies to support people with dementia. The set of principles has been developed from needs-based research but it is argued that they have a broad applicability to aid those seeking to develop technology to support all people with dementia.

The paper 'Computerized personal intervention of reminiscence therapy for Alzheimer's patients', by Vardit Sarne-Fleischmann, Noam Tractinsky, and Tzvi Dwolatzky, provided early usage results of a multimedia-based reminiscence system, which show high satisfaction levels from those using the system as well as a strong tendency towards repeated use. There was also a clear preference for personal rather than general material when both were available in the prototype system. Participants without dementia using the prototype system said they preferred personal items. However, generic items, which are easier to source, have

been shown to prompt recollection of personal memories successfully.

The paper 'Reminiscence Processes Using Life-Log Entities for Persons with Mild Dementia', by Josef Hallberg, Basel Kikhia, Johan E. Bengtsson, Stefan Sävenstedt, and Kåre Synnes, explored the use of life-logs to promote autonomy for people with mild dementia by helping to maintain episodic memories. An early prototype of the tool that enables a person with dementia to review their day's activities was presented.

The paper 'MemoryLane: Reminiscence for Older Adults', by Sheila McCarthy, Heather Sayers, Paul McKeivitt, and Mike McTear, examined the use of story telling as a socially beneficial activity for older people, where the telling of stories of past events and experiences defines family identities and is an integral part of most cultures. The reminiscence system described was a mobile-based device designed to enhance the reminiscence capabilities of older people, employing techniques from artificial intelligence to create an adaptive interface for them.

In her paper, 'My Stories are My Identity', Sarah Reed described the use of her card-based technique with residents and staff from care homes. She describes how the cards can also be used in inter-generational work where local school children use the cards as aids to trigger conversations with the residents of care homes.

The paper 'Experiences with a Publicly Deployed Tool for Reminiscing', by Dan Cosley, Victoria Schwanda, S. Tejaswi Peesapati, Jonathon Schultz, and Jonathan Baxter, described work on a system called 'Pensieve'. The system was designed to prompt people to reminiscence using emails with textual prompts

or social media content. The research found that users valued the system and that prompts with images interestingly drew more responses, but less thoughtful ones, than textual prompts.

In his paper 'Drawn from Memory: Reminiscing, Narrative and the Visual Image', Professor Terence Wright discussed the value of photographs as triggers for reminiscing, using case studies from several research projects that demonstrate personal reminiscences as well as social memory. He explored the function of photographic-based images as memory aids or as stimuli for reminiscing, placed in the context of the narratives that can be constructed around the image. Interestingly, he discussed the search for 'narrative potential' in construction of material for one of the projects, thus mirroring the concept of significant life events that make up the 'reminiscence bump' (the period of life, around 15–30 years, in which most major 'life events' are found) in the sense that both are rich sources for key potential reminiscence triggers.

Finally, the paper 'Group Reminiscence Intervention for Institutionalized Demented Elders in Taiwan', by Jing-Jy Wang, described research that explored the significance of using group reminiscence therapy for dementia elders in order to promote their health and quality of life. The reminiscence intervention demonstrated effects for alleviating depressive symptoms and cognitive impairment; however, it did not show any effectiveness or increase in behaviour competence and physical functioning in elders with dementia.

In the workshop, we broke into several groups, tasked with the identification of problems and/or issues with research in reminiscence systems. Initially the discussion on problems touched on the usability of interfaces

for reminiscence systems, and there was a lively debate about the 'learnability' or 'instinctiveness' of such interfaces, in terms of their ability to cope with users' perceptual or cognitive abilities; in essence, how can reminiscence systems take cognisance of the user's thinking processes; for example, how do we know if people enjoy reminiscing? There was also a discussion about the growing use of reminiscence therapy, for example in care home settings, and the potential danger in reminiscence work being seen as an activity that people can be encouraged to use because reminiscence systems can alleviate the burden of care of staff in such care homes. The debate moved on to discuss who is in control of a reminiscence system. Is it the carer, or the person seeking to reminisce? Allied to this was a useful discussion on content. Should content in a reminiscence system be personalised, with the attendant complexity with respect to ethics, security and maintenance of such content? Should personal content be shareable? Do owners of content risk the loss of control of their material? How should generic material be sourced? There are significant issues in terms of copyright violation, for example in showing excerpts from 'Gone with the Wind'. The discussion also raised issues with the design of reminiscence systems, specifically in determining their geographical and cultural specificity. Just how generic is a generic image?



Maurice Mulvenna, MBCS, CITP is Professor of Computer Science at the University of Ulster, researching artificial intelligence and pervasive computing in policy areas of social inclusion, to support ageing, disabled and other vulnerable groups in society. He is a grant holder on several pervasive computing research and innovation projects.

Arlene Astell, CClinPsychol, is a Senior Lecturer in Psychology at the University of St. Andrews, investigating creative applications of technology to support people to live and age as well as possible. She has been principal investigator on several grants to develop novel technology.

