

Mapping territory

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In *Dreams of a Final Theory*, Steven Weinberg speaks of the “spooky ability of mathematicians to anticipate structures that are relevant to the real world”.¹ This text is about the spooky ability of designers to do just that, to anticipate structures that are relevant to the real world, however spooky the real world might become.

How hard it is to write about a world becoming strange, or new, or spooky, after the dotcom crash, after the high hopes of increasing productivity through IT, of readers and writers becoming publishers both, of liberty finally around the corner: a product to be played out in all kinds of gender, racial and cultural roles, a process to drive decision-making transparency in both offline and online processes. Only to have woken up to the actual realization of a highly synergized performance of search engines and backend database driven visual interfaces. Postmodern theory, open source coding and multimedia channeling promised the production of a new, *hybrid* space, only to deliver the content convergence of media channels.

And yet, I claim that we are in the progress of witnessing the realization of such a new space. In places where computational processes disappear into the background - into everyday objects - both my reality and me as subject become contested in concrete daily situations and activities. Buildings, cars, consumer products, and people become information spaces by transmitting all kinds of data through Radio Frequency Tags that are rapidly replacing the barcode. We are entering a land where *the environment has become the interface*, where we must learn anew how to make sense.

Making sense is the ability to read data as data and not noise. A matter of life and death when dealing with the flowing reality of the earth's core: “If we consider that the

¹ Weinberg, S. *Dreams of a final theory* Vintage, 1993, p. 52.

oceanic crust on which the continents are embedded is constantly being created and destroyed (by solidification and remelting) and that even continental crust is under constant erosion so that its materials are recycled into the ocean, the rocks and mountains that define the most stable and durable traits of our reality would merely represent a *local* slowing down of this flowing reality.” (Manuel de Landa, 1997)

Reading this local slowing down of flowing reality has never been easy, in fact it has never been possible. There was no way of reading information in the data drawn by the patterns of the seismographs. Vulcanologists could but read in particular ways that refused to turn data into reliable information. Until Bernard Chouet, a physicist – after five years of intensive study – saw patterns where no one saw patterns before, decided what was data and what was not data.² He focused on a particular pattern that no one had seen before.

The design challenge we are facing now is reading the flowing reality of our *surface*. How to store real-time information flows? How to chart them? Which are our seismographs? How do we match real-time processes with the signified that they are supposed to signify? How to find ways of deciding what is data and what is not data in the space of flows?

Mapping the design research process:

According to Wickens³, people generally use one of three methods to navigate towards goals: landmarks, route finding and survey knowledge. This text - mapping territory - functions on the *route finding* level, given you an overview of the questions that will be addressed. **Landmarks**, are brief descriptions of facts, occurrences, statistics, experiences. **Survey knowledge** allows users to build an adequate mental model of the

² From the BBC documentary, Volcano Hell: “Chouet’s methods have commanded wide respect and have been increasingly used around the world. In a dramatic demonstration last year Mexican scientists used Chouet’s method to predict an eruption of the mighty volcano Popocatépetl. Tens of thousands of people were safely evacuated just before the biggest eruption of the volcano for a thousand years. No one was hurt.” <http://www.bbc.co.uk/science/horizon/2001/volcanohell.shtml>

³ Whittaker, L. A. ‘Human Navigation’, in ‘Human Factors and Web Development’, in Forsythe C., Grose, E., Ratner, J., (eds.) *Human Factors and Web Development* New Jersey, Lawrence Erlbaum Associates, 1998, p. 64.

navigational space. Such a mental model may be described as a cognitive map. A cognitive map “allows the explorer to maintain an important feature known as situation awareness”. Such navigation can not perform optimally without feedback procedures and dialogue.

I: Mapping territory: are we dealing with a fundamentally new situation or not?

Will ubiquitous computing enable something fundamentally new?

When Cook’s ‘Endeavour’ sailed into the bay that we know now as Cape Everard on April 22 1770, touching upon Australian shore for the first time, the British saw Aborigines fishing in small canoes. Whereas the native population of Tahiti had responded with loud chanting and the Maori had thrown stones, the Aborigines, neither afraid nor curious, simply went on fishing.

Only until Cook had lowered a small boat and a small party rowed to the shore did the Aborigines react. A number of men rowing a small boat signified a raid and they responded accordingly. The Aborigines must have *seen* something and even if they could not see it as a ship, they must have felt the waves it produced in their canoes. However, as its form and height was so alien, so contrary to any-thing they had ever observed or produced, they chose to ignore it since they had no adequate procedures of response. In *Dreamtime*, the Aborigines believed they saw an island. And as islands are common, you can let them drift by, you don’t *notice* them, you don’t perceive them as *data*. They thought Cook’s boat was an island. When you see an island you do not have to look up. It will pass.

