

Extremely Inverted Commas

School of Design Student Research Conference 2017

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Introduction: Extremely Inverted Commas

Prof. Ashley Hall

Over the last few years we have been developing a number of student research conference in the school of design and 2017 is the first time we have combined all the programmes and researchers into one three-day event. The breadth of focus and research positions ranging from co-speculative design, design for repair, internet of things, new timeline visualisations, innovative materials and strategies for vehicle interiors to VR for safety and new banking service innovations allows new thinking and hybrid research positions to develop amongst the community of researchers. The increasing focus on how design is mediating the impact of humans on advanced technology and technology on human evolution is a central interest for many researchers. Out of this emerges the issues of human agency and qualitative expectations from quantitative networked digital experiences alongside the political, ethical and social changes that design research exposes and tackles through practice.

Extremely inverted commas was a phrase that stuck in my mind from Mike Kann's presentation. He used it in an interesting way to acknowledge that he was using a caricature or stereotype description and to bear with us as he make his point. It struck me that we do a lot of this in research, using general terms, simplifications and caricatures to help us get from one point to another or to make bridges between ideas, theories and also disciplines. We also know that there are exceptions to this rule and shades of grey as we research deeper down to a granular level and that we have to park some of this detail to develop conversations on a higher level. It's this navigating from detail to theoretical helicopter view and back again that makes the intellectual challenge of design research so engaging.

I was also encouraged to hear so many references and overlaps to second order cybernetics, feedback loops and circularity mixed in with reflective practice in design led research. It's clear that the influence of my late colleague Prof. Ranulph Glanville remains as strong as ever. In supervisors and conferences, he used to ask 'where is the delight?' referring to one of his favourite Vitruvian qualities of Venustas and it was clear to me that there is plenty of curious delight growing in our research culture.

Reviewers' Comments

Prof. Stephen Boyd Davis

The conference reminded me forcibly of the potential – and possible pitfalls – of working closely with the users of our research. Users of course provide invaluable real world contexts and needs. But it is essential that our own imaginations are not tied down by the relatively constrained views of what is possible. It may often be a research student's role to disturb the user and take them in directions that at first they did not want to go.

Prof. Michael Hohl

'Science owes more to the steam engine, than the steam engine owes to science;' – Clifford Geertz, 1983, p22, *Local Knowledge: Further Essays in Interpretative Anthropology*

I have been quite impressed by the clarity, reflective quality and confidence with which the PhD researchers presented the current stages of their various research projects. Design methods, research methods and theoretical frameworks were often clearly addressed. Reflective thinking became apparent in the advancing threads of the research, the developing questions and arguments.

The themes being investigated also are impressively broad, and range from critical design to transition design, from projects informing policy-makers, to participatory-design, systems-design and second-order cybernetics, from educational reform to implementing sustainability guidelines. Designers contributing to many different fields – through practice-based research.

The most satisfying experience though, for me, was to see that there seems to be a solid research culture that is thriving. Design research clearly has come a long way. I think conferences such as this one are crucial to foster this kind of culture.

Dr. John Stevens

Every researcher presented a clear and engaging body of work, and I was impressed by the breadth and depth of topics, as diverse as material exploration, data visualisation, medical practice, consumption and attachment, and pro-social transportation. I am really pleased that the event demonstrated an increasingly integrated community of postgrad research in the School of Design.

Dr. Qian Sun

Doing a PhD can be a lonely journey. This event provided a good peer learning opportunity for all research students to get to know each other's work, to learn and to share. What struck me most was that the students were so willing to share their thoughts and to connect with those they had not known before this event. This has also inspired a lot of good ideas for developing a research culture further across different subject areas.

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YOUNG EUN CHO-IMKAMPE

HEATHER (JINHEE) KIM

FREYJA SEWELL

**Technology Experience with Meaning:
How Can a Designer Contribute to the Technology Experience
Creation Process and the Technology Experiences for the Mass
Public to Be Socially Aware**

Young Eun Cho-Imkampe

The moral responsibility of the product manufacturers has been pointed out by many, most poignantly by Victor Papanek. Thanks to their vision, public organisations such as United Nations & global corporates opened their eyes to the corporates' responsibility in sustainability. Movements like 'Cradle to Cradle' have followed & helped shaping conscious manufacturing worldwide.