Huiru Zheng (PhD, MSc, BEng) is a Lecturer in Computer Science at the University of Ulster. Her research area includes biomedical informatics, assistive technology, and intelligent data analysis. She is a grant holder on several research projects to support people with chronic diseases.

Terence Wright is Professor of Visual Arts at the University of Ulster. He specialises in photography, digital media and interactive ethnography. He is the author of *The Photography Handbook*, 1999 (Routledge) and *Visual Impact: Culture and the Meaning of Images*, 2008 (Berg).

We would like to thank all those who contributed directly at the workshop, either by presenting their work or by contributing to the varied discussions. This included: Etienne Abrahams, Johan E. Bengtsson, Dan Cosley, Sheila McCarthy, Daniel Nagler, Sarah Reed, Vardit Sarne-Fleischmann, Ponnusamy Subramaniam, Jing-Jy Wang.

Finally, there was enthusiasm within the workshop group to work to coordinate future research activities, perhaps towards research funding within the UK or internationally to grow international collaborations. To keep interest active in this area, the group will coordinate the development of extended papers towards a special issue of the *International Journal of Computers in Healthcare*. Email md.mulvenna@ulster.ac.uk if you want to learn more!

Create10 the interaction design conference

30 June – 2 July 2010, Edinburgh Napier University, UK

Ingi Helgason

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For the last three years the Create conference has been staged at the British Computer Society in Covent Garden and has progressively grown in size each year. This year, the conference has moved north to Edinburgh Napier University.

The Create conference centres on interaction design, a young discipline with roots in human-computer interaction, ergonomics, product and graphic design, multimedia and art. An interaction designer is a difficult person to pigeonhole and can be found in mobile phone companies, consumer product manufacturers, design consultancies, as a single practitioner, or within academic computing and design departments.

Conference venue

The conference will take place at the Merchiston Campus of Edinburgh Napier

University. The Campus is a unique blend of the past and present. It incorporates the 13th century Napier Tower where John Napier was born in 1550, and the Centre for Interaction Design research group is home to initiatives such as the Future Living, Future Life project. This project showcases the state-of-the-art future meeting room equipped with the latest in touch and multi-touch technology. There will be opportunities to see this facility in action at the conference.

<http://www.futureinteractions.net>

Theme: Transitions

To reflect the move north, the theme of the event is Transitions. These could be analogue to digital, academic to practice, place to time or real to virtual. As well as academic papers, we have invited case studies of innovative design from the commercial, academic, public and research sectors. Cases may come from any paradigm – the web, mobile and hand held, products or consumer electronics. The committee has particularly encouraged submissions from students. They will be given the opportunity to showcase and discuss both finished work and work-in-progress in a supportive environment.

Good interaction designers need to possess creative skills from both the arts and sciences. For the organising committee, this offers an interesting challenge. How best to schedule a conference that appeals to those with deep technical interests as well as those with more artistic perspectives who may come from academic or practitioner-based backgrounds? The move to Edinburgh has allowed the conference to extend to three themed days so, if need be, delegates can be more selective by attending just for one day.

Exhibition showcase

We will also be holding a public showcase event where we will display exhibits by the winners of our student design competition, a new venture for this year, alongside the jury of design practitioners. The jury consists of Dr Shaleph O'Neill, Exhibition & Student Competition Chair; Mark Daniels, curator at Inspace; Anab Jain, designer and a TED Fellow; Crispin Jones, product designer; Di Mainstone, designer of wearable installations, and Christopher Pearson, Motion Graphics and 3D Designer. This exhibition will be held in a recently opened exhibition and gallery venue called Inspace, a public engagement facility that explores the cultural significance of informatics and new media practice. Inspace website: www.mediascot.org

Digital Creativity Journal

Finally, we have agreed with the journal *Digital Creativity* that successful papers and student submissions will be invited to submit their work for potential publication. Therefore, we welcome high quality ponderings, proposals, prototypes and presentations from members of the interaction design community who want to share their creativity with others.

www.create-conference.org

create10
innovative
interactions





Keynotes

We have three keynote speakers to reflect our themed approach for each day.



Mika Tuomola is founder and artistic director of Crucible Studio at the Media Lab of the University of Art and Design

Helsinki, and has produced highly innovative interactive TV productions. His productions include 'Alan01' (TaiK 2008) about the life and death of Alan Turing, avatar/game world designs for 'WorldsAway' (ICL-Fujitsu 2000) and the dark musical comedy series 'Accidental Lovers' for television and mobile devices (TaiK & YLE 2006). The concept of 'Lovers' won the New Media pitch of the Banff 2003 television festival, while the production was short-listed for Interactive Program Enhancement category in Banff World Television Awards 2007.



Jason Bruges produces innovative installations and bridges his work between architecture, interaction design and

installation art. He was nominated for a Brit Insurance Design Award for his 'Panda Eyes' installation, originally created for the World Wildlife Fund. Wallpaper magazine recently recognized Jason as one of ten world changing designers with their 'essence of the 21st Century' competition, and he was also listed in Design Week's 'Hot 50' 2009. The Jason Bruges Studio was commissioned to produce 'Mirror Mirror' for Decode: Digital Design Sensations, the new exhibition at the Victoria and Albert Museum.