We find ourselves today in a similar situation. Our *Endeavour* is the merging of digital and analogue connectivity as described by Mark Weiser in his 1991 founding text *The Computer in the 21st century* and Eberhardt’s and Gershenfeld’s announcement in February 1999 that the Radio Frequency Tag had dropped under the penny cost. For most common users the ubiquitous computing revolution is too fundamental to be perceived at such. Some professional users believe in smooth transitions, as Tesco’s UK IT director Colin Cobain, who says that RFID tags will be used on ‘lots of products’ within five years - and perhaps sooner for higher value goods; ‘RFID will help us

understand more about our products', he claims.⁴ And some professionals believe "that what we call ubiquitous computing will gradually emerge as the dominant mode of computer access over the next twenty years. Intriguingly, it is Mark Weiser who believed "that ubiquitous computing will enable nothing fundamentally new, but by making everything faster and easier to do, with less strain and mental gymnastics, it will transform what is apparently possible."⁵

Contrary to Mark Weiser's claim that ubiquitous computing will enable nothing fundamentally new, we believe that ubiquitous computing *will* enable something fundamentally new, and our main question is: *to what extent is does it have designerly agency?*

The disappearing computer,⁶ - launched by Future and Emerging Technologies, the European Commission's IST Programme - is a vision of the future: "in which our everyday world of objects and places become 'infused' and 'augmented' with information processing. In this vision, computing, information processing, and computers disappear into the *background*, and take on the role more similar to that of *electricity* (it. mine) today - an invisible, pervasive medium distributed on our real world."

In such a real world, Martin Rantzer of Ericsson Foresight, claims in *A future world of supersenses*: "New communication senses will be needed in the future to enable people to absorb the enormous mass of information with which they are confronted." According to him the user interfaces we use today to transmit information to our brains threaten to create a real bottleneck for new broadband services. "The boundaries of what constitutes consumer electronics and computers are getting blurred," says Gerard J. Kleisterlee, chief executive of Royal Philips Electronics, "As we get wireless networking in the home, everything starts to talk to everything."⁷

⁴ Shops reveal plans to replace barcodes, By Steve Ranger [04-09-2002]

⁵ Mark Weiser, "The Computer for the Twenty-First Century," *Scientific American*, pp. 94-10, September 1991

⁶ <http://www.disappearing-computer.net/>

⁷ At Big Consumer Electronics Show, the Buzz Is All About Connections January 13, 2003 By SAUL HANSELL, <http://www.nytimes.com/2003/01/13/technology/13DIGI.html?ex=1043457162&ei=1&en=124b1e27fe81246e>

In such a mediated environment – where everything is connected to everything - it is no longer clear what is being mediated, and what mediates. Design decisions become process decisions in a mediatized environment. Such environments - your kitchen, your living-room, our shopping malls, the streets of old villages, websites, schools, p2p networks, are new beginnings as they reformulate our sense of ourselves in places in spaces in time. The goal of the *Disappearing Computer* project is augmenting the world of everyday objects and places with information processing while at the same time exploiting the affordances of real objects in the real world. Dr. Norbert Streitz, one of the key figures in the network, explains that this requires “an integrated design of real and virtual worlds and - taking the best of both - developing hybrid worlds with matching metaphors.” The disappearing computer can, according to him, be thought of as *genius loci*, - the spirit of the place. As ‘nature’ and ‘techné’ become hybrid spheres, people become ‘tags’, or ghosts.

What is the role and place of design in these information spaces that are mediated with computational processes that generate not data (linked to other data) – the kind of communicative process that we are familiar with - but information (linked to other information)?

The design challenge lies in confronting the move from interaction as a key term to *resonance* as an interpretative *framework*. Resonance refers most aptly to the way we relate to things, people, ideas in a connected environment. Interaction presupposes an ideal setting, agency and response. But mediation -the core business of interaction - is no longer a relationship. It has become the default position.

The role of design lies in making visible what is not visible as such, creating seismographs – ways of reading the flowing surface realities of both digital and analogue data – ways of reading them, as they will surely read us.

Landmarks:

Searching for sudden “bursts” in the usage of particular words could be used to rapidly identify new trends and sort information more efficiently, says a US computer scientist., Jon Kleinberg, at Cornell University in New York. The method could be applied to weblogs to track new social trends; “For example, identifying word bursts in the hundreds of thousands of personal diaries now on the web could help advertisers quickly spot an emerging craze, or identifying word bursts within email messages sent

to a company's customer support address might help maintenance staff spot a major new problem.⁸

II: Mapping territory: what kind of literacies do we need to design?

All things tend to disappear, and especially things man made. 'Ephemerisation' was Buckminster Fuller's term for describing the way that a technology becomes subsumed in the society that uses it.⁹ The pencil, the gramophone, the telephone, the cd player, technology that was around when we grew up, is not technology to us, it is simply another layer of connectivity. Ephemerisation is the process where technologies are being turned into functional literacies; on the level of their grammar, however, there is very little coordination in their disappearing acts. These technologies disappear as technology because we can not see them as something we have to master, to learn, to study. They seem to be a given. Their interface is so intuitive, so tailored to specific tasks, that they seem *natural*. In this we resemble the primitive man of Ortega y Gasset:

...the type of man dominant to-day is a primitive one, a Naturmensch rising up in the midst of a civilised world. The world is a civilised one, its inhabitant is not: he does not see the civilisation of the world around him, but he uses it as if it were a natural force. The new man wants his motor-car, and enjoys it, but he believes that it is the spontaneous fruit of an Edenic tree. In the depths of his soul he is unaware of the artificial, almost incredible, character of civilisation, and does not extend his enthusiasm for the instruments to the principles which make them possible.¹⁰

This unawareness of the artificial, *almost incredible*, character of Techné – the Aristotelian term for technique, skill – is only then broken when it fails us:

⁸ Date: Thu, 20 Feb 2003 10:35:02 -0600 (CST) Subject: [>Htech] New Scientist: Word 'bursts' may reveal online trends Reply-To: transhumantech@yahoogroups.com Word 'bursts' may reveal online trends, Will Knight.