Today, consumer digital product & services are the 'new manufacturing', being at the focus of consumer culture, touching the lives of people on a daily basis. Social network services such as Facebook and Snapchat are used by one out of six users every day. Mobile games such as Pokemon Go and Candy Crush are fighting to capture attention, but there is not enough emphasis on what the role of digital products must be in the society.

This research looks into the existing researches around collaborative innovation processes, and case examples of consumer technology products and initiatives such as One Laptop Per Child, it defines four minimum viable parties to collaborate together for the technology product experience to make impact to the society. In addition to the conventional parties of technology provider and a commercial partner, the research suggests a public sector organisation who wants to address social issues and a design team to work together, which constitute a new collaborative innovation framework for the technology product creation process with an objective for the experience not only to make impact in the market, but also to make conscious efforts to serve the society.

In the course of the research, the designer practices a technology experience creation project on designing a new virtual reality experience for social purpose, where she interfaces as the central facilitator of a multidisciplinary team composed of the four minimum viable parties, and identifies possible challenges and solutions.



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YOUNG EUN CHO-IMKAMPE

HEATHER (JINHEE) KIM

FREYJA SEWELL

Design for Shared Objects through *Carative Factors: An Exploratory Research into the Practice of Objects-Owners Detachment to Enable Shared Use for Object's Longevity

Yoony Choi

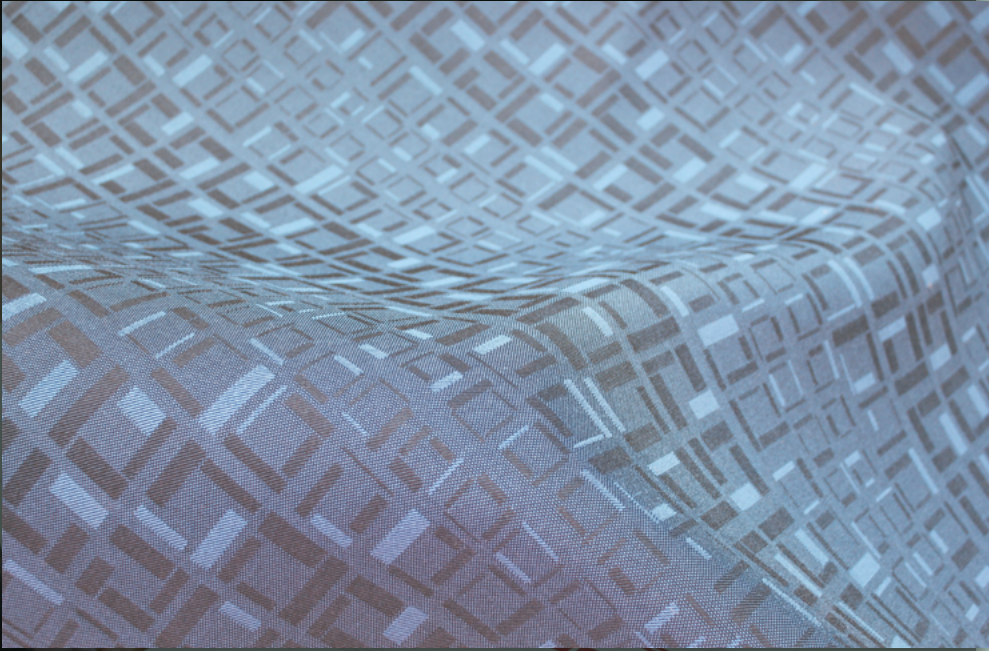
Current product use within the domestic environment produces a lot of unwanted waste that must be dealt with significant cost, with negative environmental impacts. The background of producing unwanted objects is that people tend to keep things, which they don't need without having a certain future plan. When the relationship with the objects decreases, the owner encounters the state of uncertainty about their further action of object's future. They found it is challenging to dispose of objects as they have built a relationship through the time they possess and have developed 'lingering attachments' to objects. This causes a problem when people face the moment of changes, (e.g. moving houses) as the objects become unwanted and challenge people's decision-making processes, which trigger the emergence of careless behaviour and could lead to producing a huge amount of wastes.

This research explores the emotional dimension of design for sharing within the concept of care to sustainable behaviour change proposition. It is to study how carative factors can be use for a design development method to influence people's relationship with objects in order to decrease 'lingering attachment' and in enabling shared use and elevate the object's efficacy.