Prof. Ernest Edmonds of the University of Technology, Sydney, is one of the rare academics who has successfully brought

together human-computer interaction, creativity and art. A pioneering digital artist, he has explored time, interaction and human-human communication for 40 years as well as developing a world leading programme of research into creativity and human-computer interaction. Currently he is Professor of Computation and Creative Media at UTS, where he leads a multi-disciplinary practice-based art and technology research group, the Creativity and Cognition Studios.



HCI 2010

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The Man from Maryland he say Yes!!

**Ben Shneiderman to give opening
Keynote in Dundee**

Excuse me if I seem to be departing from my usual laid-back, phlegmatic approach to life (those who know me can keep quiet at this point!!), but this is rather momentous news. Ben Shneiderman (Yes, THE Ben Shneiderman) has agreed to visit the sunniest city in Scotland in late June (that's Dundee, for the cynical!). Even better, while in town he's going to give the opening keynote at the BCS HCI Conference 2010, at the University of Abertay Dundee.

For those of you who don't know the man, let me give a little background. Ben (I hope he'll forgive the familiarity ☺) is from New York, the Bronx to be precise, and he completed all his education through to PhD (1973) in the city. He is regarded as one of the pre-eminent HCI researchers in the world, was a Founding Director of the Human-Computer Interaction Laboratory at the University of Maryland from 1983 to 2000, founded the ACM conference on Universal Usability (an area of research that he both defined and led), and received the ACM CHI Lifetime Achievement Award in 2001. Thankfully, he didn't regard the CHI award as terminal, and he has continued to work as a Professor at the University of Maryland, extending his work on information visualisation to the development of creativity support tools. Ben's early work was on software engineering visualisation, particularly focusing on structured flowcharts, leading to the development of Nassi-Shneiderman diagrams. In the 1980s he published texts on *Software Psychology: Human Factors in Computer and Information*



Systems (1980), and his highly regarded, and very widely used, textbook *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (1987), which is now in its 5th edition (2009). From 1991 onward, Ben's research concentrated on information visualisation, and over nearly 20 years he has been responsible for many influential and important research projects, particularly Spotfire, TimeSearcher, Hierarchical Clustering Explorer, and, more recently, SocialAction. He is also responsible for the development of the Treemap concept, which has resulted in a number of research and commercial implementations, and is still available for educational and research activities. He has been given numerous awards for his work, is a Fellow of the ACM, a Fellow of the AAAS, and has just been elected to the National Academy of Engineering in the US. His 2002 book *Leonardo's Laptop: Human Needs and the New Technologies* won the IEEE 2003 award for Distinguished Literary Contribution. For those of you who want to

know more, and there is lots more, details can be found at <http://www.cs.umd.edu/~ben/>

Ben is now actively engaged in activities and lobbying to promote Social Involvement in Science, and his keynote address at the HCI 2010 conference will be on "Getting Serious About Social Media: Strategies for Increasing Civic Participation".

HCI 2010 will run at the University of Abertay Dundee from 6th – 10th September. The first two days are dedicated to workshops, tutorials and a PhD doctoral consortium. The conference proper will then run from the 8th – 10th September.

Ben Shneiderman will give the opening keynote on the morning of the 8th September, and we will have an active programme of research and industrial papers, panels, demonstrations, and social events. There will be another keynote from a major figure in the Computer Games industry, about which we will be making an announcement nearer the time of the conference.

Registration will open shortly. Please watch the website for details of the conference programme as it emerges, and for details of further keynotes, demonstrations, interactive activities, and the social programme. Follow us on Twitter or Facebook for the latest news.

We look forward to welcoming you all to sunny Dundee for BCS HCI 2010 in September!

www.hci2010.org

twitter.com/hci2010uk

facebook.com/group.php?gid=268771479330



BCS HCI 2010 on the Silvery Tay

In September, the 24th BCS HCI conference comes to Dundee, located on the north shore of Scotland's longest river, the Silvery Tay. Dundee is also Scotland's sunniest city, so while leaving your umbrella behind might be a little risky, rest assured September is still summer here!

Dundee is a hotspot of HCI research and development activity. The conference's host institution and location, the University of Abertay Dundee, is a centre of excellence in computer games research and development, located as it is close to Dundee's digital media hub, and this focus is reflected in the conference theme 'Play is a serious business'. Abertay established and runs the hugely influential 'Dare to be Digital' computer games design competition, which annually attracts teams from around the world to create a new game prototype.

Just up the road, the University of Dundee's School of Computing has been a long-time pioneer in HCI research. It hosts one of the world's largest and most influential research centres on technology design for disabled and older people, and also has a developed a reputation for excellence in interaction design and design ethnography research and teaching.