⁹ From Chris Hutchings [SMTP:chris.hutchings@VISCOMM.CO.UK] Sent Saturday, January 25, 2003 1:18 AM To: IDFORUM@YORKU.CA Subject: Re: the future of...

¹⁰ Ortega Y Gasset, *The Revolt of the Masses*,

*Central London was brought to a standstill in the rush hour on July 25 2002 when 800sets of traffic lights failed at the same time - in effect locking signals on red.*¹¹

Every new set of techniques brings forth its own literacy: The Aristotelian protests against introducing pencil writing, may seem rather incredible now, at the time it meant nothing less than a radical change in the structures of power distribution. Overnight, a system of thought and set of grammar; an oral literacy dependant on a functionality of *internal* information visualization techniques and recall, was made redundant because the techniques could be externalised. Throughout Western civilization the history of memory externalisation runs parallel with the experienced disappearance of its artificial, man made, character. An accidental disappearance, however much intrinsic to our experience, that up till now has not been deliberate. This then is the fundamental change and the *design challenge* that we are facing in ubicomp; the *deliberate* attempt of a technology to disappear as technology.

It took me five years to figure out, to grasp, - understand - let me use the word resonate - these lines of Heraclitus: and I rephrase them in my own lines - “of all that which is dispersed haphazardly, the order is most beautiful.” In the *Fragments* you read that these lines are incomprehensible as far as the Heraclitus scholars are concerned. They can not link it as a line of verse with other words in other lines in verse. I read it and in reading I knew it to be true. Knowing that only as experience is not very productive in a society that has no non-iconic medium for transmitting these kinds of experiences. In order to make this experience productive; read: make it politically viable and socially constructive - in order to find ways of transmitting, ways of teaching experiences like this - we textualise them. We find analogies, we read initial lines as metaphor, as metonymy. I went for a walk one day in the woods near F., in the Belgian Ardennes. A beautiful walk it was, steep down, hued autumn colours, leaves fading into black. In the quiet meadow that we passed I saw autumn leaves, small twigs, pebbles sometimes - hurdled into the most beautiful of patterns by the strenght of water moving. I looked hard realizing there was indeed no other way of arranging them.

¹¹ “The worst gridlock the capital has seen for years was caused by a computer which crashed as engineers installed software designed to give pedestrians longer to cross the roads.”. Date: Thu, 25 Jul 2002 09:55:35 +0100 From: Adrian Lightly adrian@pigeonhold.com Subject: Gridlock as 800 London traffic lights seize.

I recognized leaves as data. I recognized data as data. And I recognized the inability to find a way to come to terms with Heraclitus' line without walking, without taking a stroll in the woods and look around you, look around you and find the strenght of streams arranging.

Landmarks:

*Mikhail Simkin and Vwani Roychowdhury of the University of California, notice in a citation database that misprints in references are fairly common, and that a lot of the mistakes are identical. They looked at a famous 1973 paper on the structure of two-dimensional crystals; cited in other papers 4300 times, with 196 citations containing misprints in the volume, page or year. It appeared that 45 scientists, who might well have read the paper, made an error when they cited it. Then 151 others copied their misprints without reading the original. So for at least 77 per cent of the 196 misprinted citations, no one read the paper.*¹²

*A group of prominent scientists announce the creation of two open-source peer-reviewed online journals on biology and medicine. They intend to bring the best papers in the public domain. Says Dr. Harold E. Varmus, chairman of the new nonprofit publisher, "Our ability to build on the old to discover the new is all based on the way we disseminate our results."*¹³

III: Mapping territory: If ubiquitous computing enables something fundamentally new, to what extent does it have designerly agency?

The status of theory in the larger field of design practice and design teaching has generally been framed in terms of *relevance*. For the theoretical physicist Eugene Wigner, however, one of the central *mysteries* of science is the "unreasonable

¹² From: Premise Checker checker@mail.sheergeniussoftware.com Mailing-List: list transhumantech@yahoogroups.com Date: Sat, 14 Dec 2002 09:48:06 -0600 (CST) Subject: [>Htech] New Scientist: Scientists exposed as sloppy reporters Scientists exposed as sloppy reporters, by Hazel Muir. <http://www.newscientist.com/news/news.jsp?id=ns99993168>

¹³ Date: Mon, 30 Dec 2002 17:52:10 -0600 From: Ian Pitchford ian.pitchford@scientist.com To: evolutionary-psychology@yahoogroups.com

