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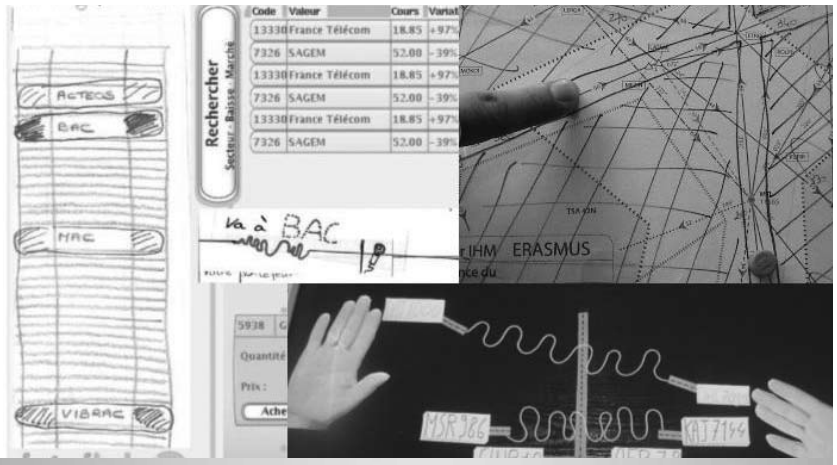
Interfaces

73 · Winter 2007

Exploring the interactive landscape

Urban installations
Public design
Deceptive mapping
Western Mindanao
Nevada



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Human–Computer Interaction

Editorial

John Knight

How do you make the case for HCI? The usability end of the profession has always championed the bottom line with calculations of return on investment. Often some of the results of these calculations are questionable, and unconvincing for stakeholders. As well as credibility the bottom-line approach often focuses on removing problems – something customers like but not as much as solutions. While our community is embracing design (see the Domus article) it is still a long way from really selling its wares in terms of successful and commercially viable products.

With the launch of the iPhone I think the landscape is changing. I think we as a community of practice can rightly point to this successful and desirable product and say that we made it. In terms of features it is quite limited. The physical design of the product is rarely highlighted. Indeed with only one button it is the large display that is often used in the marketing material. In contrast to most products and especially ones that sell in big numbers the iPhone is selling because of its user experience.

The scrolling, the touchscreen, the rich visual language – nearly all of the selling points are related to the experience of use. So let's celebrate this season with the knowledge that our approach and our design vision can delight customers and not just relieve them of frustration.

Postscript

Just so you know, I am no Apple fan. The treat of buying an iBook for myself when I moved to Germany quickly evaporated when the screen went black a couple of days after the warranty ran out.

John Knight is a User-Experience Manager in the mobile communications industry. Before this he was Director of User-Lab at Birmingham Institute of Art and Design and has worked as a freelance designer and researcher. John is also chair of IDEC4, which will be at NordiCHI 2008.

Contents

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Do you disagree with something in *Interfaces*? Would you like more coverage of a certain topic? Have you just completed a great piece of research that you want to share? Have you been to a conference that you can report on? Are you at the end of a project that the rest of the HCI community would like to know more about? Have you read a brilliant book more people should know of? Do you think your department has done great work and the HCI community would be interested in it?

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

The deadline for issue 74 is **1 February 2008**

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Interfaces 76, Autumn 2008: **Gaming and HCI**. Deadline *1 July 2008*.

Interfaces 77, Winter 2008: **Social Networks**. Deadline *1 October 2008*.

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Send to John Knight, John.Knight@intiuo.com; 16 Combermere Road, Brixton SW9 9QG

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With thanks to commissioning editors:
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Deflections

How to bake a cake with ethnomethodology

Gilbert Cockton

This *Deflections* adapts its title from Frake's sociolinguistic classic, which demonstrated how getting the next drink from a Subanun beer jar required more than a grammatical grasp of language. It explained how the language of festival drinking structured social relations, including status, influence and issue resolution. Frake analysed what kinds of things the Subanun had to say in what spoken forms to what people of what standing in what kind of situations. Frake avoided methodological anguish over imposing concepts on data. In contrast, too much social analysis in contemporary HCI tiptoes over eggshells: little benefit follows. The bare descriptiveness of our most favoured paradigm of ethnomethodology limits bases for explanation or insight. In ethnomethodological baking, cakes have no ingredients and just constitute themselves on a crumb-by-crumb basis. Now, every cake is indeed different and unique. We can all respect its individuality and its refusal at the empirical level of crumb structure to follow any culinary rule inscribed in a recipe. Even so, cakes have common ingredients and standard recipes (and icing tends to stick to a whole range of crumb structures). The individuality of cooks should not blind us either, but pure ethnomethodology puts cooks and recipes out of bounds.

I've been starved by the moment-by-moment baking of HCI ever since an unholy alliance of 1980s governmental organs and commercial managers concocted computing in a wafer-thin crust of cognitive psychology as an aphrodisiac for user friendly digital intercourse. OK, good cognitive experiments can follow through someone else's well-thought-out design with engineering optimisations. It's ironic though that, well before HCI really took off, two leading psychologists wrote (Gould and Lewis 1985, p. 306):

> to the extent that understanding the scope of users and tasks becomes broader, understanding the user becomes all of psychology (cognitive, behavioural, anthropometric, attitudinal etc. characteristics)

Like Godot, the rest of psychology has yet to arrive to support a broader understanding than wafer-thin cognition. Note how Gould and Lewis's 'all of psychology' fizzled out: where's social psychology? Almost two decades later, user experience added affective psychology. Value-centred design adds social psychology, motivation, decision theory, developmental psychology, consumer psychology and probably the rest of the rest. You need a whole cake before you can put icing on it.

There was thus immense unfinished psychological business as 'the turn to the social' added sociology to 1990s HCI. In reality, it added as little sociology to HCI as the 1980s did with psychology. It was wafer thin all over again: still no deep cake to ice. The rice paper Model Human Processor was glazed with the rough aspic of the Muddled Human Interactionist (Yum!). There's little Human in a Model Human Processor, and little social in what was more a 'turn to the anti-social'. Neocons are strongly associated with liberal economics, but if they had to choose a social theory, perhaps they'd choose pure ethnomethodology. It's free of nasty European progressive social theorising, vaccinating against any social perspective that offers liberation or change, or informs people about the sort of society that they live in.

Blumer is often credited for a first blast on the trumpet against the monstrous regiment of (European) social theorists, but this classic paper's first page is mostly a footnote that excludes two 'legitimate and important kinds of social theory' from his removal of obstacles to 'an empirical science of our natural social world'. Both are really useful for designing. Ethnomethodology gives us neither. It's worth quoting most of the footnote, with *italicised emphases* added (Blumer 1954, p.10).

> There are two other legitimate and important kinds of social theory which I do not propose to assess. One of them seeks to develop a meaningful interpretation of the social world or of some significant part of it. *Its aim is not to form scientific propositions but to outline and define life situations so that people may have a clearer understanding of their world, its possibilities of development, and the directions along which it may move*. In every society, particularly in a changing society, there is a *need for meaningful clarification of* ***basic social values***, *social* ***institutions***, *modes of* ***living*** *and* ***social relations***. *This need cannot be met by empirical science*, even though some help may be gained from analysis made by empirical science. Its effective fulfillment requires a sensitivity to new dispositions and an appreciation of new lines along which social life may take shape. Most social theory of the past and a great deal in the present is wittingly or unwittingly *of this interpretative type. This type of social theory is important and stands in its own right*.
>
> A second type of theory might be termed "policy theory". It is concerned with *analyzing a given social situation, or social structure, or social action* ***as a basis for*** *policy or* ***action***. It might be an analysis of communist strategy and tactics, or of the conditions that sustain racial segregation in an American city, or of the power play in labor relations in mass production industry, or of the morale potential of an enemy country. *Such theoretical analysis is not made in the interests of empirical science. Nor is it a mere application of scientific knowledge. Nor is it research inquiry in accordance with the canons of empirical science*. The elements of its analysis and their relations have ***a nature given by the concrete situation*** *and not by the methods or abstractions of empirical science. This form of social theorizing is of obvious importance.*

HCI needs 'all of psychology' and 'all of sociology'. HCI's drought of psychological theories of motivation would be total without oases such as Nicola Millard's work at BT. HCI's use of theories of social agency is almost as impoverished, and yet perspectives on the social origins of norms, aversions and

View from the Chair
Abusability – the new usability

Russell Beale

We spend a lot of time discussing usability; trying to use design methodologies that support it, develop guidelines to keep us on the straight and narrow, and develop evaluation strategies to check whether we have achieved our aims. But there are more things to think about than usability alone.

For example, Apple's iPhone came out in the UK in early November – and a lovely device it is, I'm sure – lots of connectivity and functionality, easy to use interface and some new ways of interacting with things via more than one finger on a touchscreen. But it won't be a phone I get, at least not straightaway. If I put it in my pocket, I'd sit down and break it. If I had it in my hand, I'd drop it pretty soon. And if it was lying around, then Josh, my 13-month-old, would subject it to the most caring treatment he could, in his own special way – he'd hold it to his ear to listen, then throw it across the room just to check. Then it would be posted 3' down the back of the sofa, retrieved, but then used as a drumstick against the door. Then for good measure, it would be sucked, dropped in the cat's water bowl, and booted across the kitchen floor. The thing is, this is life – an everyday object has to be able to stand up to such everyday abuse. I have a pile of PDAs on my bookshelf in my office, about a foot high – all are broken, mostly with cracked screens. I liked the idea of PDAs, even wrote software for them, but they all failed me – they broke, screens cracking, usually from being in my back pocket when I sat down. I learned quickly that they should not go in my front pocket if I wanted to sit down – early experiments nearly led to no chance of having Josh at all. But my mobile phone is tougher – it has stood up to being in my pockets, and being Joshed, and whilst it's not the most usable, in some senses, at least it manages to maintain some semblance of the functionality it had when I first got it, despite having an arduous life.

So devices need Abusability, at least in my household – they have to be able to withstand inspection and appropriation by a young child, and still function effectively. Any device that is designed for everyday life needs to stand up to the rigours of that life. Being slightly easier to use, or not, is somewhat irrelevant if it's broken… Which is why I can't see me using an iPhone – the screen will get scratched when it's in my pocket – it will be too big for my jeans, and so drop onto the floor too often. Of course, I could be wrong – one of the things I love about my Mac notebook is that it has survived being dropped 4' onto a concrete floor, and regularly tossed 6' across the room onto the sofa. So maybe the iPhone will be a tough little item. But I'll wait to see what others find out about its resilience first.

Russell Beale leads the Advanced Interaction Group in the School of Computer Science at the University of Birmingham. His research focus is on using intelligence to support user interaction. Before returning full time to academia and research in 2003, he co-founded, ran, or worked for various internet-related companies.

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... continued from previous page

values should inspire socially oriented interaction design. Design inspirations can also be found in philosophy, archaeology, cultural studies, theology and no doubt elsewhere. *Theology* may surprise, but often initial web foraging for human worth relevant to a design concern (e.g., 'celebration', 'honour') offers theological dim-sums as I refine my search. I'm looking for insights, not data or facts, so I happily borrow from discussion of what really matters to people. In hindsight, it's no surprise that theologians write on 'things that really matter'. These are at least worth a skim, even for a card-carrying religious agnostic like myself.

Design is fuelled by inspiration, not data. Looking back, we could hardly have chosen less inspiring areas of psychology and sociology in HCI's first two decades to underpin it with theories about **people** (not cognants or actants). Let's hope we exit the third decade with some truly fecund theories judiciously appropriated from miles of library shelves and megabytes of Google search terms.