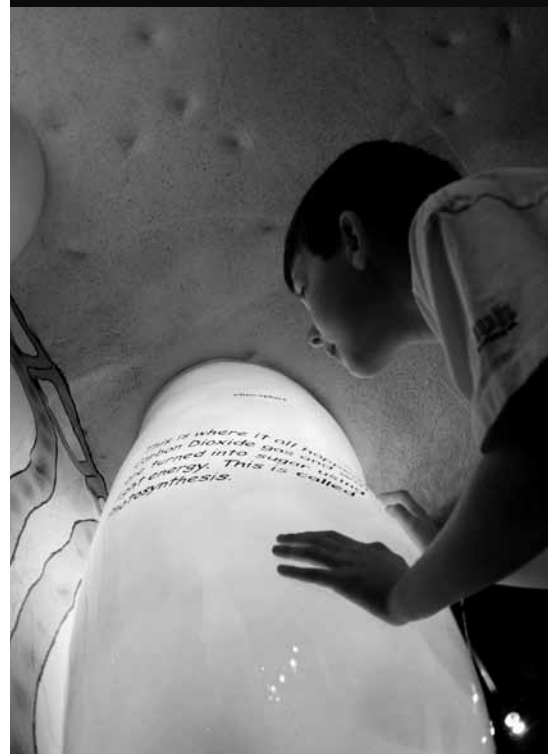
The conference will include evening events at two of Dundee's most interesting visitor attractions. An opening reception will be held at Sensation, the city's award-winning family science centre, while the conference dinner will take place aboard the Frigate Unicorn – a former Royal Navy wood-built warship launched in 1824 and now anchored in Dundee's City Quay.

Dundee city centre is compact, so all conference venues and major attractions are within easy walking distance. While you're here you might want to visit the Discovery, the ship that took Captain Scott to Antarctica in 1912. Or, after you've politely asked questions of the conference speakers at the end of their talks, go to the Verdant Works, a wonderful demonstration of Dundee's jute industry, and find out the origin of the word 'heckling'!

The city's cultural quarter is located on the edge of the city centre, between the two universities, and both Dundee Repertory Theatre ('the Rep') and Dundee Contemporary Arts Centre (DCA) are worth checking out for exhibits and performances, and as great places to eat and drink. The newly refurbished McManus Galleries, close to Abertay, are also well worth a visit. Good pubs and restaurants are particularly easy to find on the Nethergate/Perth Road, in the city's West End, or further afield in Broughty Ferry; and the attractions of St Andrews are only 13 miles away.

Getting to Dundee is easier than you might think. It's located approximately 60 miles north of Edinburgh – just over an hour's train ride along one of the UK's most scenic railway lines. Frequent direct rail services connect Dundee with London and all points north on the East Coast Mainline, and there are also direct services from Birmingham and the South West. By air, there are direct flights from London City, Birmingham and Belfast airports to Dundee; Aberdeen and Edinburgh airports provide alternative air access from across the UK and Europe. Dundee airport is a 5–10 minute taxi ride from the city centre.

Images clockwise from top: Library, University of Abertay Dundee; City Quay and the Unicorn; RRS Discovery; Sensation Dundee. Images © Dundee & Angus Convention Bureau. Used by permission.



Josephine Reid

talks to Jennefer Hart

Josephine Reid is currently the Creative Director of Calvium, a company that enables people to build exciting mobile applications based on sensors and context, www.calvium.com.

Jo was formerly a senior researcher at Hewlett-Packard Laboratories working in the Pervasive Computing Laboratory. Whilst at HP she helped to design, lead and analyse a number of field trials to test the value of situated mediascapes and mobile and pervasive technologies. Her research has involved several experiments, observational studies, knowledge elicitation interviews, field trials and concept prototyping, giving Jo expertise in experience design and user centred research, specialising in mobile location aware experiences or mediascapes.

Jo has also worked for Texas Instruments on information engineering expert systems and prior to that Jo worked for Xerox on HCI prototyping systems. She holds an MBA, a BSc in Computer Science and is currently working on a PhD researching how people make sense of pervasive technologies and environments.

Can you explain what *Experience Design Research* involves and give an example of a recent research project you have worked on?

Typically this involves the development of research field trials, conducting evaluation studies and using the results and insights to drive the direction of technology research in order to build up and publish guidelines for experience design. For example, I have just conducted a study of an immersive theatrical game experience called *Last Will* from which we gathered 158 questionnaires and conducted 31 interviews. This experience was a collaboration project between HP Labs, Punchdrunk, Hide&Seek and Seeper, which involved players exploring rooms in an eerie Victorian mansion using tangible interfaces to solve puzzles and enact solutions.

What was your main motivation and influences that led you to work as a researcher within the HCI arena?

I have always been interested in how people can use and apply technologies. Whilst I appreciate the need for well designed and engineered systems it is at the point that technology touches people that most interests me.

Your most recent research work has focused mainly on mobile and pervasive technology. What interests you most about this area of research?

The new opportunities that this technology offers will be available to everyone for socialising, entertainment, new businesses and ways of working.

You have worked with a variety of artists and designers to create rich and immersive experiences. What are the benefits gained from creating these collaborative projects and what have been the main challenges?

Artists stretch the boundaries of technology and apply them in novel ways. The challenge is in positively managing the creative tension that you get when you work in mixed discipline teams.