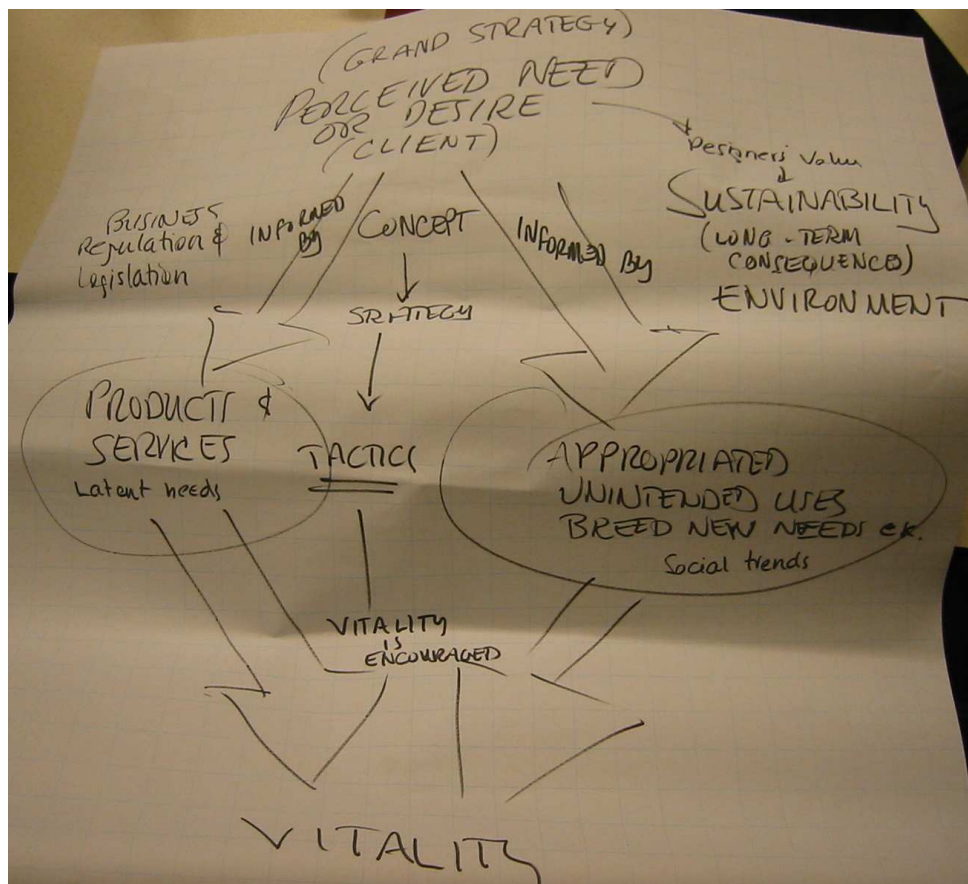
Subject: [evol-psych] New premise in science: Get the word out quickly, online

effectiveness of mathematics in the natural sciences”. Steven Weinberg asserts: “So irrelevant is the philosophy of quantum mechanics to its use, that one begins to suspect that all the deep questions about the meaning of measurement are really empty, forced on us by our language, a language that evolved in a world governed very nearly by classical physics.” Wigner and Weinberg are able to label the theoretical foundations of their own practice as ‘irrelevant’ because they work within a well-defined paradigm towards the development of the latest unified theory, the string theory. They know where they are heading. And whereas theoretical physicists travel backwards towards a fixed point, designers can only move forwards to territory as yet unread. This territory, however, can be mapped. The status of theory here lies in it’s ability to map out unexplored territory and function as a conceptual framework that distinguishes between productive and non-productive questions, determines when observations become data, and posits cognitive objectives. But it is not per se relevant. On the contrary, it concerns itself with the mechanisms of making sense on a daily basis, on a concrete level of dealing with the various experiences of reality that defy relevance.

Following up on a USA Today (August 5, 2002) piece on how new SUV interiors are being designed to be “more like living rooms.” Michael Kaplan noticed on Design-I that more and more people are leaving their SUVs in shopping center parking lots locked with the engines running (to power the air conditioners). He sees “people sitting in them using their cell phones, watching television, or working on their laptops.” He writes: “It occurred to me that the SUV, for many people, is an extension of their home, a little mobile room they can detach and live in when they are not in their fixed home. All fine and well, if these things didn’t consume so much energy, pollute the environment, take up excessive parking space, and pose danger to smaller vehicles. They should probably be taxed for the damage they do (lol). And I would think, too, that they could be designed better for what they are used for, have a solar collectors covering their huge surface area to keep the a/c running while parked.”

This story narrates this now everyday experience of being grounded when we are on the road, being at home while mobile. It also narrates the design tendencies of this increased interconnectivity of mediasystems – television, mobiles, computers – as it tries to immerse itself into very familiar objects, here the automobile. It is precisely because of the familiarity of the local space that mediasystems are *added* to the automobile, leaving its primary function – to make miles – intact. It clearly shows the need for

design theory and practice to deeply interconnect with the work currently going on in cultural studies. In a meeting of Interaction Design Course Leaders during Doors of Perception 7, on Flow, the group¹⁴ came up a grand strategy for moving design up on the foodchain, into process making decision procedures. How to do a better job? First by being more sensible to the needs of individuals and communities. Also appropriated unintended uses and social trends must be used as inspirations to design. Another special value designers can bring in this process is the attention for sustainability and the environment. If we want to give designers more influence in these processes we must move designers up the foodchain, from a decorative role to a conceptual role.