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CREATE 2007

William Wong

CREATE 2007 was a two-day conference about creating innovative interactions, where the emphasis was not on presenting technology or evaluation, but on sharing the wealth of creative ideas developed to resolve problems, to create new capabilities, or new functions, so as to spawn further creative designs that can make a difference to people, and to learn from designs that failed. It was intended that this conference would bridge the gap between academia and industry in the area of design research and practice. The conference was jointly organised by the BCS HCI Education and Practice Sub-Group and the Ergonomics Society, and held in June at the BCS meeting rooms in Covent Garden, London.

We were very pleased to have as keynote speakers Jarnail Chudge (UX Lead, Microsoft UK), Bill Gaver (Professor of Design, Goldsmiths College, University of London) and Pete Wright, (Professor of Human-Centred Design, Art and Design Research Centre, Cultural, Communications and Computing Research Institute, Sheffield Hallam University).

Some highlights from the conference

Jarnail Chudge, the opening keynote speaker, spoke about designs to simplify task structures and access to information in complex information spaces. This is particularly a problem when designing information systems, such as the Electronic Patient Records system, for use across large organisations, e.g. a 1.2 million employee organisation. Their design team adopted a safe by design approach, and developed a framework called the Common User Interface to allow different designs for different user groups to work. Key in integrating the user interface designs were concepts such as Shneiderman's patient time lines (1994), and MacKinlay's perspective desktops (1991).

In another industrial case study, Ian Worley spoke about EasyJet's desktop gadgets, which demonstrated simplification and streamlining of tedious flight booking. Perhaps we should ask, "why can't all systems be as easy and convenient to use as that?" Narrative paths were the topic of another talk, arguing that walk-throughs are the story of a museum. Luigina Ciolfi spoke about her work at the Hunt Museum, designing to engage with spaces and to make these interactions meaningful, and to create interfaces to allow us to share our experiences.

John Bonner spoke about how innovation and creativity are sometimes held back by organisational ambivalence and organisational processes, such as traditional or established practices in manufacturing. In her talk on creativity methods in requirements processes, Sara Jones provided alternative techniques that can be used in the requirements process to encourage exploration and envision the future in terms of high-level requirements. One of these creativity ice-breakers was an exercise asking teams to work together to "build the best (sausage) balloon model".

The second keynote address was given by Pete Wright, describing his work on 'design and dialogical imagination', using creativity and the arts to drive new technology development through a better understanding of the significance of the richness of life. New insights can be obtained where 'interaction dissolves into experience' to create a holistic experience. Understanding the experience of this moment, the felt moment, will lead to new technology development as we understand, holistically, the richness of life, rather than a sparse requirements specification. He also elaborated on the concept of 'technology to live with', and how people appropriate technology, rather than just considering usability. To achieve this understanding, he proposed using tools such as cultural probes and the clay-box for identifying 'deep personal significance'. These are new techniques for identifying our values and beliefs that can be incorporated into designs to help inform judgements in ambiguous situations.

Bill Gaver presented our third keynote, 'We design for everyday life. Who knows if we succeed?'. Gaver challenged us to think beyond utility, entertainment, or consumerism. Instead should we consider design for use in terms of openness and ambiguity or subversion and certainty? Another interesting concept was that of polyphonic evaluation, and the suggestion that we develop technology for lived experience rather than just functional utility. Then we ask ourselves – would such ideas work if we did this to a Control Centre? How would such thinking influence the design of interfaces for more 'serious' applications? Another idea was that of the 'local barometer' that collects, combines and presents information about the local area. Could such a device, perhaps a gadget/barometer for the control centre (or office) be used to show 'situation awareness'?

Anna Pohlmeyer presented the idea of a moving window display for use in a car as a control interface. Her strategy was to reduce visual workload, using the principles of Focus + Context. While the ideas were not implemented, through her presentation Pohlmeyer was asking us to question our assumptions about designing for a particular task domain. In another dynamic complex domain, Hugh David proposed a new set of radar display symbols for air traffic control and conflict detection. David suggested using designs for visual filtering of information to highlight operational constraints. In a presentation describing a thinking tool and how it was used to develop a method for labelling CDs, Simon Reubens used the innovation matrix to develop 'Tattoo Studio' to encapsulate the 'holistic' music experience in a commercial environment. In the final presentation, about using methods such as video and animation as an alternative to take ideas from the conceptual stage to the concrete, Oli Mival described the notion of mood movies, instead of storyboards or mood boards, and how it was used to design the online game PokerFace. This was an interesting advance in tools to communicate concepts and ideas.

Finally, the conference closed with a group design activity, where delegates got together in teams to tackle a design issue raised by Jarnail Chudge at the outset of the conference and draw on the lessons learned over the previous two days.

So, CREATE 2007 … what was it about? It opened a conversation between functionalists who have traditionally been the systems engineers sorts of people, and the life experientialists who come from a tradition of art and design, who are carrying out designs for interfaces to both physical and software artefacts. Does the old demarcation of 'functional' vs. 'non-functional' requirements hold? Do we need new assumptions?

How do we appropriate high technology to everyday technology? Perhaps we are entering a new phase of technology development that is advancing our use of technology beyond functionality. If so, should we be creating new approaches to solutions? What if we don't? We will resort to the path of least resistance: we will design solutions with which we are familiar. For example, when we moved from command line interfaces to windows, some of the early designs represented GUIs with command line interface structures, instead of drawing on the new direct manipulation capabilities that the GUIs provided. Perhaps we are at a similar turning point?

Perhaps we will also see you next year.

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Conference Co-Chairs

David Golightly, ESHCI, Ergonomics Society
Tony Rose, ESHCI, Ergonomics Society
Ann Light, BCS HCI Group
William Wong, BCS HCI Group

Pastiche scenarios

Mark Blythe

Jack Kerouac was one of the foremost young American writers of 'the beat generation' in the late nineteen-fifties and early sixties. Other prominent members of this group included Allen Ginsberg, whose poem Howl was banned, and William Burroughs, whose novel *The Naked Lunch* also ran into trouble with censors. These writers all challenged conventions in the form and subject matter of their work. Of course, if the technology of today had been available then they would not have had so much trouble getting published.

Kerouac's Blog

Here's to the Mad

Posted Friday January 15th 1957 1.30 am

The only people for me are the mad ones, the ones who are mad to live, mad to talk, mad to be saved, desirous of everything at the same time, the ones who never yawn or say a commonplace thing, but burn, burn, burn like fabulous yellow roman candles exploding like spiders across the stars…

Posted by Jack / 2 comments

Responses to "Here's to the Mad"

1. Jez says
I'm mad for it I am

2. Lara says
I never say a commonplace thing because, at the end of the day, people are only going to turn round and say – you've only got one life to live.

On the Road

Posted Friday January 15th 1957 1.50 am

I wrote a mad book once called On The Road and fifteen publishers rejected it – I just kept writing em tho – I kept on going making book after book thinking – someday they'll print one and then I'll let the rest go in separate volumes – but that would be wrong. I wrote them all like Prousts remembrance of things past but I wasnt on my deathbed – I was on my sickbed, road sick, drunk sick

Posted by Jack / 3 comments

Responses to On the Road

1 Essjay says
Did they reject your book because you don't know how to use an apostrophe? How did you manage to miss apostrophes on the contractions? My spell check "won't" let me – see?

2. AllenG says
What is a publisher man? Moloch! That's who! Moloch! Moloch! Moloch! Fuck the publishers! Who needs them, we're all publishers now. No filters, no gatekeepers, total freedom man. And fuck Essjay man, who is this jerk, a professor of English?

3. Essjay says
Yes, I am a professor of English actually and so I know whereof I speak when I say – the repetitions you all seem so fond of make for pretty redundant writing. And what's wrong with full stops? It's all either rambling long sentences or exclamation marks.

Evolution

Posted Friday January 15th 1957 2.40 am

Speech evolves, writing evolves, form evolves – grammar is descriptive not prescriptive – thats what my books were doing – things are different now – we got jazz, we got records, we got motors – it was like LOOK this is how we live now. And my friend Cody says to me – "Jack, the whole form of the NOVEL is dead. It was a technological development and technologies have CHANGED – the autobiographical novel has been superseded by the blog man!"

Posted by Jack / 5 comments

Responses to Evolution

1 Essjay says
Cody is right on a superficial level. The novel is a technological product, it would have been impossible without the Gutenberg press, but it was not a solely technological development: It required a literate public to form its audience.

2 AllenG says
Shut up! Moloch! Yes! You are Moloch Essjay! Let Jack write! I came here to listen to him speak not you. Let him feed us his work.

3 Essjay says
You misunderstand the form of the blog AlanG. It is totally at odds with the autobiographical novel. Readers and writers interact. It is dialogue not monologue.

4 Jez says
his blog sucks man

5 William Tell says
I'm going to Mexico – who's with me?

The Ex Blogger

Posted Saturday January 16th 1957 3.00 pm

What the hell was I drinking last night? Maybe I shoulda started a wiki…

Interactive Design Landscape

Interactive Design Landscape focuses on the intersection between the reality of the contemporary design scene, which is in the middle of a high-speed transformation, and interaction design research, processes, structures and practices.

It is an exploration of the boundaries of design and technology through a subjective viewpoint based on the design experience and approach of the Domus Academy and in particular the activities carried out in the *Master in I-Design* (Interactive Design) whose prefix *I-* represents the vocation to study themes related to *Information*, *Interaction* and *Innovation*, and also refers to the *Italian Design Culture* – an approach balancing industrial design and enterprise culture, creative sensitivity and strategic thinking. The emphasis of *I-Design Landscape* is on analysis of the factors that are influencing the design system and on the interpretation of what are the potentialities that can be exploited within a research framework based on the introduction of ICT in the everyday environment. In recent years some new signals in the design world have emerged. These changes relate to a deeper ethical role for design in terms of social and global concerns which crystallise in the notion of Affirmative Design: a constructive approach acting on the weak boundaries of the actual world and society; a design that reflects a strong social concern and that nurtures ethical and democratic practices by addressing global topics such as sustainable development, management of natural resources, but also safety, education, privacy, mobility, etc. From the Affirmative Design perspective it is possible to extrapolate some indications for the future development of interactive design systems able to contribute to a more conscious and sustainable lifestyle.

The evolution of design systems

The industrial design process is evolving at an increasingly rapid pace. Enabling technologies within the everyday environment are a key factor in this. Moreover, they are also radically changing our daily routines on many visible and invisible levels. Naturally, as the complexity of technologies evolves, so do the expectations of the users. Products and services no longer have a purely functional role based on rational and objective design methods. Rather, consumers desire more emotive and subjective qualities that touch on more complex mental models.

Notably, it has given rise to powerful new interactive tools in information exchange for both corporate and personal use, often networked and with the option of playing with personal and public identities. In recent years, some new phenomena have crossed and pollinated the design territory, with the secondary effect that the focus of the design system has slowly moved out of the industrial design trajectory that sees at one extreme the product and at the other the corporate culture. The new millennium has started with a strong emphasis on the human/consumer experience, facilitated by the increasing availability of Information and Communication Technologies (ICT) and by the growing demand of added value services. In fact more and more companies have focused their strategies on the quality of interaction and experience with users as the competitive advantage.