What has been the most enjoyable project you have worked on so far and why?

My fondest memory is of a small project I conducted back in 2001 called *Zap Scan*, which demonstrated that engaging, fun experiences can be made from everyday office technology. *Zap Scan* was a prototype which we installed in a hands-on science museum called *Explore* at Bristol. It was a very simple idea and design which comprised a drawing desk, a scanner and a digital picture frame. Children could sit and draw on paper with crayons and then scan in their creation with the press of a single button. Their artwork would then be displayed in an electronic picture frame which members of the general public could see. Optionally they could also print out their image on a glossy card with a personalised greeting.

The reason I loved the project was because the whole process was enjoyable. We tested the value proposition with lots of school children, the design was simple and robust, and in the end it proved to be so popular that the museum asked to keep it when originally it was only planned for a month's trial. It stayed there until it fell apart and I am happy that something that I designed was used and enjoyed by a lot of people.



Your work has been involved in shaping the design of the location based applications known as *mediascapes*. Can you explain what they are through describing one of your favourite mscape projects?

Mediascapes are a new medium that incorporates sensory and mobile technologies to deliver a context sensitive experience. One of the simplest forms of mediascape uses GPS as a location sensor to automatically trigger the playing of media on a handheld computer, based on movement. For example *Riot! 1831* was an audio drama set in Queens Square in Bristol based on the real events that took place there during three days of rioting. Over fifty vignettes overlaid the square triggered by your movement, the experience was designed to make you feel as if you were walking through the crowds and eavesdropping on the conversations to hear the different events unfold.

Are you planning any new projects using mediascapes?

The big opportunity now is to open up the capability to create location and context sensitive applications to more and more people and that is what we are setting out to do in our startup company Calvium, www.calvium.com. The rampant growth in the smart-phone market has meant that many of the sensors and capabilities we used to have to prototype using custom hardware are finally available as easy to use products and so now we can work with many more designers and creative media artists who want to create compelling mobile experiences for the growing new market.

As an experienced researcher you have used a variety of different research methods.

What has been the most insightful research method you have used and why?

Rather than a particular method I find the most insightful aspect of our research is our approach. Working as part of a multi-disciplinary team I value the ability to prototype solutions that are robust enough to be used in field trials. I am a firm believer that feedback based on real experience is far more meaningful than speculation about a future scenario which is unfamiliar or untried.

How do you see the future of research in HCI, say in 2020?

Social systems, mass authoring and pervasive technologies will mean that spontaneous systems and processes will emerge from the grass roots rather than from established companies and manufacturers. Research will need to be able to address the dynamic nature of these new emergent designs and processes and highlight opportunities, dangers and consequences of them.

Now for some questions about you

When and where were you happiest?

Jon proposed to me at the very top of the Empire State Building and so for a while I was the happiest and highest person in New York.

What is your most treasured possession?

My health

How do you relax?

Wine, hot bath and a movie!

What (if any) objects do you always carry around with you?

I am definitely a bag lady. I don't feel quite right if I am not carrying one on the street and I tend to stuff lots of things in my bag.

What is your favourite word?

I like synergy. It's positive and energetic but is a bit over used.

What was your favourite childhood toy?

My dad used to moan that he would spend a fortune on presents and I would spend most of my time playing with the boxes and packaging!

What is your favourite building?

My new house

What is your favourite journey?

On a summer evening riding on the back of Jon's motorbike alongside the river in the Wye valley is just lovely.

What has been, or who is the greatest love of your life?

For years it was just me and my daughter Jenni but now I can also add my fiancé, Jon.

Where in the world is your idea of paradise?

Our garden is a paradise in the making but for sheer relaxation sitting in an infinity pool looking out to sea over a beach in Southern Thailand was sublime.

What makes you feel most sad?

That my father died so young

What single thing would improve the quality of your life?

Two good legs rather than just one

What is your idea of happiness?

A glass of red wine, a full belly and a nice sunset shared with my family

Mobile contextual data for hands-on learning

Susanna Martin

The decision for me to do a PhD was taken somewhat spontaneously. Although I had decided to do a PGCE, when I learnt of the opportunity to do research in this area I decided to apply. This has been a great opportunity for me to combine my interest with education with my love of technology. Coming from a psychology background I have experience in running quantitative and qualitative experiments allowing me to consider questions from different angles to how a computer scientist or educationalist might think.

About my PhD

My PhD sits within a multitude of fields touching on education, science, computers, and outdoor learning, to name a few. The key theme running throughout my research is to establish the role context can have on learning and motivation in school children. By understanding what kind of information helps children we can disseminate this information and work with educational software producers to improve learning tools.

The fundamental theme of my project is based upon work from Participate (Stanton et al 2003, 2005), a three year project with ScienceScope and Bath University investigating school science. Their work highlighted the role of context for learning and also noted the role of automation, with students seemingly gaining more from work that they had to put together themselves in comparison to having this automated by software. Building on work by researchers such as Pea (2002), Resnick (2000), Rogers (2004) and Zoldosova (2006) I hope to gain a greater understanding of experiential learning and how technology can be used as a method for engaging students in science.