Every new set of techniques brings forth its own literacy:, the *deliberate* attempt of a technology to disappear as technology, implies that designers not only produce new

¹⁴ Doors of Perception, Meeting for Interaction Design Course Leaders, 17 November 2002, with Jo Gell, Smartlab, Brenda Laurel, Pasadena, California, Juke Kleerebezem, Jan van Eyck Academie, Emma Westecott, The Interactive Institute, Nico Macdonald Design Agenda., Philipp Heidkamp, Köln International School of Design, Brendon Clark, Mads Clausen Institute for Product Innovation, Alan Munro (DC Steering Committee)

products but also the process procedures that gave birth to these products in these first place.

In *Smile, You're on In-Store Camera*, Erik Baard describes how the web shopping process of following your customer every step of the way, might now become effectively used in an ordinary supermarket: "The algorithm looks for shapes of people and (passes) the same individual off from camera to camera by, for example, looking for a yellowcolor leaving the left side of one camera view to enter the overlapping right side of the next." The algorithm is tuned with pressure-sensitive carpets. Neither Identix (formerly Visionics), nor the originator of the pressure-sensitive magic carpet, MIT Media Lab researcher Joe Paradisso, thought of these ways of using their work for tracking consumers: "I was thinking of music. I never thought about this for retail at all," said Paradisso, who has designed performance spaces where footsteps trigger bass or percussive sounds and torso, head and arm movements elicit higher, "'twinkling' notes."¹⁵

Ubicomp Applications

The editors of the first volume of *Visual Communication*, claim that: "at the same time as the study of language and communication has become more openly oriented towards practical problems, the practice of designing visual communications has become more openly allied to research."¹⁶ The working notion of research, however in current academies is deeply infested with a sterile theory-practice dichotomy that functioned in a mechanistic worldview, but is hardly productive in a ubicomp world. We face the challenge of rethinking research as a performative practice based on creating applications for societal benefit. There are very few ubicomp applications at the moment that do not focus on control or surveillance issues. There is real need for applications that empower users in dealing with uncertain situations. Of the following work in progress, Anthony D. Joseph, editor of the *Pervasive Computing* magazine, says it "represents an interesting combination and application of medical and computer technology".

¹⁵ Smile, You're on In-Store Camera By Erik Baard
<http://www.wired.com/news/privacy/0,1848,54078,00.html>

¹⁶ *Visual Communication*, volume 1, number 1, February 2002 ISSN 1470-3572

UBICOMP TO PROVIDE FEEDBACK FOR PEOPLE WITH OBSESSIVE-COMPULSIVE DISORDER¹⁷

Rob van Kranenburg • Resonance Design

Roger was a successful vice president of a bank, unremarkable in every respect, except one. Before starting a task, he had to pull his socks up and down five times. Exactly five. Roger (not his real name) had obsessive-compulsive disorder. Like a skipping record, OCD patients repeat an act or repeatedly think about a phrase, number, or concept. “Most of us are able to switch things off,” says Hopkins professor of psychiatry Rudolf Hoehn-Saric. “In obsessive-compulsive disorder, the person can’t.” (M. Hendricks, “The Man Who Couldn’t Stop Adjusting His Socks,” Johns Hopkins Magazine, June 1995; www.jhu.edu/~jhumag/695web/socks.html)

In the US and Netherlands, one in 50 adults currently has OCD, and twice as many have had it at some point in their lives. OCD is a medical brain disorder that causes problems in information processing, creating a loop in the feedback procedure so that people miss the “ka-chung” that closes a car door or the click that shuts down the television. According to the Obsessive-Compulsive Foundation,

Worries, doubts, and superstitious beliefs all are common in everyday life. However, when they become so excessive, such as hours of hand washing, or make no sense at all, such as driving around and around the block to check that

¹⁷ In: Pervasive Computing, Jan-March 2003. The third work in progress discusses how ubicomp applications could help people with obsessive-compulsive disorder by providing them with additional audio, visual, or tactile feedback that helps break repetition loops. This area of research represents an interesting combination and application of medical and computer technology for societal benefit. — Anthony D. Joseph <http://dsonline.computer.org/0303/f/b1wip.htm>

an accident didn't occur, then a diagnosis of OCD is made. In OCD, it is as though the brain gets stuck on a particular thought or urge and just can't let go. People with OCD often say the symptoms feel like a case of mental hiccups that won't go away. OCD is a medical brain disorder that causes problems in information processing. It is not your fault or the result of a "weak" or unstable personality. (The Obsessive-Compulsive Foundation, www.ocfoundation.org/ocf1010a.htm)

How could ubicomp be instrumental here? Phase 1 is researching if ubicomp applications can assess if a person has a tendency for audio, visual, tactile, or other kinds of feedback that would signal the task scenario's closure. In Phase 2, we would have to access, for example, if visual feedback on clothing or another appliance could break the chain of repetition for a person who functions on visual feedback but is dealing with an apparatus that does not provide such feedback. Working closely with psychiatrists and OCD patients, in Phase 3 we could test whether such ubiquitous computing applications could break the loop of repetition, assuming that it is the kind of feedback that is responsible for the taskloop's nonclosure.