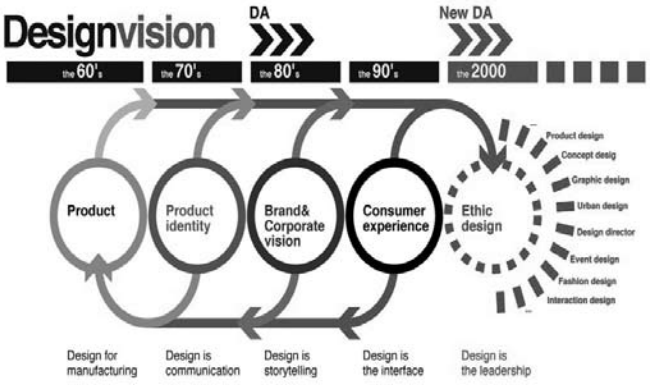

Figure 1 Design evolution

Moreover, some new signals in the design world have appeared, shifting interest from personal and public comfort to deeper ethical reflections about the role of design in relation to social and global concern issues, sustainable development, management of natural resources and also safety, education and privacy. Consequently, a renewed interest in design as a tool for giving meaning to the world, considering the ethical side of design along with the traditional business-oriented attitude, has emerged.

Emerging design territories

The *Design Territory* today is organised around a multitude of *Design Spheres*, each representing a different approach to design, highlighting specific design objectives and involving different actors and stakeholders.

The Design Territory represented by the map results from the analysis and interpretation of some key factors that can be organised in different layers:

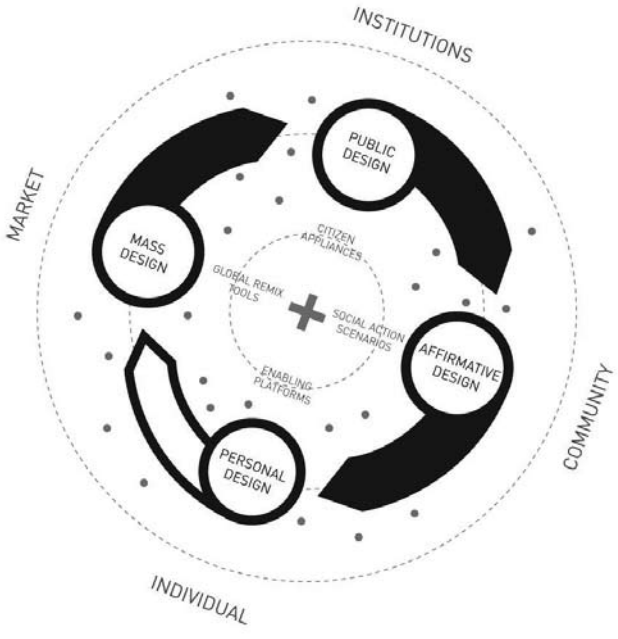

Figure 2 Design Territory map

The first layer of the map is represented by the *Design Drivers*: stakeholders, actors, players, etc., with their culture, knowledge and habits. In the upper part we find the market and institutions, at the bottom are the individuals and their social structures such as communities and groups of interest;

The second layer is represented by the *Design Spheres*: macro clusters that catalyse the different ongoing definitions of design with their tools (communication artefacts and interfaces) and spaces that represent the materialisation of the design culture in the everyday life domain;

The third layer is the territory of the *Key Values and Solutions* that represent the critical interpretation of the values and desires of the design community.

Four of the different design spheres have a particular relevance for Domus Academy interaction design experience, in that they have been the experimental playground for around 50 interaction design workshops organised by the institute over the last five years involving students, young designers, professionals and corporate partners.

Personal Design is the sphere where individuals and communities express themselves, following their personal desires and ambitions, and where the socio-technical infrastructure support self-organising, informal creative processes.

Mass Design is the traditional territory of industrial design but also of communication, fashion and every type of design that bridges commercial and business objectives with individual needs, desires and expectations. It is a territory where marketing, brand and corporate culture try to compensate for the unpredictable consumption behaviours of a multitude of individuals on both local and global levels.

Public Design embraces a range of different activities addressing topics of collective interest and supporting awareness about the processes and services of public utility, such as access to cultural and educational resources, interaction with public services, management of mobility and transportation, at a scale that goes from the design of urban installations and spaces to the infrastructure, to the complete urban environment.

Finally, *Affirmative Design*, a constructive approach that firmly decides to work on the weak boundaries of the actual world and society; a design that reflects a strong social concern and that nurtures ethical and democratic practices by addressing global topics such as sustainable development, management of natural resources, as well as safety, education and privacy. Affirmative Design represents a new scale of intervention for design practices, a scale that combines local and global interests, that involves a constellation of different actors and

Affirmative Design is design that reflects a strong social concern and addresses global topics such as sustainable development, safety, education and privacy

Figure 3 Context-aware system

operators, from researchers to public administrations, to representatives of foundations and non-profit institutes, to spontaneous communities, political organisations, etc., each of them with its own specific characteristics, needs and desires.

Metaflusso

Metaflusso is a family of dynamic urban furniture strategically embedded in the urban environment to capture and organise the different flows circulating in the city

As an example of the Affirmative Design approach, *Metaflusso* (Metaflow), developed within the Master in I-Design by Matei Paquin, under the supervision of Claudio Moderini and in collaboration with Fujitsu Electronics, is a project that proposed an integrated modular system for supporting urban mobility in a sustainable and adaptive way. The basic objective of the project is to design a *Citizen Appliance*, an interactive design artefact for accessing/managing citizen services to be placed in public spaces, a large scale ambient device that reflects the dynamic of the urban environment, a physical landmark that conveys information coming from different sources related to mobility, an urban infrastructure for social networking.

Metaflusso is a family of dynamic urban furniture strategically embedded in the urban environment to capture and organise the different flows circulating in the city, from private vehicles, to public transportation, to information, to pedestrian orientation, etc. The shape of the street furniture reflects the notion of fluidity. No sharp edges but a continuity of curves and rounded surfaces reinforce the organic characteristic of the system itself.

Metaflusso is a new paradigm for decrypting the city, it acts as a city barometer and measures/displays the urban metabolism: it gives awareness related to traffic, ambient factors (weather, pollution) and upcoming transportation. At the same

Figure 4 Car pooling configuration

time the physical setting augments the immediate surrounding space, creating an enhanced zone for performing activities related to communications and providing ambient quality to encourage leisure in a safe place.

Metaflusso consists of two main elements: a large display, a dynamic skin that absorbs the inputs coming from different providers (Metropolitan Transport Agency, Info Points, Tourist Desks, Taxi Networks, etc.) and translates them into an intuitive aesthetic language; and a pillar that is also the input device for interacting with the different services offered by the system.

According to its physical setting *Metaflusso* can become a waiting lounge, a car pooling hub, a message board or an information kiosk allowing people to plan their mobility patterns, and manage their time, according to the individual's preferences and needs, in a decentralised way and without the need of any personal device.

Visual language and interface

The external surface of the display shows a variety of awareness information using an intuitive pictographic language.

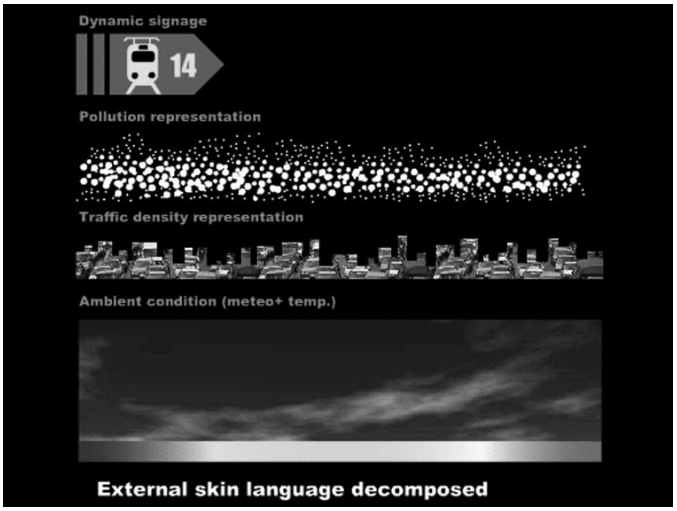

Figure 5 Visual language

Figure 6 Interactive pole

In the background of the display awareness related to the local weather forecast is given by modulating the colour of a graphical representation of the sky. In the foreground a visual pattern made of dots changes its density on the basis of the air pollution level, a second pattern based on traffic-jam images shows the traffic density in the surroundings.

Real time dynamic signals appear on the external surface, giving geo-referenced information and showing the imminent arrivals and departures of various transportation systems.

The pillar that supports the structure hosts a cylindrical display and a ring-shaped physical interface that allows the user to interact with the service system. The different features are selected by simply sliding the ring up and down, and specific attributes can be modified by turning the ring left or right and then sliding it back up to submit the query to the system.

In the car pooling configuration the interface permits people to easily select the nature of the service (query/offer), the destination of travel, the expected time, the number of passengers and any other relevant information. The query is submitted to the system, which visualises it directly both on the upper surface and on a dedicated website. If the user is offering a ride to other users he/she will receive a reward (e.g. free parking time).

The key point regarding sustainability in Metaflusso is providing real time information and supporting the user in managing individual mobility patterns by facilitating the shift from personal to public transportation and proposing alternative transportation modalities such as car pooling and car sharing.

An efficient use of vehicles, and the adoption of multi-modal solutions, are good examples of maximisation of transportation possibilities, and contribute directly to a sustainable urban mobility system.

Conclusion

From the perspective of interaction and information design the presented framework and concept highlight, on one side,

how the use of technology has introduced new layers in the interactions between humans, objects and information, and, on the other side, the importance of considering these innovative modalities of interaction as parts of a global project aimed at exploiting the potentialities of interactive technologies for envisioning sustainable social solutions.

Acknowledgements

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Domus Academy

Domus Academy was created in Milan in 1982 as an open project around Italian experiences in design and fashion. Over the years DA has developed two major areas of specialisation, each enriched by mutual exchange with the other: the institution has established itself both as an international centre for postgraduate training and as a laboratory for research and consulting in the fields of design and innovation.
www.domusacademy.it

Master in I-Design

Within the Design Department, the Master in I-Design, combining interaction design skills and approach with cross-disciplinary culture, offers the possibility of generating interaction design concepts and strategies, interpreting Information and Communication Technology (ICT) potentialities, and integrating design sensitivity with market-oriented technological and business competencies.

The academic year (from January to December) is divided into two semesters. The first semester (January–July) includes a combination of skill and vision based activities. It gives students a working familiarity with interaction design fundamentals. In particular they learn to generate, assess and prototype their ideas effectively. In the second semester (July–December) students will have chosen a specific interaction design theme within the range of I-Design expertise. Thence, they intensely explore this area and find their position in the design process, strengthening their talent, elaborating a personal perspective, and assuming a multi-dimensional point of view based on the understanding of the complexity of design activity nowadays.

The academic year starts with a basic course dedicated to Interaction Design Culture, followed by a series of Design Workshops. The second part of the year is dedicated to the development of the individual Final Master Project.

The course aims to provide students/designers with practical and conceptual skills to carry out a 'problem setting' activity using their imagination to develop concepts, scenarios and strategies based on the introduction of Information & Communication Technology in the everyday life environment, integrating design and creative sensitivity with more technical and market-oriented competence.

The programme prepares its graduates for leading roles in the world of interaction design. Participants will develop skills and competences to get to different design and strategic positions, such as: Interaction Designer, User Experience Designer, Creative Director, Strategist and Design Director.
http://projects.domusacademy.net

User Experience recruitment

Bo Cheng talks to John Knight

How has the industry changed over the last few years?

I've sat on the recruitment side of the User Experience fence for seven years now. In that space of time, what was a relatively unknown science has now become a key part of the way businesses operate. Just yesterday I was reading an article in the *Sunday Times* that crossed over on customer experience and information architecture. Would the same article have surfaced back then, I'm not so sure!