Picture of a graphical Data Logger with sound sensor attached

My research

In order to investigate the idea of context I have spent time with students during field trips to establish how schools currently use data loggers. The data loggers allow collection of context data such as photos and GPS information, which allows us to investigate the effect this has on the students' learning and motivation. It has been invaluable to see how students interact with the loggers both inside and outside of the classroom, especially back in the classroom when connecting the loggers to computers.

In addition to this field study I have run a mixed methods experiment that investigated how collecting data and producing graphs can influence students' learning and motivation. This experiment was designed to fit into the school curriculum, enabling me to see how data loggers and context can be combined for everyday learning. The experiment centred on students collecting sound level data that

they used to produce graphs and answer questions on them. The student either got to go outside and actively collect data, or stay inside for a talk on sound data. Each student then produced two graphs, one based on their own/their partner's data and one based on pre-collected data. In addition to the data collection factor, the students produced graphs in different ways; the students used computer software, drew graphs by hand or annotated pre-produced graphs. This meant we could compare different levels of interaction for data manipulation.

To test the effect of our interventions a pre and post-test was developed to gain quantitative data to show how the graphs each student produced influenced how they responded to questions. To provide more in depth data students were also asked a range of qualitative questions. In addition this quantitative data was supplemented by video taping the whole experiment.



I work as a member of the CREATE group at the University of Bath. As a research group we design, develop and evaluate co-present and distant collaborative learning technologies. We also evaluate technology for educational use and explore the use of technology in the urban environment. My research centres on mobile technology and in particular the role of learning outside the classroom and the impact of gaining context to support this learning.
 smm30@bath.ac.uk

This experiment found that our intervention showed a greater effect on motivation than learning. In particular students who collected their own data more often indicated that they felt more comfortable working with, and more able to explain, their own data than with data collected by a researcher:

Because it is my own personal data that I have researched and found it is better than working with someone else's data.

I like working with data I have collected as it means I can make a connection with the data on the graphs and the time that I spent collecting I think it also gives me a better understanding than using pre-collected data.

This experiment also highlighted some important methodological factors. In order to obtain quantitative data I employed the use of pre and post-tests; however, the students found this tiring and frustrating, and by the end of the day many of the students were not completing the post-tests. From this, and by talking to the students and their teachers, it has enabled me to see how I can improve my future experiments.



Three students during graphing experiment collecting sound data from a pond on campus

Looking to the future

I am currently working on an experiment to investigate what qualities within media produce context. I am interested to see whether dynamic media, like video, can provide more context than static media, such as photos. By establishing how students use context we hope to develop new data logging equipment that incorporates the ability to capture context. In addition, I am hoping to continue investigating automation in technology, by looking into geotagging with data and maps. I am interested to learn whether automation takes too much control from the students.

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Two students collecting water flow recordings during an Environmental Science field trip

My PhD

If you are a PhD student just itching to tell the world about your research or if you've enjoyed reading about some of the emerging areas of research that the My Phd column has recently discussed then we would like to hear from you. We are currently accepting one to two page summaries from PhD students in the UK and across Europe with a focus on being open and accessible to everyone in the HCI community.

If you would like to submit or would just like more information please contact Stephen Hassard using the contact information below.

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 Gower Street London WC1E 6BT

Interfaces reviews

Shailey Minocha

We have two book reviews for you in this edition of Interfaces. I hope you enjoy the reviews and find them useful.

About our reviewers

Benjamin R. Cowan is a 3rd year PhD student at the University of Edinburgh's Institute for Digital Communication (IDCOM). His research focuses on the experimental exploration of the wiki user experience for wiki users in higher education. Benjamin has presented on the topic of wiki anxiety, wiki usability and experience at both IADIS 2008 and BCS HCI 2009.

Xristine Faulkner is a Reader in HCI Education at the Department of Informatics, London South Bank University where she has lectured since 1990. She currently teaches HCI, usability engineering and social technology. She is the author of a book on HCI and one on usability engineering. Her current interest is in the area of social technology and especially interaction on forums.

Please contact me if you want to review a book, or have come across a book that you think should be reviewed, or if you have published a book yourself recently. I very much look forward to your comments, ideas and contributions. If you would like Interfaces to include reviews on a particular theme or domain, then please also let me know. Many thanks.

**Shailey Minocha, The Open University, UK
S.Minocha@open.ac.uk**

A Project Guide to UX Design

Designing a user experience project as a student or a first time usability consultant can be a daunting task. There are many decisions to make about stakeholder influence, the business requirements of the site, and the methods of user testing to be used. This is the main driver of *A Project Guide to UX Design*.

The book focuses mainly on project development in a UX context, describing step by step the important elements of UX project design. The various chapters focus on the development of design goals and the involvement of the stakeholders in forming realistic project goals and aims, and on how different project flows can be used and achieved. This is all valuable information to a UX designer who may have just started in UX design or for readers who are looking for a basic summary of project methods. Potential problems a UX professional may encounter with client goals are considered, and solutions are discussed with great insight. The book also includes a chapter devoted to sole practitioners in the UX field giving them guidance on how to develop proposals, avoid legal difficulties, and cost projects. Although much of this information is useful for the beginner (or UX designers in the making, as the title suggests), many of the hints and tips gathered through the authors' experiences will be useful to UX professionals in general.