A group of researchers performed experiments and concluded that "the OCD group performed significantly worse than controls in the temporal ordering task despite showing normal recognition memory. Patients were also impaired in 'feeling-of-doing' judgments, suggesting they have a lack of self-awareness of their performance" (M.A. Jurado et al., "Obsessive-Compulsive Disorder (OCD): Patients are Impaired in Remembering Temporal Order and in Judging Their Own Performance," J. Clinical and Experimental Neuropsychology, vol. 24, no. 3, 2002, pp. 261–269).

Based on these findings, research into ubicomp applications could focus on temporal markers and serendipitous feedback scripting into various scenarios to raise self-awareness.

The three phases just discussed are being developed within the framework of contemporary performance and theatrical practice. There we find an actualization of (and ways of dealing with) the bottleneck scenarios that information experts envision.

In this research as performative practice setting we can both acknowledge a certain group of performances as experiments in dealing with information overload, and acknowledge that implementing digital connectivity in an analogue environment without a *design for all the senses*, without a concept of *corporal literacy*, leads to information overload. In a ubiquitous computing environment the new intelligence is *extelligence*, “knowledge and tools that are outside people’s heads” (Stewart and Cohen, 1997) In a ubiquitous computing environment the user has to be not only textually and visually literate, both also have corporal literacy, that is an awareness of extelligence and a working knowledge of all the senses.

The main question from a design educational point of view then concerns the kind of skills and kind of literacies that a designer needs to function. And these turn out to be those that are most foreign to an educational practice today, as this new situation needs designers that can assess emergent literacies, unforeseen uses, unintended use, and *resonance* – not interaction – as the key producer of causalities. For such a designer the default position is one of *uncertainty*, of being able to cope with a continuous delaying of the act of closure, of an ‘end’.

In the new 754i BMW sedan the iDrive, also known as the miracle knob “is designed, through a computerized console, to replace more than 200 that control everything from the position of seats to aspects of the navigation of the car itself to climate, communications and entertainment systems.” In May 2002 15,000 7-series were recalled. “BMW tried to do too many things at once with this car, and they underestimated the software problem,” says Conley, ex-CEO of EPRO Corp. “Only two-thirds of hardware has been unleashed by software. There are so many predecessors and dependencies within software that it’s like spaghetti-ware. It’s not that easy to get all these little components to plug and play.”¹⁸

When the product and the process gets confused, pitfalls arise. What does this mean for connectivity in a business environment? It means that there is a need for tools to master this merging of digital and analogue processes of communication and database-driven systems. As the environment becomes the interface, where is the company dashboard, the familiar readers of situation, actions, scenarios?

¹⁸ From: Dewayne Hendricks dewayne@warpspeed.com January 16, 2003 Consumer Products: When Software Bugs Bite By Debbie Gage http://www.baselinemag.com/print_article/0,3668,a=35839,00.asp

Ubicomp pitfalls:

In Insourcing Information Management: Ford CIO Mary Adams makes information management a core competency and is cutting costs. How? She is bringing more IT people — and projects — *inside*. She recognized “that the highest return on investment comes from technology that is deeply integrated into the core operating systems, practices and processes of the company—not a strategy that puts an Internet veneer in front of things that still need to be fixed. “ Ford is bringing much of what was outsourced back inside: from having 146 different premier IT providers they are down to eight. Adams: “ Insourcing gives you more control over the quality and speed of your IT work. It’s about taking complete ownership and accountability for most IT work done at Ford and, in some ways, it’s being able to test, prove and develop in-house more cheaply than before. In that way, it reduces risk.” Insourcing is strategy that is also helping to avoid the “primary reason for the high failure rate of the first generation of customer relationship management projects: a failure to align software capabilities with the actual needs of customers.

Pitfall: How do you know what services to insource without losing touch with *emerging* services and needs?

In Customer Relation Management: Gartner research director Beth Eisenfeld claims that it is “crucial to identify and quantify the processes involved in a company’s interactions with customers to see where they break down, and then to redefine them across all departments. Only then does it make sense to add technology to the mix. It is possible -- even likely -- that a company may have hundreds or thousands of such processes, Eisenfeld said. But the sheer numbers should not be cause for alarm. Identifying them will enable a CRM newcomer to establish meaningful priorities.”¹⁹

Pitfall: How do you map these hundreds or thousands of processes in a dynamic way?

In media convergence: Tim Fenton, Managing Editor, BBC News Interactive claims: ‘At BBC News Interactive, we believe convergence of basic production is necessary if we are to continue to increase efficiency and deliver a consistent service across all media. At the same time, we believe our audience is diverging and we are going to have to produce a greater number of better-targeted services. Reconciling these two is our

¹⁹ CRM SPECIAL REPORT: Practical CRM for the Uninitiated By Erika Morphy CRMDaily.com January 15, 2003 <http://www.crmdaily.com/perl/story/20467.html>

greatest organisational challenge.’²⁰ This reconciliation is now attempted by the move in stealth marketing, in guerrilla marketing from using mixed media (radio, sms, billboard, television) to create user experiences to designing experiences by mediating the environment.