A lot of my clients now have large, internal User Experience departments and many even have their own usability labs and testing facilities. Back in 2000, I believe there were only two specialist labs. In digital design agencies it is not unheard of to have teams of up to 20 or 30 UX professionals.

In the last 12 months, recruitment for User Experience has really taken off. In the last four to five months in particular, the market has moved to be totally candidate driven. Contract rates and salaries have risen by 10 – 20% in a very short space of time.

How do you think it will change in the future?

I truly believe we are beginning to see an amalgamation between user experience, business strategy and branding. User Experience design and usability is becoming a more and more popular subject in board rooms all over the world. The user (often the customer), is central to how businesses operate and now we are seeing a real shift in perception among the senior managers in business.

In the future I think we will see a very much more customer-experience-centric approach to how services are designed. This will not be confined just to online, web or mobile experience. It will also include brand and customer experience in retail outlets and service centres.

What is the current demand for HCI practitioners like?

Demand is very strong for HCI people right now. If you are looking to move within the industry, perhaps set up as a contractor or renegotiate your salary, now is the time. As an agency we are finding we have many vacancies but not many candidates currently. It feels like 1999/2000 all over again when I first got involved with recruitment. If I have an outstanding candidate I can show the CV to four or five companies and get three interviews for them right away. The difference this time is that the recruitment growth seems to be organic and business-driven, whereas in the dot.com boom and bust days it relied heavily on venture capital money.

Are there particular sectors where demand is strong?

Up until three or four months ago demand in the mobile sector was very strong and also very mobile-centric where you need mobile User Experience to be considered. In the last few months, however, we have experienced an incredibly strong wave of requirement from the web and online sectors. There seems to be a gentle gaining of momentum for Web 2.0 and more recently there is a lot of growth in consultancy. Currently, all of the top five UX consultancies are recruiting and there is also an increase in requirements from management consultancies.

What problems do you find placing candidates in industry?

Right now the biggest problem is that there are no candidates. Everyone appears to be happy, tied into long-term contracts or not actively looking for new positions. In the past, the major problems we experienced either revolved around the candidate not having the right experience (ex-project managers or developers rebranding themselves as UE experts) or having had no industry experience.

What is the ideal background for practitioners?

A Bachelors degree in core disciplines such as Psychology, HCI, Interaction Design, Information Architecture, Human Factors, Ergonomics is the minimum. A Masters degree is advantageous and one or two years' experience working either large blue chip, client side or in an established consultancy.

And the key skills needed for entry level posts?

I'm afraid it's a bit of a vicious circle for entry-level job hunters. Unless you have some experience a lot of firms will not consider you. It is often difficult to get your foot on the UX career ladder but keep trying, tailor your CV for individual job specs, be positive, and network.

Your CV at times is read not by a recruiting line manager but by a corporate recruiter or a HR generalist. By tailoring your CV for an individual job specification using similar words and jargon, your CV will stand out to people with non-specific industry experience. Once you are invited for an interview then it is down to your interview technique and communication skills.

I say it to all my candidates, but the key skill really is communication. How you present yourself and how you interrogate the interviewer and company is essential. Remember it is *you* who will be spending the best part of your working day working for them, so *you* have to be just as selective as the company who is interviewing you.

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Experiencing design
Putting things in order

Robert St Amant

We often read about the complexities of modern life, and most of us have occasionally been thrown into situations where we think, "I have no idea what to do next". Why doesn't this happen to us all the time? Part of the answer is that we structure our environments so that our activities become routine. For example, when I get up in the morning, my glasses are on my bedside table, because I always put them there the night before. When I make coffee, I don't have to search the kitchen for the coffee beans, the measuring cup, or the water pitcher, because they're always in the same place. My morning routine is so well practised that if I need to bring something unusual to work with me, say, a package to post, I have to put it in my way the night before so that I don't simply walk past it as I'm going out the door the next morning.

Imagine a city in which house numbers follow the order in which the houses are built, for the convenience of the builder.

These practices of putting things in the 'right' place are more than for our ephemeral convenience. Some models of cognition, developed by Roger Schank and others, have scripts and plans at the centre of our understanding of the world around us. My morning practices, above, are a set of scripts. And if I am in a situation that is unfamiliar but similar enough to one I already know, I can adapt the relevant script. For example, I can imagine what to do when visiting a lawyer's office, even though I have never done so, because I have visited other professionals such as doctors and dentists. Our reliance on these memorised routines goes below surface descriptions as well. For example, older adults facing cognitive decline can be helped, in part, by ensuring that they are in familiar, well-learned, predictable surroundings.

A small but important piece of this general picture is the way we map parts of the world to the variety of orderings we learned as children. We all know the natural numbers, the alphabet, the days of the week, and the months of the year by heart. Numbered aisles help us know where we are in the hardware store; a helpful clerk might say, "What you're looking for is in Aisle 21". Letters may tell us whether we're going in the right direction toward finding our car in the parking lot; at my local airport, rows of parking garage spaces are given a number (the level), a letter (the row), and even a colour (the building itself). In some cities the names of successive streets are in alphabetical order; in Denver, for example, when driving east we'll pass Albion, Ash, Bellaire, Birch, Cherry, and Clermont (or so Wikipedia tells us.)

When a mapping does not follow the conventional ordering, or only appears to do so, confusion can be the result.

> When I was in school a few years ago, I had to go to the financial aid office for a refund. There were three lines to stand in, with signs reading 'A–G', 'H–Q', and 'R–Z'. I waited in the A–G line for half an hour before discovering that this was for people whose given name started with those letters. Because the checks had been printed out and ordered by the students' full names, starting with their given names, it was most convenient for the financial aid office to hand them out that way.

> I went to the Apple website to sign up for an appointment at one of their stores. To find the store in my area, I clicked on the 'Select a State' menu. I scanned down the list, starting in the middle: Nevada, New York, Ohio… Where's North Carolina? It turns out that they've spelled out the names of the states, but the list is ordered by their abbreviations. So North Carolina (NC) comes before Nebraska (NE), while Nevada (NV) is between New Mexico (NM) and New York (NY), and so forth. This has to be confusing for some people.

Both of these examples illustrate a deceptive mapping to an artificial ordering. They share another common feature: the ordering is for someone's convenience, but that 'someone' is the individual or organisation that created the ordering. Imagine a city in which house numbers follow the order in which the houses are built, for the convenience of the builder. Travel guide books tell us that this is actually the case in some cities in Europe and Japan, with predictable problems for visitors and even local post offices.

The website example above might be classified as yet another case in which the convenience of the programmer has overridden the convenience of the end user. This usability problem should have been caught by standard HCI practices, either empirically or analytically. User testing, with scenarios, might have identified the out-of-order states. On the analytical side, we have Don Norman's dictum: *Get the mappings right*.

Pulling back to see the big picture again, we might observe that most of what people do on computers involves routine activity, partly or in some cases entirely. If as designers we want to ensure that these activities are carried out successfully, we should be aware of the important role of routine in everyday life.

Robert St Amant is an associate professor in the computer science department at North Carolina State University. The work in his lab is a blend of human–computer interaction and artificial intelligence, with an emphasis on planning concepts. He's interested in building intelligent tools to help users with complex tasks.

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Virtual reality grows up

Rod McCall

"If you respond as if it were real then that is presence." *Prof. Mel Slater*

It seems almost impossible to avoid Second Life and virtual reality these days. So it seems only fitting to explore this area a little more. Indeed it has become such a hot topic that the BBC and now CNN have joined the race to be 'virtual'. CNN has gone one step further by making the viewer, or in this case their avatar, the real content creator by expanding its iReport service which lets people submit photographic content.

A recent interview [1] with Prof. Mel Slater (see quote above) provides perhaps the best opening line with which to discuss and consider presence-related issues. In the context of this article we take presence to mean that you feel you are physically present in a location and/or are present with other people. On the one hand his comment forces us to consider what exactly we need to do in order to make virtual people, objects and locations feel real enough so that we respond to them in a real way – in many ways the work of current virtual and mixed reality research. However, it also encourages us to think about the social, legal and ethical issues that face society in this the age of online virtual worlds, i.e. if what is perceived as real is not real how far does it or its owner have legal rights and how far should existing norms from reality apply?

What's in an avatar?

> (3) *Avatar*: a graphical image that represents a person, as on the Internet. (Source: Dictionary.com)

During the Presence 2007 conference in Barcelona, Ralph Schroeder chaired a panel on the ethics of virtual and mixed realities. Indeed the panel provided a fascinating insight into the potential social, legal and ethical issues that virtual reality currently faces. While this column does not discuss the specifics of that session it did encourage me to delve deeper into such issues.

The Virtual Milgram experiment by Mel Slater perhaps provides a good starting point to discuss the issue of realism. In his study people found it difficult to electrocute a virtual woman, despite the fact they were fully aware that it was not a real person. This (in part at least) points to some ethical issues when we are dealing with avatars. From a legal perspective the German courts are currently in the process of bringing charges against people who engaged in a sexual roleplay in Second Life, where although both were adults one was using a child avatar. While this and the Milgram study are clearly different they do open up a series of critical questions, which must be faced, namely where does virtual reality end and real psychological and legal harm begin?

Further issues arise with the subject of avatar rights. This extends from whether killing an avatar should result in some form of penalty through to whether actions committed between two avatars have any legal or moral status. The Catholic Church, or rather members of related groups in Second Life, have already stated that many aspects of their faith either cannot take place within SL (e.g. Mass or Confession) as it is only roleplay, and that online marriages do not stand. However, if such actions are purely roleplay then it would seem strange that as in one recently reported case a woman felt very unhappy at her husband's marriage to another woman in Second Life. Moreover, there have also been reports of people feeling a sense of bereavement when an avatar dies, similar to that experienced when a pet passes away. Things are further complicated by aspects such as rights for purely virtual people, i.e. characters that are several generations ahead of the current chatbots. For example, if someone builds up a relationship with such virtual people and hence has some kind of emotional attachment, is it right for the provider of such systems to be able to turn that virtual person off or even upgrade them to have a 'new improved personality'.

From virtual to mixed realities

Mixed realities also suffer from many of these issues, but matters are more complex as there is potential for behaviour, relationships and places to cross the real/virtual divide. At the basic level of safety, when do people need to know something is not real? One example would be if a person runs away from a virtual attacker only to be killed by a passing real car. If the attacker is an avatar is the person controlling the avatar to blame? Alternatively are any real people responsible when a virtual person perhaps causes such an accident? Other examples include where people take virtual friends (avatars or virtual people) with them on a shopping trip, during which time they socialise with them and a range of real people. In this case the social nature and perhaps how that person behaves towards others in the street is radically altered, which may impact on the rights and responsibilities of those involved.

Conclusion

It may be a little strange to be discussing such issues in an magazine that is devoted to the world of interface design; however it is likely that ethical and legal issues will become increasingly important in the design of such systems. These range from what kind of virtual experiences are permitted through to the rights of virtual people and avatars. Indeed without such frameworks the current virtual worlds are little more than a legal, ethical and social minefield.

Acknowledgements

The author gratefully acknowledges the participants of the recent panel at Presence 2007 covering urban mixed realities and the panel on ethics, chaired by Ralph Schroeder of the University of Oxford.

[1] Conversations on Presence. An Interview with Mel Slater www.peachbit.org

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Group communications
Centres and peripheries

Andy Dearden

This last month many BCS-interaction members will have been focussing on one dominating three-letter acronym: RAE. The government's Research Assessment Exercise has a huge impact on the allocation of funding between university research groups, and the preparation of submissions to the exercise will have consumed countless hours of academics' and managers' time over the past year(s).