The later chapters of the book describe methods for involving a user group in UX testing. User interviews, questionnaires, card sorting and usability testing are briefly covered but with enough detail for UX designers to get a general flavour of the available methods. The

use of user personas, prototypes, wireframes and site designs to develop the project are covered with good use of examples and experiences from practising UX designers. This gives the reader an insight into real-world practice of UX design (something which I have to say I am unfamiliar with, as a PhD student).

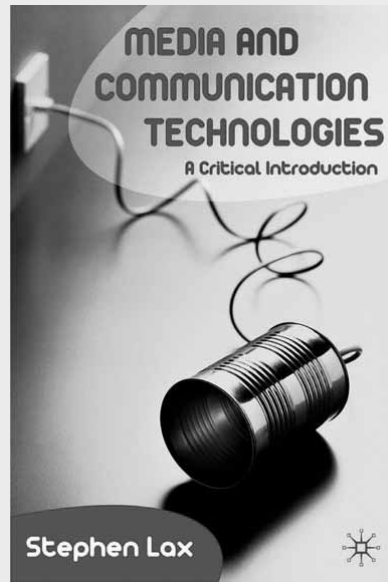
A useful feature of the book is its exceptional use of break-out material to highlight aspects of the main text. The break-out boxes are labelled in terms of their length of time to use (such as *Surfing* for short handy resources, *Scuba* for more lengthy references and *Deep Diving* for useful books and other topics of exploration). All aspects of the book are clear, concise and written in a very approachable manner for non-experts.

However, for an individual looking at UX from an academic perspective, this book will disappoint. The authors say this book is partly aimed at students but primarily at people in the UX business such as UX practitioners, UX design group leaders and leaders of project teams. Even though this is clear by the tone and content in the book, it is sometimes unclear what level of existing knowledge is assumed. For example, the chapter on search engine optimisation is written as if it is not a reader's first encounter with the subject. However, many of the other chapters do not expect any prior knowledge. Most of the book is written as a hand-holding guide to UX design, which to a practitioner or an advanced student of UX design could be construed as unnecessarily condescending. However, for the inexperienced reader this is precisely what makes the book so useful. The authors seem to be trying to capture

two audiences, each with different information needs.

I have to say I found the lack of academic focus quite disappointing. There is a real debate to be had in the HCI profession about the definition of UX (as highlighted by Law, Roto, Hassenzahl, Vermeeren and Kort at CHI 2009, and by the BCS UX competency framework workshop in February 2010, <http://www.bcs-hci.org.uk/node/6458>) and its relation to HCI. This book makes the case (although not explicitly) that user experience is a business term which looks at how a customer experiences a company (digitally in this case) and includes other interactions that customers may have with that company. This definition, in addition to the book's heavy business focus, makes UX seem little more than an extension of marketing practices, something which I strongly disagree with. It will also strike the reader that what is being described is not UX *per se* but usability with a heavy business slant. There is no mention of measures of user emotion, immersion and aesthetics which are just some of the aspects that make UX different from usability.

Crucially the book also lacks any real description of experimental design in terms of comparison of two or more interface options. This is a great shame and a missed opportunity because experimental design can compare competing designs and shed light on further avenues for design solutions. In fact, the book shies away from describing any quantitative research methods by concluding that qualitative design is a 'more accessible approach for those who haven't had training in formal scientific methods' (p228). Qualitative methods are



A Project Guide to UX Design: For User Experience Designers in the Field or in the Making

Ross Unger and Carolyn Chandler
New Riders Press

ISBN-13 978-0321607379

2009

<http://projectuxd.com>

Media and Communication Technologies: A Critical Introduction

Stephen Lax

Palgrave Macmillan

ISBN-13 978-1403998903

2008

<http://ics.leeds.ac.uk/details.cfm?id=20>

sometimes painted as an easy option and more easily understood than quantitative approaches but this is rarely the case (as readers of *Research Methods for Human–Computer Interaction* by Paul Cairns and Anna Cox can testify). A book like this should be highlighting the business case for the use of both methodologies. In my research on user experience I have found that both methods used together allow researchers to triangulate findings and gather a deeper insight into user reactions.

On the whole, this book is very helpful for anyone just starting in the UX profession or attempting a student project for the first time. It guides the reader through each part of the process, albeit sometimes in an oversimplified way, but it is always easy to read (perhaps owing to its oversimplification). It talks a lot about the business case for user research and seems concerned mainly with the relationship between business stakeholders and the user experience design team and how each must work together to create valuable and actionable results. This is all well and good but the more business-focused view of UX means this book becomes little more than a how-to guide rather than a competent text on UX for academically orientated students. Such things make this book a little redundant for the academic student and, perhaps more importantly, the experienced UX designer in the field (one of the key targets of the book, judging by the title). One thing is certain, there is no need to add a UX project design book to the popular 'For Dummies' series: this book almost certainly covers all you would need to know.