Pitfall: Attempting this reconciliation media convergence and audience divergence with concepts that are infused by the scarcity principle, will not be able to detect emergent literacies, needs and services.

In profiling strategies:“Federal aviation authorities and technology companies will soon begin testing a vast air security screening system designed to instantly pull together every passenger’s travel history and living arrangements, plus a wealth of other personal and demographic information.” Says Robert O’Harrow Jr²¹. The government’s plan is to “establish a computer network linking every reservation system in the United States to private and government databases. The network would use data-mining and predictive software to profile passenger activity and intuit obscure clues about potential threats, even *before* (italics mine) the scheduled day of flight....Computers would apply statistical algorithms to correlate physiologic patterns with computerized data on travel routines, criminal background and credit information from “hundreds to thousands of data sources,” NASA documents say.

Pitfall: Note the extremities to which the designers will go to script serendipity into their profiling strategy: data-mining and predictive software, obscure clues, *statistical* algorithms, *physiologic* patterns, *computerized* data from “hundreds to thousands of data sources”.

What becomes the *toplevel skill* in this environment? Serendipity used to be an interpretative tool, the skill to lay bare hidden connections. Now the ability to read data as data has become the top level skill. How else are you going to make sense of the serendipity that is *scripted into* your profiling strategies? How do you differentiate between content and context is your content is inherently contextualized?

²⁰ EJC News. <http://www.ejc.nl/cp/courses.asp?recordID=496>

²¹ Washington Post Staff Writer Friday, February 1, 2002

IV: Mapping territory: Extelligence: buildings, cars and people become information spaces

The ultimate aim of all creativity is the building! And the italics are original to Walter Gropius Manifesto of the Bauhaus (April 1919): “Let us together desire, conceive and create the new building of the future, which will combine everything – architecture *and* sculpture *and* painting – in a *single form*....” In a ubicomp environment, architecture will become once again the core unit of design. For something *has* fundamentally changed; the very nature of information itself, no longer analogue, no longer digital, and not hybrid neither: buildings, cars and people can now be defined as information spaces. Anthony Townsend, from Taub Urban Research Center, has been asked commission by the South Korean government to “turn an undeveloped parcel of land on the outskirts of Seoul into a city whose raison d’être will be to produce and consume products and services based on new digital technologies. “ The main challenge lies in the realization that “*half of designing a city is going to be information spaces* that accompany it because lots of people will use this to navigate around.” Townsend claims that telecommunications in a city in 2012 is going to be a lot more complex: “The most interesting thing about it will be that you won’t be able to see it all at once because all these data structures, computational devices, digital networks and cyberspaces that are built upon those components will be invisible unless you have the password or unless you are a member of the group that is permitted to see them.”²² In such an environment, the people themselves – human bodies- become information spaces too.

In an attempt to achieve a harmony between a town center and a distribution network, officials of the Wal-Mart Corporation announced in March 2003 the opening of Walton Township, guaranteeing its residents a literally bottomless supply of consumer goods, for a flat all-in monthly fee. According to Valerie Fenable-Grieg, who designed it, the key to Walton is “a literal superimposition of municipal and retail channels.” In an effort to control ‘leakage,’ the export of flat-fee goods outside the Township by community subscribers, Wal-Mart plans to institute a pervasive inventory control system consisting of miniature radio-frequency tags broadcasting unique product and batch ID numbers.”²³ The three major U.S. car manufacturers plan to install rfd tags in “every tire sold in the nation”. The tags can be read on vehicles going as fast as 160

²² Designing the century’s first digital city, By Sandeep Junnarkar , Staff Writer, CNET News.com, September 18, 2002, 12:00 PM PT <http://news.com.com/2008-1082-958461.html>

kilometers per hour from a distance of 4.5 meters.²⁴ In January 2003, Gillette began attaching rfd tags to 500 million of its Mach 3 Turbo razors. Smart shelves at Wal-Mart stores “will record the removal of razors by shoppers, thereby alerting stock clerks whenever shelves need to be refilled—and effectively transforming Gillette customers into walking radio beacons.”²⁵ London Underground will in all probability have about 10,000 CCTV’s by 2004 (it now has 5000). The systems architecture - MIPSAs, Modular Intelligent Pedestrian Surveillance Architecture - is programmed with scenarios – “such as unattended objects, too much congestion, or people loitering - and when it detects one of those, it alerts the operator through a series of flashing lights and messages.”

*“To determine what is suspect, the system memorizes the features of an image that are constant, and then subtracts those to figure out what is happening. It looks at patterns of motion and their intensity. Things that are stationary for too long in a busy environment raise alarms..”*²⁶

Are our current designers equipped to deal with these fundamental issues and dilemma’s, where what used to be *media ethics* has now become *building ethics* itself?