One oft-cited criticism of the RAE is the suggestion that its structure, in which a panel is formed to assess the quality of work produced in each of 65 defined disciplines, e.g. 'Computer Science', 'Psychology', 'Sociology, 'Art and Design', 'Communication and Media Studies', etc., tends to favour work that falls cleanly towards the centre of each discipline, and disadvantage innovative interdisciplinary work that does not fall so clearly within one of these established categories. This always creates a tension for researchers in interaction design and HCI because the subject has always been about interdisciplinary working. Researchers have to keep one eye focussed on the interests of their 'home' discipline as defined by the RAE.

On a recent visit to give a seminar at another university, I was chatting with the head of the interaction research centre there about what we might identify as the 'core' of an interaction discipline. Over the past 30 years, interaction has grown not only in terms of the range of disciplines involved, but also in the range of concerns that we have (office information systems, mobile technology, CSCW, ambient and home technologies, technology in medicine, digital libraries, technology in developing countries, social networking, etc.). Each of these areas of concern has grown to a point where, as researchers, we want to focus on discussing our findings with other specialists who share our particular focussed concern. When we do come together in general HCI and interaction meetings and conferences (HCI, CHI, Interact), we may find that only a small proportion of the papers presented or topics under discussion are immediately relevant to our current work. Thus there are two forces acting on the interaction community (both in the UK and across the world) that seem to be drawing us away from each other.

Is this a problem? Perhaps we have grown to a point where these diverse groupings can be effective in ensuring that people's needs and sensitivity to context are the driving concerns in the way new technology is designed and developed. If this is happening already, then that is great news, but I haven't noticed this new generation of highly usable, well-designed and easily understood technologies arriving in my world just yet. And in the conversations I have, I sense that we are all still searching for better strategies and tactics to push interaction concerns up the design and development agenda. The people I talk to seem to recognise that there is a long way to go in promoting our vision of technology designed for people, in context. Our challenge is to balance our diverse activities reaching out in different domains, with core exchanges of knowledge on our shared concerns.

We need to structure our internal and external communications in ways that are relevant to both our shared interests and to our specialist concerns. How well are we doing? Do the communications you get from BCS-interaction (*Interfaces*, UsabilityNews, bcs-hci@jiscmail.ac.uk, our new website) support your work? Is the annual conference meeting your needs? What are we doing well? What could we do better? How can we communicate more effectively with industry, with government, with the public? Let us know what you think. Even better, get involved.

If you think any aspect of our communications could be improved, get in touch with me at a.m.dearden@shu.ac.uk

Andy Dearden is Reader in e-SocialAction at Sheffield Hallam University. Andy did a PhD at York investigating design for interactive decision support systems He then worked as a Senior Interaction Designer for a software company in Leeds. His current interests are in participatory design, particularly in non-governmental organisations, voluntary groups and other sites of 'social action'. He is currently communications co-ordinator for BCS interaction.

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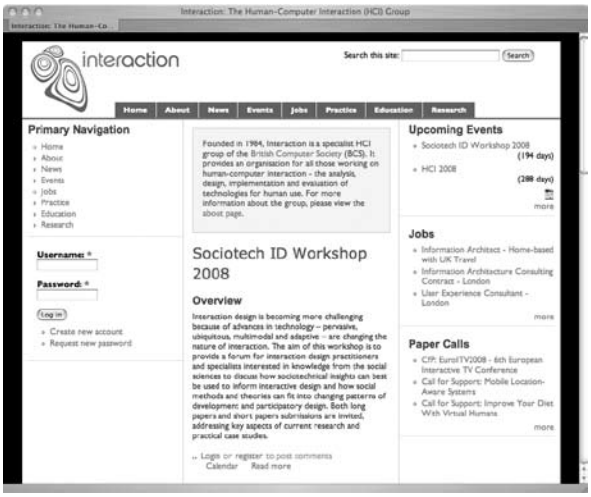

Interaction

The new name for the group – and by now most of you will have seen our logo – called by some a symbol of the sixties, by others a modern and fluid design – and I hope you've also noticed the new website. Same address, and the same sort of content – at present. But it's been ported to a community platform, allowing much easier user contributions and hence allowing it to grow more effectively. The Research area contains information on upcoming conferences, the news feeds are easily RSS'able, and it provides calendar views and other neat features. I'd like to encourage people to contribute to it, to develop it into a useful resource. What shape that resource should be depends on the community, and hence we have enabled the community to develop it in the ways you find useful. Do keep an eye on there for updated content: comments and feedback welcomed.

Russell Beale
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An iterative participatory HCI design process in the industry context

Bringing together utility, usability and innovation … within budget

Industry (aerospace, telecoms, defence, automotive, consumer, etc.) has developed a growing interest in Human–Computer Interaction, as powerful and proliferating features do not ensure a successful product without a clear usage understanding by their target users (the 'feature creep' syndrome). As the most visible part of the product, the user interface plays a central role in users' adoption, leading (or not) to a strong competitive advantage. The 'bad user interface – bad product' connection is rapidly inferred and the consequences for the company can be dramatic. Since the advent of Graffiti alphabet on Palm Pilot and the iPod wheel device, industry now also considers user interface and user interaction as a competitive differentiator. Innovation in HCI has therefore become a strategic initiative for many players in the industry.

Hence, the challenge of HCI design in an industrial context is to bring together utility, usability and innovation, while staying on budget and within project deadlines. IntuiLab has tailored and formalised an iterative and participatory HCI design process and developed related technologies to answer these industry needs. In this article, we first present the background to HCI design and development in industry. We then detail IntuiLab's iterative and participatory process and, finally, summarise its benefits.

HCI design and development in the industry

Design and development of interfaces and interactions requires a great variety of expertise and skills: users, domain experts, human-factors experts, interaction designers, developers, graphic (or sound or haptic) designers. Bringing all the skills together in the common objective of designing useful, usable and innovative interactive software requires methods. Participatory design is one of the key processes that make it possible to benefit from the creativity and the experience of each of the players. The end user is involved in the whole design process, including validating the needs addressed and evaluating the designed solutions. Iterative design makes it possible to refine the proposed solutions or to address new design issues during the process.

IntuiLab has successfully applied iterative and participatory design process in more than 40 user interface industry

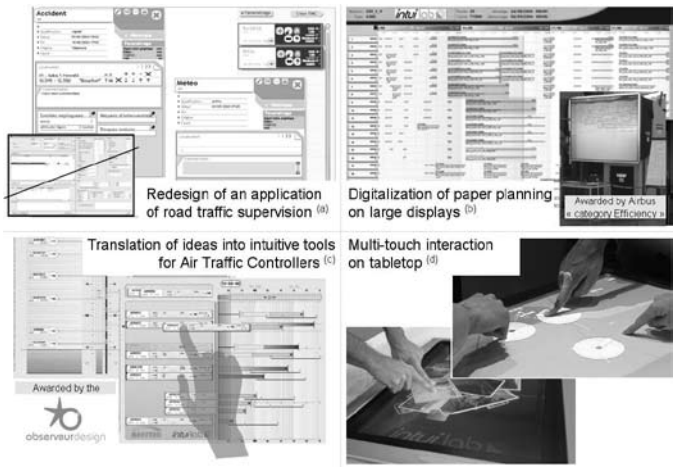


Figure 1 Examples of IntuiLab's realisations

design projects as well as research projects during the last five years. The four types of need addressed are the redesign of application interfaces (Figure 1a), the digitalisation of business processes (Figure 1b), the translation of ideas into intuitive products or services (Figure 1c) and the anticipation of future interaction modes (Figure 1d).

While successfully applied in the academic context, an iterative and participatory design process is not widely used in industry. Our five-year long experience provides us with some understanding and lessons learned about the difficulty of introducing such a process in the industry context:

- The prominence of other processes such as the 'V' cycle. The main perceived issues with the iterative and participatory process are the project duration (when does the process stop?) and the management of the participation of final users with the other project actors (how to manage conflicting needs or aspirations?). The industry has to be convinced of the real benefits provided by an iterative and participatory design process that is perceived as incompatible with predictability.
- The business relationships within the industry are contract based, most generally relying on deliverables detailed and scheduled at contract time: solutions have to be produced within the project deadlines while staying on budget. As the design issues are concretely addressed in iterative and participatory processes, new problems often come to light. They have to be managed within the same constraints, which requires project management skills from both the designer and the customer.
- Time allocated to HCI design is still very small (compared to other parts of the application). Iterative and participatory design requires time. As a consequence, all design issues cannot be addressed with the final users and all project actors; strategic choices have to be made, guided by expert recommendations.
- Managing different lifecycles for HCI and the other components of the application is difficult. Today, the same design processes are used in the industry for HCI and for the rest of the application. Introducing a different design process for HCI requires a close collaboration between the HCI design and application development teams as well as a good (and continuous) integration of the delivery from both teams.
- Access to the end user. It is often difficult to have access to real or future users of the HCI to be designed. For example some of our customers have no access to their own customers' users.

In order to provide the industry players with answers to their main concerns about such iterative and participatory process, IntuiLab has tailored and formalised an HCI design and development process named IntuiSign™ whose objectives are to bring to the end user such benefits as optimum

efficiency, safety, accessibility and enjoyment in the use of the future product, while providing predictability (in terms of both cost and results) to the industry. IntuiSign enables these by establishing a closed loop process between the designers, the customer and its users to always 'stay in sync', and thus avoiding the classical 'tunnel' effect found in many other development processes.

IntuiSign: IntuiLab's iterative and participatory process

IntuiSign is composed of three main phases:

1. User requirements and interaction technologies collection and analysis
2. Iterative design and prototyping
3. Development

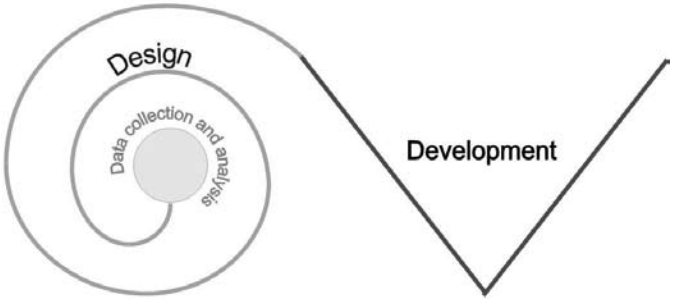


Figure 2 IntuiSign

IntuiSign brings together user requirements and technological possibilities and translates them into mock-ups and prototypes that are iteratively evaluated and refined. This then leads to validated detailed specifications of the user interface and interactions that will be developed further for the final application using a more classical approach. From user requirements to validated specifications, IntuiLab's multi-disciplinary team works in close collaboration with the final users of the application, as well as with the customer (engineering and marketing).

User requirements and interaction technologies collection and analysis

The collection and analysis phase consists of gathering information to feed the design process. The objectives are to identify the user requirements and the technologies that are relevant to the project.

User requirements

IntuiLab's human-factors experts perform user requirements identification, interview the end users as well as the subject matter experts, perform in-situ observations, and analyse and evaluate existing systems in order to understand the user's activity in his/her working environment. Information collected enables the description of the user's activity and the gathering of the main requirements and constraints for the new application. Usage scenarios also emerge from this phase.