Reviewed by Benjamin Cowan, University of Edinburgh, UK

Media and Communication Technologies

This is an introductory text which provides a history of media and communication technologies as well as explaining where these technologies are now. Lax (the author) starts with an examination of the earliest communication technologies: the telegraph and the telephone. He examines how they were developed and what places they occupied in the societies at the time and how those positions have adapted and changed. He shows that technologies change by use and in doing so change how society operates as well. The relationship is two way and symbiotic.

Lax goes on to look at radio and television, again looking at the history of their development and their impact on society. At this point the book turns to communication channels and digital and analogue signals. The argument here is quite technical and detailed but Lax offers clear explanations and descriptions so that readers who don't have a technical background will be able to follow his arguments.

Chapter 6 introduces computers. In this chapter he once again provides the historical basis and he travels through the various incarnations and interfaces to bring computing up to its present state. He places the web and web technologies in context.

The final technology is 'mobile communication'. Rather than dealing with the mobile phone when he deals with the telephone, Lax has chosen to separate the two types of communication and treat them as the separate entities they really are. Although he sees connections between

landline phones and mobile phones he sees many more differences. He ties mobile use in with other mobile communications.

The final chapter explores the information technology and what its role might be in the future.

I liked this book very much indeed. I think it does have a place in a reading list for computing and IT students, and those interested in media and HCI should find it useful and interesting. It most certainly has a role in the education of those interested in media and society. I have earmarked it for my social technology students. I liked the historical context very much indeed and I found the technical explanations useful and well written. Sometimes students can be baffled by how a technology works – this little book explains those mysteries clearly and in an entertaining way.

There are many examples given throughout. There are anecdotes and all the time Lax puts the technologies very firmly in the societies they existed in at the time. He is very good indeed at showing the context so I feel that those interested in social history might also find this a very useful book.

I know you shouldn't judge a book by its cover but I have to add I loved the cover. When explaining mental models I always use the example of the telephone and two bean cans and a length of string. The cover of the book shows a bean can plugged into a telephone outlet – a lovely apt image that will make those of the bean can and string generation smile.

Reviewed by Xristine Faulkner, London South Bank University, UK

Interacting with Computers

Dianne Murray



On behalf of Elsevier and the journal, *Interacting with Computers*, I am pleased to announce that the following article, published as part of a Special Issue on *Moving Face-to-Face communication to Web-based systems*, edited by Jane Coughlan, Robert Macredie and Nayna Patel, will receive the 2010 Most Cited Paper Award for *Interacting with Computers*.

The role of social presence in establishing loyalty in e-Service environments

Dianne Cyr, Khaled Hassanein, Milena Head, Alex Ivanov

Volume 19, Issue 1, January 2007,
Pages 43–56

Papers for this distinction are determined solely based on the highest number of cites, excluding self-citations, received for all journal articles published between the years 2007–2009 [data culled from SCOPUS reports (www.scopus.com) created on January 12, 2010].

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Dianne Murray
General Editor, *Interacting with Computers*

<http://ees.elsevier.com/iwc/>

<http://www.sciencedirect.com/science/journal/09535438>

DESIRE Creative Design for Innovation in Science and Technology

DESIRE (2008-2012) is an Initial Training Network funded by the EC, Framework 7 under Marie Curie Actions Programme. It involves seven partner institutions from Denmark, the Netherlands, Italy and Portugal and is coordinated by Lancaster University, UK.

DESIRE brings together researchers in the fields of interaction design, computer science, cognitive modelling, and psychology of creativity as well as artists and design practitioners. The network aims to advance the current understanding of creative design processes applied in scientific and technological problem solving. This will lead to the elaboration of:

Theories and models of creative processes in general, and those involved in creative problem solving in particular

Methods, techniques and systems to support both creative design processes and creativity training.

DESIRE will deliver an attractive research training programme consisting of training courses on various topics relevant to creative design, complementary training and industrial secondments, as well as four large events open to the relevant research communities:

Summer school in Gargnano, Italy in 20-26 September 2009, <http://cslab.dico.unimi.it/desiresummerschool>

Conference in Denmark 2010

Summer school in Portugal 2010

Conference in The Netherlands 2011

How to get involved

If you are a researcher or practitioner interested in the field of creative design and wish to get involved in the DESIRE network you could contribute in one of the following ways and for some of these activities the network may be able to provide financial assistance.

Contact us to arrange a visit to one of the partner institutions to meet our researchers and give a talk on your own research.

Contact us if you wish to discuss how the network could contribute to future research grants application.

Engage with our open events either as participant or as a lecturer.

If you are an industrial partner in the field of creative industries, you could offer secondments opportunities to our researchers.

Contact information

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Fax: +44(0)1524 510492

Email: corina@comp.lancs.ac.uk; c.sin@lancaster.ac.uk

Website: <http://www.comp.lancs.ac.uk/~corina/DESIRE>

How to join BCS and Interaction Specialist Group

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