Through qualitative and qualitative studies, the barriers to let go of objects and the reason for building the 'lingering attachment' were investigated. By unfolding the carative factors based on the care theory, four of the distinct carative factors were employed as motivations for care action to 'let go' of objects for shared use. The factors were explored in card format collectively and adopted as a toolkit by the designers for design development processes.

This research will provide new and practical design knowledge shifting the view of attachment with object to detachment from owner for shared use that enable designer to engage more effectively with relational diversity.

**Carative is the philosophy and theory of human caring. Dr. Jean Watson uses the term 'carative' instead of 'curative' to distinguish between nursing and medicine.*



The Design and Prototyping of Innovative Sustainable Material Solutions for Automotive Interiors

Sheila Clark

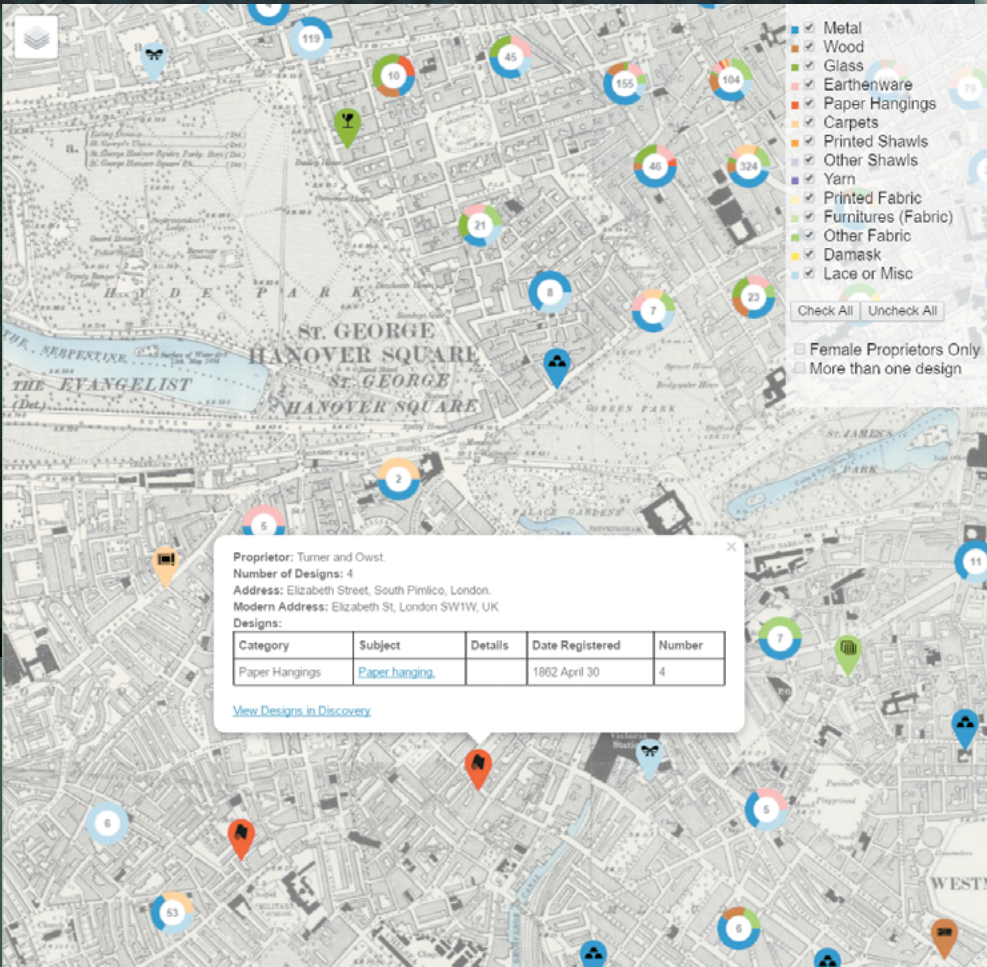
This research explores the potential of sustainable, closed loop material use, which is applied to aspects of an automotive interior. The original intention at the start of the PhD was to produce practical solutions as close to industry standards as possible and install them in a Ford Fiesta. The conference presentation sets out the changes in my thinking and my recommendations for the way forward in sustainable practice.