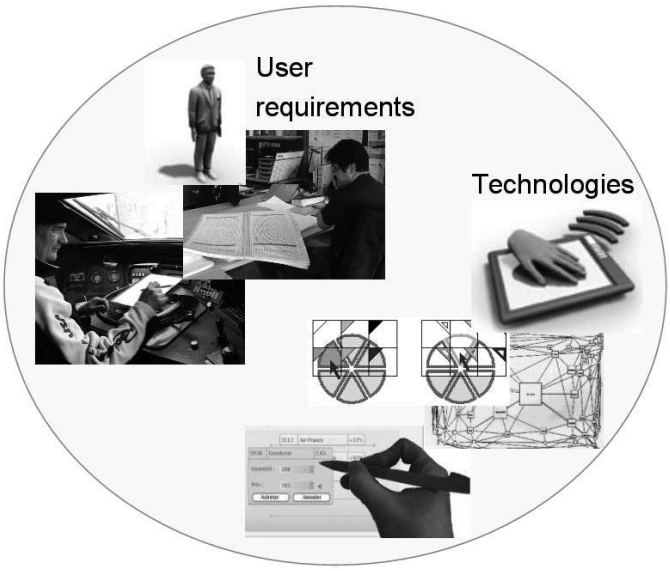


Figure 3 User requirements and interaction technologies collection and analysis

Scenarios validated by the user and the customer are essential to the design phase: they help all the actors to share the usage context and help them to focus on the relevant situations.

The analysis ends up with a decision. As described in the previous section, in industry time and cost constraints are important. The design must therefore focus on the most critical issues. IntuiLab's interaction designers perform an expert review of the user requirements in order to identify high-level design issues to be addressed in the project (i.e. how to display a 30-day plan? How to enable efficient text input without a keyboard?). In regard to the project objectives and requirements, they prioritise the issues. The human-factors experts and the interaction designers present, justify and discuss the user requirements and the design priorities with the customer. Concerted decisions are taken for the design phase.

Interaction technologies

One of the challenges of HCI design in the industry context is innovation. In parallel with user requirements analysis, IntuiLab's interaction designers and researchers perform a state of the art of interaction technologies best suited for the project: hardware (large display, touch screen, tabletop, etc.), visualisation (fish-eye, perspective wall, transparency, etc.), interaction techniques (multi-user interaction, multimodal interaction, etc.). The technologies are illustrated with scientific/press articles, screenshots, videos or demonstrations. The state of the art provides the identification of the last technological advances and the illustrations are used to share them with all the project's participants.

Iterative design and prototyping

The challenge of the design and prototyping phase for the industry is to find and implement innovative ideas that meet (even exceed) user expectations and which are technically achievable within the time and budget of the project. The objective of this phase is to provide the developers of the final

user interface and interactions with detailed specifications. The iterative and participatory process enables the designers to generate, illustrate, test and refine design solutions to be described in these detailed specifications. This phase of IntuiSign is a sequence of iterations, managed by an IntuiLab lead interaction designer. Each iteration is composed of four steps:

1 Requirements and technologies
2. Participatory design sessions
3. Mock-up/prototype implementation
4. Mock-up/prototype evaluation and test

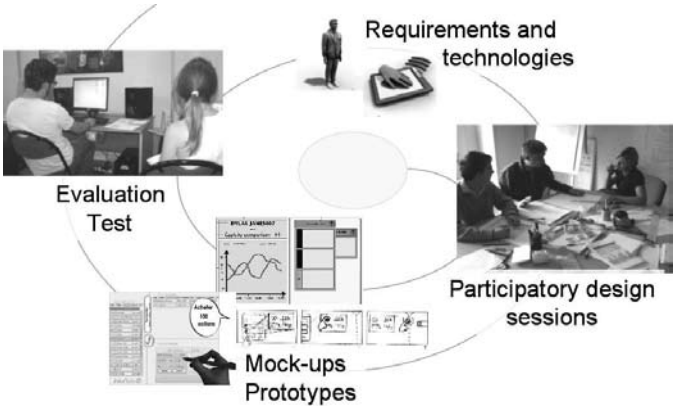


Figure 4 Iterative and participatory design

Requirements and technologies

For the first iteration, requirements and technologies result from the collection and analysis phase described in previous sections. For further iterations, new requirements can be derived from the evaluations and tests step of the previous iteration. Human-factors experts then analyse and refine the new resulting requirements while interaction designers and researchers refine the selection of candidate technologies.

Participatory design sessions

To address prior design issues selected to be solved during user requirements analysis, IntuiLab's lead interaction designer sets up participatory design sessions. Participants are the final users, the customer, the application developers and the experts in the HCI field (human-factors experts, interaction designers, graphic designers, software developers, researchers). The various viewpoints and experiences of these players stimulate creativity and efficiently provide innovative solutions.

In industry, such sessions are difficult to organise: it is difficult to find a time slot that meets all participants' agendas and the number of iterations is often limited due to the time constraints of the project. In that context, IntuiSign proposes two strategies. Within the prior design issues, IntuiLab's lead interaction designer identifies (1) issues that already have proven solutions, and (2) issues specific to the activity area that require creativity and innovation. Then he/she allocates participants to the sessions accordingly: for the first issues, participants are limited to IntuiLab's HCI experts; for other issues, HCI experts gather with the final users, the customer and the application developers.

For participatory design sessions, the lead interaction designer gathers the technology illustrations to stimulate creativity, the usage scenarios to meet user requirements and the mock-ups/prototypes to be completed or refined. After the presentation of the session's topic, the usage context, the available technologies and the results of previous iterations, he/she leads a brainstorming between all participants with the objective of generating as many ideas as possible. At the end of the brainstorming, the best ideas are collectively selected. The session ends with concrete illustration of these ideas using paper mock-ups, created from scratch or from mock-ups or screenshots of prototypes resulting from previous iterations.

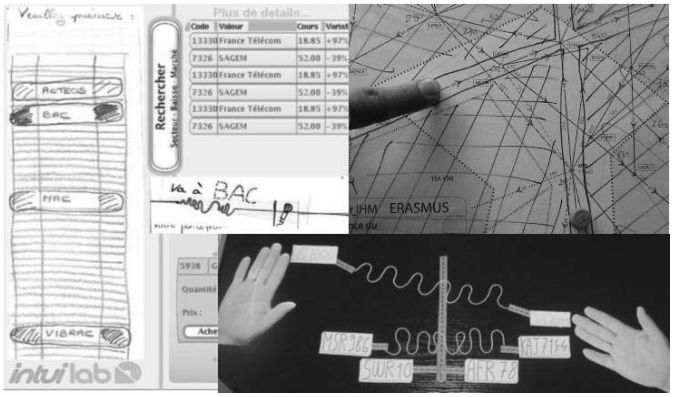


Figure 5 Examples of paper mock-ups generated during participatory design sessions

Mock-up/prototype implementation

The design proposals arising from the participatory design sessions are analysed and implemented by interaction designers, graphic designers and HCI developers as mock-ups or as prototypes, depending on the design iteration.

Mock-ups are used during the early stage of a design issue exploration and can be produced in a very short time-frame (sometimes a week) so as to get maximum feedback early in the process. We call mock-ups the illustration of design ideas that do not require software development. They can be paper mock-ups, to illustrate the composition of the interface, storyboards or video to describe interaction sequences or animations, or Adobe Illustrator/Photoshop drawings to illustrate the graphical design.

Prototypes are implemented once design solutions have been validated or when different options need further exploration. Prototypes are software illustrations of the solutions/options. IntuiLab has developed its own environment, IntuiKit™, which enables designers to very rapidly implement prototypes (and then final application) as a Rich Client. The industry is attracted by rapid prototyping: on the one hand, costs are reduced and, on the other hand, various solutions can be proposed, compared and tested.

With IntuiKit, HCI developers initially implement low-fidelity prototypes illustrating sub-parts of the final user interface. Low-fidelity prototypes are then iteratively refined and

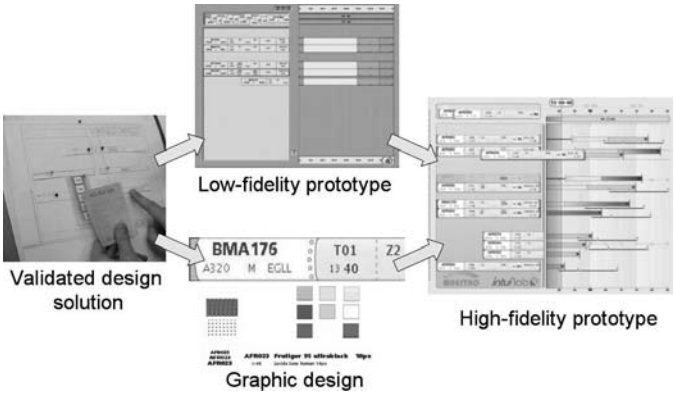


Figure 6 Software and graphic prototypes integrated into a high-fidelity prototype

completed with new interaction techniques and with graphic (or sound or haptic) design to eventually result in high-fidelity prototypes. The development of innovative interaction techniques and the integration of the design is facilitated and accelerated thanks to the model-based architecture of IntuiKit.

More than standalone prototypes, the customers also require integrated prototypes, i.e. prototypes that are connected to the rest of the application architecture, in order to perform real-life simulation. In collaboration with the developers of the application, IntuiLab developers connect HCI prototypes to any software environment or simulator or even specialised hardware using a dedicated message-based connecting middleware.

Mock-up/prototype evaluation and test

IntuiLab's human-factors experts use the mock-ups and the prototypes to evaluate the benefits of different design options or to test the selected design solutions. Considering the objectives of the project (usability, efficiency, safety, ease of use, reduced learning curve…), they prepare the evaluation/test protocol and elaborate evaluation/test scenarios based on usage scenarios resulting from the user requirements analysis. They identify user actions to be observed (qualitative results) or to be measured (quantitative results). If necessary, interaction designers or developers modify the mock-ups or the prototypes in order to fulfil evaluation/test requirements. Finally, the human-factors experts analyse the results after the final users take the evaluation/test.

The analysis of the results provides validation of design choices, comparison of design options and identification of presentation, interaction or problem understanding. In addition, during or after the evaluation/test, the final users often propose new design ideas and identify new requirements to be addressed in the application. All these elements are re-injected into the new design iteration or (if the last one) used to refine the user interface and interaction specifications.

Development

In IntuiSign, the design phase provides validated detailed specifications of the user interface and of user interactions. The specifications very precisely describe the design principles, the composition of the user interface, navigation within the interface, the graphical design, the interaction techniques, and the animations as well as the input/output devices and the technical constraints. The aim of the development phase is to translate the clear and already validated (against user requirements and tests) specifications into a quality product (with such attributes as reliability, supportability, performance, documentation or test) whilst staying on time and within budget. Furthermore, and in the case where IntuiLab's technology is used for the production release of the HCI, assets from the design phase can be reused in the final product (such as its graphical skin), further accelerating the delivery of that HCI, with a perfect replica of the prototype look and interactions. Traditional development processes such as the V cycle have proved reliable when specifications are solid and can then be efficiently applied to achieve the project's objectives.

Conclusion

IntuiSign, the HCI design and development process presented in this article, has been tailored and formalised by IntuiLab to provide the industry with the benefits of iterative and participatory process, well known in the academic domain, while ensuring it fits within industry constraints. The precise description and content of each phase and associated deliverables provides a solid framework for contractual relationships, and makes the customer confident in our ability to conduct the process. However, this framework is flexible and can be tailored to the specific requirements or contexts, like 'plugging in' customers' human-factors experts or graphic designers instead of ours. Regarding the number of iterations, IntuiLab recommends performing at least two: the first one to produce and evaluate mock-ups and the second to refine them into software prototypes. Depending on the complexity of the project, several design cycles can be conducted in parallel on different design issues, and eventually merged into detailed specifications.