Landmarks:

*In SMART MOBS, Howard Rheingold documents the role of text coordinating mass demonstrations against President Joseph Estrada in January 2001.*²⁷

DARPA is two-year-old \$50-million Human ID at a Distance program. And while automated face recognition receives the most attention, DARPA is also funding efforts at a handful of universities to identify people through their body language. The theory

²³ From: “futurefeedforward” fff@futurefeedforward.com Date: Sun Mar 23, 2003 07:27:39 PM US/Central To: bruces@well.com

²⁴ Surveillance Nation, Technology Review, April 2003

²⁵ Surveillance Nation, Technology Review, April 2003

²⁶ Stand still too long and you’ll be watched New imaging software alerts surveillance-camera operators to suspect situations by monitoring patterns of motion By Kim Campbell | Staff writer of The Christian Science Monitor <http://www.csmonitor.com/2002/1107/p17s01-stct.htm>

²⁷ List-Archive: <http://www.aoir.org/pipermail/air-l/> Date: Sat, 18 Jan 2003 11:16:47 -0800

is simple: in the same way that each person has a unique signature or fingerprint, each person also has a unique walk. The trick is to take this body language and translate it into numbers that a computer can recognize.²⁸ One approach is to create a ‘movement signature’ for each person.”

*Bemoaning the loss of old skills is probably not the most productive way to critique the new technologies. The greater need is to recognize that, precisely *because* of the labor-saving capabilities of our high-tech tools, the art of mastery demands greater skills and more arduous discipline than ever before.²⁹*

V: Mapping territory: Resonance Design: Vision

“As thousands of ordinary people buy monitoring devices and services, the unplanned result will be an immense, overlapping grid of surveillance systems, created unintentionally by the same ad-hocracy that caused the Internet to explode. Meanwhile, the computer networks on which monitoring data are stored and manipulated continue to grow faster, cheaper, smarter, and able to store information in greater volume for longer times. Ubiquitous digital surveillance will marry widespread computational power—with startling results.”³⁰

The most intriguing aspect of Bauhaus is that the most successful unit, – the unit coming ‘closest to Bauhaus intentions’, as Gropius stated, the pottery workshop – was located 25 kilometers from Weimar, in Dornburg. It was hard to reach by train, and hard to reach by car. The workshop master Max Krehan owned the workshop, so there was a business interest³¹ from the start. The relationship with Marcks, the Master of Form, was not contaminated with formalized roundtable discussions, but was a productive twoway

²⁸ Date: Tue, 30 Apr 2002 04:10:49 +0100 From: andrew hennessey <a.hennessey@btopenworld.com> Reply-To: fsm1@yahoogroups.com To: fsm1@yahoogroups.com Subject: [fsm1] Walk This Way. Walk This Way http://www.techreview.com/articles/wo_cameron042302.asp. By David Camer April 23, 2002

²⁹ From: Steve Talbott [mailto:stevet@OREILLY.COM] Sent: 28 January 2003 20:16 To: NETFUTURE@MAELSTROM.STJOHNS.EDU Subject: NetFuture #141 Issue #14 A Publication of The Nature Institut January 28, 2003 Editor: Stephen L. Talbott (stevet@oreilly.com). Notes concerning *One River: Explorations and Discoveries in the Amazon. Rain Forest*, by Wade Davis (New York: Simon and Schuster, 1996). Paperback, 537 pages, \$16.

³⁰ Surveillance Nation, Technology Review, April 2003

(abstract-concrete) interrelationship.

“More important still, in terms of what Gropius hoped for the entire Bauhaus, was the way in which the pottery workshop operated in close co-operation with the local community in which it found itself. It made pots for the community and the town of Dornburg leased the workshop a plot of land which the students used for vegetables and on which, it was hoped, they would build.”³²

So what can we learn from this? That we must not aim to define, alter or transform practices, processes, places or people. What should be aimed at to define is a vision. A vision that should be able to inspire and empower designers in their concrete experience of agency in this undesignerly new world, towards a humanistic and optimistic positive attitude in the role, function and *leadership* of the designer in his and her capability to make sense, to work within an *uncertain* framework of unforeseen consequences, unintended uses, and procedural breakdown.

Three basic ideas underlie this vision: one; the dominance of a yet to be developed concept of life and living as *slow becoming*, as in Eugène Minkowsky’s idea that the essence of life is not “a feeling of being, of existence, but a feeling of *participation* in a flowing onward, necessarily expressed in terms of time, and secondarily expressed in terms of space.”³³, two; the dominance of a yet to be developed concept of *slow money*, so as to focus on the design process on the one hand and the sustainability of the design products on the other, and three a working concept of our former notion of control, as *resonance*.

³¹ In the sense that Paul Hawken describes it: “The promise of business is to increase the general well-being of humankind through service, a creative invention and ethical philosophy. In: Hawken, Paul. The Ecology of Commerce, A Declaration of Sustainability, Harperbusiness, 1993.

³² Whitford, Frank, Bauhaus, Thames & Hudson, 1984, p. 73-4

³³ Bachelard, Gaston. *The Poetics of Space*. Foreword by Etienne Gilson, Beacon, 1969, p. xii in the Introduction.