IntuiSign also brings together the expectations of the industry on utility, usability and innovation. Utility and usability of the final product are ensured by the participation of the users during the whole design process and the integration of their requirements and recommendations during each iteration. Evaluations and tests also provide qualitative and quantitative assessment of the expected benefits. The participation of the customer and the application development team during the process enables to share the understanding of the user requirements, to focus the HCI design on the most critical points and to check the feasibility of the proposed solutions. Innovative solutions are ignited by the state of the art technologies shared with all participants in the project and driven by IntuiLab's HCI experts.

IntuiLab has successfully applied IntuiSign to dozens of HCI developments and our customers themselves (and their customers!) praise its benefits: the risks are decreased thanks to thoughtful requirements analysis, the design is focused on useful features decreasing the development costs, the development time is secured thanks to the clarity of the detailed specifications (and the availability of prototypes), the innovative solutions provide a strong competitive advantage, and the final users are satisfied as this process results in decreased support and post-sales costs.

Collaborative requirements development in a wiki

A case study of a software engineering course

Shailey Minocha
Pete Thomas

The UK Open University (OU) has embarked on a £5m programme to develop an integrated virtual learning environment (VLE) to meet the online learning needs of its 200,000 distance learners. The open source VLE, Moodle (www.moodle.org), has been adopted by the University and is now undergoing extensive development to provide the required functionality. Online tools such as forums, blogs, wikis, e-portfolios and podcasting are beginning to transform the way that learning is developed by course teams and supported by over 7,000 tutors.

The course team of a postgraduate course, Software Requirements for Business Systems, in the Department of Computing of the OU, has been one of the early adopters of the VLE. The course involves teaching systematic elicitation, recording, and communication of requirements of software systems. On a software development project, the elicitation of requirements is generally carried out by a team of requirements engineers or systems analysts. In software enterprises, requirements engineers work at remote locations, and wikis are increasingly being used for collaboratively developing requirements specifications.

From November 2006, we (the course team) have introduced activities based on wikis to provide students with the opportunity to engage in small group collaboration in order to emulate requirements engineering practice, thereby providing students with transferable skills for working with community tools in the industry. Students learn by articulating their ideas and views and communicating them to others in the wiki, and through discussion with others, and by disagreement, negotiation and consensus building.

The feedback from students has been positive and encouraging. One student said,

> The collaborative activity allowed me to see how the others addressed this question and evolve my own contribution and understanding based on these.

Another student said,

> A major barrier to understanding requirements is that people make assumptions. It is only when these people get together and discuss the problem that missed requirements and inconsistencies are identified.

Using a wiki on the course hasn't been all plain sailing. Students felt that a meeting scheduler for organising the group work would be helpful so this has now been added. Working in a group activity online when you have never met the other members can also be a challenge if you are not used to it. So a group blog is being added to facilitate socialisation and allow students to get to know each other by posting pictures and introductions, and to have informal discussions about the wiki activity. Another issue is how to manage group work in a busy lifestyle.

There is strong evidence that collaborative activities enhance learning. One of the students said:

> It is difficult to see how our group could have produced and reviewed a set of requirements in the space of two – three weeks without the wiki … a wiki is a good medium for OU collaborative work.

The authors will be very happy to share more details with colleagues about the design and implementation of collaborative activities in a wiki environment.

Acknowledgements

We would like to thank our students and tutors on the course for their feedback and input. We would like to acknowledge the support of our colleagues at the Open University, UK, in the implementation and maintenance of the VLE and the wiki environment: Niall Sclater and Mat Schencks of the VLE Programme, Ross MacKenzie, Sophie Gudgion and Andy Allum of the OU's Learning and Teaching Solutions group; and to thank Pam Brightman, David King and Arosha Bandara of the Computing Department for their inputs on the design of collaboration and reflective activities.

Role and effectiveness of blogs and blogging in learning and teaching

Shailey Minocha

The Department of Computing and the Institute of Educational Technology (IET) at the Open University, UK, are currently involved in a 14-month-long project on blogging (October 2006 – December 2007). The aim of the project is to investigate the role of blogs in learning and teaching. Our research has *three strands* and involves investigating these three types of blogs:

- Blogs provided for use by students on specific courses;
- Blogs kept by students even when blogging is not a course or programme requirement; and
- Blogs kept by PhD students.

All the three types of blogging activities described above are essentially voluntary or student-led. In all the three strands, our research has been student-centred in the sense that we have primarily focussed on investigating the student experience of blogging:

- Why do students blog?
- What are the students' perceptions of blogging? Do they find blogging useful within their learning context?
- What are the obstacles to blogging?
- Which contextual factors (such as course design, activity design, support from educators, educator engagement, and so on) impact on the blogging behaviour?
- Which influencing factors (e.g. audience, need for comments on blogging, concerns about one's own personal identity, blogging software, and so on) and the inter-relationships between the factors help the students to determine the role blogging can play in their studies?
- What are the functions of blogs and blogging in their learning?

We are particularly interested in the role of blogs to support *reflective learning*: for example, how a student or a group of students on an HCI course can use a blog to record their reflections on an HCI project. These reflections might include:

how and why the students took decisions on which stakeholders to involve in the project;

the choice of techniques for requirements elicitation and early prototyping;

justification for the choice of evaluation techniques;

discussion of the usability problems encountered;

and personal experience stories on each stage of the user-centred design process.

Our aim is to investigate if and how the blog as a *tool* and blogging as an *activity* enable the intended learning and facilitate the learning process. Furthermore, does regular reflection through activities on the course help to develop skills for reflective learning and reflection-on-action which may be beneficial in the students' future work practices as HCI designers and usability professionals in the industry?

I will be very happy to share more details of the project with interested colleagues.

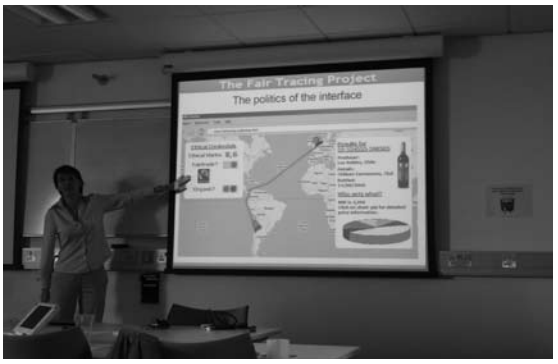
Acknowledgements

I would like to thank my colleagues in the Institute of Educational Technology at the Open University, UK for their contributions: Prof. Grainne Conole, Dr. Cindy Kerawalla, and Dr. Gill Kirkup.


HCI 2007


HCI 2007
Usability, accessibility
Diagrams
Children
Creativity and aesthetic experience
"Continuous exhibition" on a website
Mobile devices
Bluetooth
Virtual worlds
Virtual humans demographics
Erotic play ....and meetings
Web 2.0
Blogs
Social networks
Everyday interaction
Multiple computers
Multiple displays
Experts and novices
Adversarial methods
Conversational interfaces
XP and AM
"Time is nature's way of stopping you from being in two places at once"
Steve Payne in his keynote speech


IBM Software Group
IBM
A vibration schema.


The Fair Tracing Project
The politics of the interface


The Pony Girl Fetish
Outfitted as anthropomorphic ponies (half human, half pony)
Head-to-hoof latex (this is S&M)
Prance animations (dehumanized)
Prominent posteriors (sexualized)
Bit (forbidden to speak)
Clips and straps (being owned and controlled)
















With thanks to Elizabeth Churchill, Jared Spool, Laura Cowen, Akiyo Kano, Tom McEwan and Corina Sas, who generously allowed us to use their diverse views of HCI 2007. Detailed credits can be found on page 3.

There are two books that we have reviews for in this edition. In the first review, David King (The Open University, UK) presents his views on *Acting with Technology: Activity Theory and Interaction Design* by Kaptelinin and Nardi.

The aim of this book as per the authors is:

> … to provide a thorough understanding of activity theory through a systematic presentation of its principles, history, relationship to other approaches, and application in interaction design. (p. 4)

and the target audiences defined by the authors are:

> … those who conduct work in the fields of human-computer interaction, computer-supported collaborative work, computer-supported collaborative learning, digital design, cognitive ergonomics, informatics, information systems, and human factors. (p. 5).

David, the reviewer of this book, is applying activity theory in his current research project: 'Information design and pedagogical effectiveness of wiki-based e-learning environments'. Please contact David at D.J.King@open.ac.uk if you would like to know more about his research project and his experiences of applying the activity theory.

On behalf of *Interfaces*, I would like to convey my thanks to David for his review.

I have reviewed a book by Patricia Seybold – *Outside Innovation: How Your Customers Will Co-Design Your Company's Future* – which I came across recently as a part of my research in consumer-led innovation in e-commerce environments. If you have any queries regarding my book-review, or our research in e-commerce at the Open University, please contact me.

I hope you enjoy the reviews. 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 contributions, views and ideas. Many thanks.

Shailey Minocha
S.Minocha@open.ac.uk

Acting with Technology: Activity Theory and Interaction Design

V Kaptelinin & BA Nardi

MIT Press
ISBN 0-262-11298-1
2006

If you want to consider *context* when designing and evaluating human interactions with computer technologies, then Activity Theory (AT) may answer your need. AT is derived from psychology and provides a theoretical framework to understand how people collectively use technology in their activities. This book, written by two of the leading authorities in this field, gives a comprehensive academic review of the current state of AT, and makes the case for its use in HCI.

In many ways *Acting with Technology* follows on from Nardi's *Context and Consciousness* (1996), which introduced many, including the reviewer, to AT. This new book provides a comprehensive update and expands upon AT's distinctive role in the development of interaction design. It achieves this through three well-organised sections.

Activity Theory in Interaction Design
This section of the book is best suited to those new to AT. It opens with a justification of the role of theory – any theory, not just AT – in interaction design, before proceeding to an elegant explanation of AT itself in the chapter, 'Activity Theory in a Nutshell'. However, this is not a purely academic section, as it concludes with a look at a practical application of these ideas in the User-Monitoring Environments for Activities (UMEA) system, many features of which are now to be seen in new products such as Microsoft's OneNote.

Advanced Issues in Activity Theory
This section will be enjoyed by researchers more familiar with AT, and who want to further their understanding of its subtleties. In particular, this section focuses on the *object* of an activity. This is an overloaded term within AT and entangled with motivation. The problem is further complicated by the assumption that one *object* has one *motivation*, which is not necessarily true in a collective activity. This section demonstrates that AT is still developing and leads appropriately into the next section, which considers the future of AT, and its practical uses.

Theory in Interaction Design
In considering the future of AT, however, the section does not concentrate solely on AT. The section opens with a consideration of other, similar, theories, and uses this to establish AT's distinctive role. As such it is a rich resource and goes far to meeting the authors' desire to encourage conversation and AT's 'vigorous theoretical development'.

The book includes comprehensive supporting material. This material includes a copy of the *Activity Checklist* (Kaptelinin, Nardi and Macaulay, 1999) a practical guide to help identify the most important contextual factors in an HCI system, links to current online resources and academic projects, extensive notes and – as one would expect from an academic book – accurate and extensive references.

If you are interested in Activity Theory at any level, from an introduction to its latest refinements, then you will find something in this book to reward your time in reading.

References

Kaptelinin, V., Nardi, B. and Macaulay, C., (1999). 'The Activity Checklist: A tool for representing the "space" of context', *Interactions*, **6**, 27–39.

Nardi, B. (Ed), (1996). *Context and Consciousness: Activity Theory and Human-Computer Interaction*, Cambridge, MA, MIT Press.

Reviewed by

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Outside Innovation: How Your Customers Will Co-Design Your Company's Future

P Seybold

HarperCollins Publishers
ISBN 0-06-113590-9
2006

Innovation is the successful exploitation of new ideas in order to deliver products and services which are intended to create value by being useful and novel for consumers, businesses and employees. Though in-house R&D departments have the task of designing innovative products and services through user-centred design processes such as observing consumers and eliciting their requirements, it has become increasingly important for businesses to look outside for new ideas. Larry Huston, former Vice-President of Innovation, Procter & Gamble, says the company was used to relying on its internal experts for everything. He adds: "for every researcher we have inside, there are 200 on the outside; we want to 'in-source' the world's ideas". Meg Whitman, CEO of eBay, recalls a story (innovation.cnbc.com) where a community of consumers started selling cars on eBay and optimised the business on eBay for themselves. eBay's own platform was sub-optimised for that operation but realising the need of its consumers, eBay set up eBay Motors, which is now their largest category.

Innovation is being increasingly *democratised* as consumers are becoming more able to innovate for themselves. Consumers are creatively adapting, modifying, or transforming a service or product, or contributing ideas that would potentially result in changes to existing offerings, or development of new offerings. The internet and specifically social networking tools enable community-based innovation.

It is this role of consumers in innovation which the author, Patricia Seybold, conveys in the book *Outside Innovation: How Your Customers Will Co-Design Your Company's Future*. She argues that organisations should seek innovation by actively engaging and bringing their customers into the product development process. Talking to customers and involving them in the design, development and evaluation of products and services is not a novel concept in HCI. But Seybold argues that organisations should work with their customers to design products and processes, allow them to troubleshoot problems, and modify products and services to meet their needs. Further, organisations should provide tools for design, simulation, visualisation and prototyping that will help the consumers to contribute, propose alternatives to existing products and services, and become 'partners' in innovations.

After setting out the motivation for organisations to adopt customer-led innovation in Chapter 1 and also how customers could become co-designers of their products, services and business processes, the remaining chapters of the book provide numerous real-world examples. These examples will be especially useful for organisations who are aiming to innovate on the internet, and for HCI designers who are aiming to include customer-led innovation strategies in the design of websites. Further, this book is a very useful resource for researchers who are investigating methods of engaging customers in an organisation's business processes for developing innovative products and services and for engendering customer loyalty.

The book cites a range of examples. For example, Lego engages customers in the design of next-generation products while Staples involved 5000 of its online customers in using an online card sorting tool to suggest the categories in which Staples should organise its merchandise on its website. The BBC's backstage phenomenon http://backstage.bbc.co.uk/ is another example that allows users to access RSS feeds of BBC news, weather and other content and encourages users to 'build your stuff with our stuff'. The book discusses various phenomena of Web 2.0 technologies such as Wikipedia, the blogosphere, mash-ups, Flickr, and so on. Further, it devotes a chapter to open source development and, using the example of Mozilla Firefox, the author explains how a commercial software product became an open source product and how the power of customers as contributors, guides and promoters is being harnessed to build an open-source community – one that has proved to be highly productive and has produced high quality software. The book has several interesting stories of how consumers are increasingly becoming co-designers and are sharing their designs and innovations with other users and, thereby, generating communities of innovators and contributors.

There is a website that accompanies the book, http://www.psgroup.com/books_guide.aspx. This provides a 'Customer Innovation Guide', which is a self-assessment tool to help an organisation to identify how they fare on the customer innovation continuum and to determine a roadmap for moving forward. Though the book is targeted at organisations and researchers, it will make a very interesting 'general' read for those colleagues who are interested in the phenomenon of user-generated content and how consumer-led innovations are increasingly influencing the business processes of an organisation.

Reviewed by

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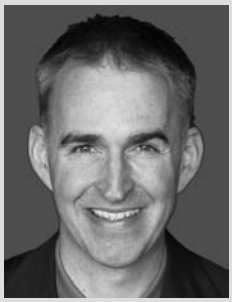
Profile

William Hudson talks to John Knight



William Hudson consults, writes and teaches in the fields of user-centred design and usability. He has over 30 years' experience in the development of interactive systems, initially with a background in software engineering. William was the product and user interface designer for the Emmy-award-winning 'boujou'; now an indispensible tool in many film studios. He has specialised in interaction design and human-computer interaction since the late 1980s. William has written and taught courses that have been presented to hundreds of software and web developers, designers and managers in the UK, North America and Europe. He is the founder and principal consultant of Syntagm, a consultancy specialising in the design of interactive systems, established in 1985.

What is your idea of happiness?
I really enjoy improving things so I am at my happiest when I know something I've been working on is better than before.

What is your greatest fear?
I'm not sure I have one. Being freelance, I probably obsess more than I should about our bank balance.

With which historical figure do you most identify?
I really admired the late Richard Feynman because he so enjoyed explaining things. I'm a lousy physicist, though. Quantum theory, pah!

Which living person do you most admire?
The comedian Jeremy Hardy, possibly for the same reasons as Feynman.

What is the trait you most deplore in yourself?
Impatience

What is the trait you most deplore in others?
Thoughtlessness

What vehicles do you own?
A Toyota Prius and a Dutch recumbent bicycle. People always ask me if I am worried at being so low in traffic on the recumbent, but since drivers are usually staring at me I've never found it a problem.

What is your greatest extravagance?
Wine, although I own more technology than is probably healthy.

What makes you feel most depressed?
Bad design and the frustratingly defensive replies I have always received when making unsolicited suggestions.

What objects do you always carry with you?
A cell phone and credit cards. I used to carry a very small and useful pocket knife, but have had to give that up for security reasons.

What do you most dislike about your appearance?
I'm no George Clooney but there is nothing I dislike. I recently had laser eye surgery but that was really so I could see better – staring at a computer screen through the bottom of varifocals was giving me a pain in the neck.

What is your most unappealing habit?
Cutting off other people's sentences. I work hard at trying not to, but don't always succeed.

What is your favourite smell?
It's hard to name just one but I like the smell in the air after a thunderstorm on a hot dry day (that last part may just be wishful thinking – it's been raining for what seems like a whole month).

What is your favourite word?
'peut-être' – it's one of the few French words that I come even close to pronouncing correctly, plus it's very versatile

What is your favourite building?
It would depend on the occasion, but I often find myself admiring Brunel's work in Paddington station.

What is your favourite journey?
My office is what used to be our garage at the end of the garden. I quite look forward to walking up the garden path most evenings.

What or who is the greatest love of your life?
Music or my wife, respectively. Happily, I think I am a better husband than I am a musician.

Which living person do you most despise?
Despise is a bit strong, but I harbour more than a few negative feelings about George Bush, who managed to return to office in spite of my postal vote in the last US presidential election.

On what occasions do you lie?
When trying not to hurt someone's feelings

Which words or phrases do you over-use?
I spend a lot of time reviewing intranets, so 'assistive technology' is a phrase I would like to be able to use less than I do, but I find I use it a lot when trying to explain disability discrimination.

What is your greatest regret?
I grew up in Western Pennsylvania and for me Carnegie Mellon seemed a little too close to home as a university. Of course, I would probably have not ended up in the UK if I'd gone to CMU instead of the small, upstate New York college I chose.

When and where were you happiest?
Happiness is a journey. I have happy memories of many things, but I have no sense of being 'happiest' at any point.

How do you relax?
Watch comedy, read or play computer games (and drink more wine than I should)

What single thing would improve the quality of your life?
The laser eye surgery has been quite impressive – I had been wearing glasses or contact lenses for about 40 years. It's taken a little while to stop looking for my glasses when I get out of bed, but completely worth it.

Which talent would you most like to have?
I would really like to play a musical instrument well.

What would your motto be?
I'm very fond of Voltaire's 'best is the enemy of good'. That's not to say that we shouldn't try to perfect things, but we should be better at coming up with good solutions and trying them out rather than refining solutions that are 'perfect' for all the wrong reasons.

What keeps you awake at night?
Nothing, usually – I sleep very soundly (unless the bank balance is suffering).

How would you like to die?
Peacefully, after a short illness

How would you like to be remembered?
Spike Milligan has stolen the best epitaph – 'I told you I was ill'.

British HCI Group – Application Form 2006–2007 *Please print or type*

www.bcs-hci.org.uk

Contact Details (Give a personal contact when asking for Corporate Membership)

Title ..... First Name ..... Last Name .....

Work Address.....

.....

Tel. .....Fax. .....

Email.....

Nature of the work you do: .....

Home Address.....

.....

Please send mailings to: my work address ☐; my home address ☐.

Membership Status

Current British HCI Group Membership No. (if applicable).....

Current British BCS Membership No. (if applicable) .....

Student status (if applicable, e.g. Bachelors, Masters, Doctorate) .....

Professional Interests (please indicate up to six areas of professional interest)

.....

.....

Membership Directory

Do you wish your contact details and professional interests to be listed in the Membership Directory sent to all members of the group? (We will NOT use your home address, unless that is all you have given us.) Yes ☐ No ☐

Getting Involved…

We are always looking for people interested in contributing to HCI group activities by, writing for *Interfaces* magazine, helping run the annual conference or joining the executive. If you are able to contribute in this way or if you have ideas for 1-day meetings or new activities please contact Janet Read (JCRead@uclan.ac.uk)

Data Protection Act

The data on this form will be treated as confidential to the BCS. Names and address may be used, under our strict control, for mailings judged by the British HCI Group Executive to be of value to the membership.

Membership Fees 2006 – 2007

BCS Member £30 ☐ Non BCS Member £35 ☐ Student £10 ☐ Corporate £235 ☐

Associate Member of BCS and BHCIG £70 ☐

Corporate membership entitles the organisation to 8 copies of *Interfaces* and other mailings; membership rate for any 4 individuals at British HCI Group events, as well as a free one-page entry in the membership handbook.

Journal Subscription to 'Interacting with Computers'

The HCI Group manages a journal, *Interacting with Computers*, published quarterly by Elsevier Science. Members may subscribe to this journal at a reduced rate (£55.00). Vol 19:1 is published in the winter of 2006/2007.

Please send me Vol. 19 (2006/2007) of *Interacting with Computers (£55.00)* £ .....

Please send me Vols 17 & 18 of *Interacting with Computers (£105)* £ .....

Please send me a free sample issue ☐

Payment

Please send me a Direct Debit Mandate ☐, *or*

Please enter the total amount for membership and subscriptions £ .....

I enclose a cheque/postal order (in Pounds Sterling only please), made payable to **British HCI Group**, *or*

Please debit my Access/Visa/Mastercard

Card number ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ Expiry ☐☐/☐☐

The information provided on this form is to my knowledge correct and I agree to the conditions stated.

Signature: ..... Date: .....

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Send completed forms and cheques to:

HCI Membership, British Computer Society,
First Floor, Block D, North Star House, North Star Avenue, Swindon, UK, SN2 1FA
(Tel.+44(0)1793 417417)
Queries about membership can also be emailed to: hci@bcs.org.uk

The British HCI Group is served by Sub-groups comprising representatives from a broad range of academic and industrial centres of HCI interest. The Sub-groups are committed to promoting the education and practice of HCI and to supporting HCI people in industry and academia. For contact details of the persons in each Sub-group, please select from the following:

Officers and Sub-groups

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Treasurer **Tom McEwan**
Secretary **Adrian Williamson**
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Andy Dearden
Education & Practice Sub-group Officer
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European Conference Liaison & Planning vacant
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HCI2007 Chairs Tom Ormerod & Corina Sas
Meetings Officers Fausto J Sainz Salces (SR)

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SR: student representative

Interfaces magazine
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Reviews Editor Shailey Minocha
Production Editor Fiona Dix

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British HCI Group: www.bcs-hci.org.uk
UsabilityNews: www.usabilitynews.com
HCI2008: www.hci2008.org

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