The projects I have completed offer solutions that facilitate recycling or composting at the end-of-life. Current industry practice is to bond a mix of materials, which are difficult to recycle.

The practice divides into three areas of focus: Mono Synthetic, in which I created seat textiles (from post-industrial waste), laminate and foam cushioning using one material to facilitate recycling. Natural Soft, used natural materials that can compost at the end-of-life: seat textile and foam replacements were developed and sourced. Natural Surface Forms, followed a series of small-scale experiments that resulted in developing an interior door panel and glove box lid using plant derived resin, plastic and fibres.

I looked back at the early history of material use in automotive interiors in order to position the research: specifically Henry Ford's work with agricultural plant waste in contrast to General Motors use of the 'new' synthetics in the late 1940's. The history emphasises how the choice of a particular family of materials affects the entire system of supply, design, manufacture, sales and customer expectation. As a result, significant change is very hard to achieve.

My action research approach highlights a tension between theory and practice: my initial question which sought to find and apply alternative material possibilities shifted during the research practice as my understanding of the complexity of current industry criteria evolved. I established a network of industry contacts in order to obtain materials and to support the realisation of the practice. Working at full scale was critical to fully understand the capability of the respective materials. My original intention was to create sustainable replacements to fit an existing automotive model. However, through my research I have realised that there is a potential for a new form language for these materials in which imperfection and irregularity are embraced: where the material informs the design and outcome through its capability. This could suggest a new landscape for vehicle interiors and other large-scale forms of industrial design.



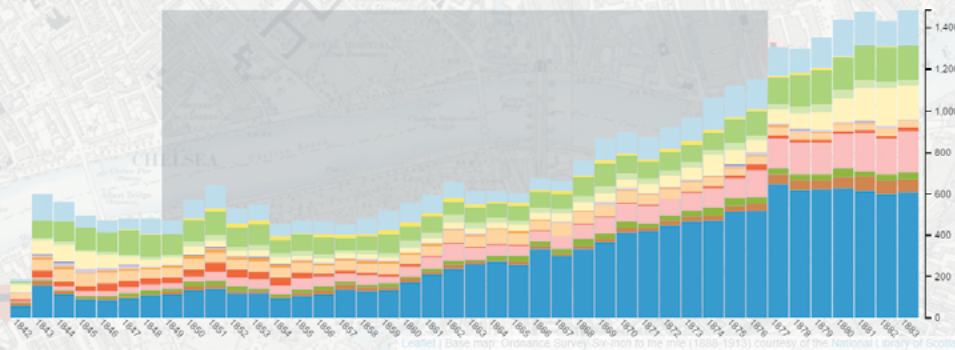
Proprietor: Turner and Owst
 Number of Designs: 4
 Address: Elizabeth Street, South Pimlico, London.
 Modern Address: Elizabeth St, London SW1W, UK
 Designs:

Category	Subject	Details	Date Registered	Number
Paper Hangings	Paper hanging.		1862 April 30	4

[View Designs in Discovery](#)

Grouped Stacked

From 1849 To 1876



(Legend) Base map: Ordnance Survey Six-Inch to the mile (1856-1913) courtesy of the National Library of Scotland

Visualising Historical Data and Graphically Representing Uncertainty

Sam Cottrell

Uncertainty is a property of data that refers to imperfect or unknown information. It is present in all non-simulated data and can be introduced at any stage of the data processing pipeline, from acquisition to presentation. While digital preparation techniques such as parsing, conversion, enrichment and integration are significant sources of uncertainty, digital processes often do not accommodate the presence of uncertainty and as such, it is frequently overlooked or ignored, disregarding valuable information and allowing potential new knowledge to go unrecognised.

Data visualisation refers to the techniques used to communicate information clearly and efficiently to an audience through the use of diagrams and graphics which can convey information and engage users in ways that a textual or typographic presentation cannot.

This research aims to understand the types of uncertainty present in historical data, to classify them, and present guidelines for the capture, modelling and display of uncertainty.

This is achieved through an in-depth assessment of current and proposed practices in data processing and visualisation. Task oriented user studies are used to understand and assess proposed methods for depicting uncertainty. Applied design and software engineering are employed to produce interactive visualisations of historical data using existing datasets. In producing software demonstrators it is also possible to evaluate the technologies available, produce ideas and hypotheses, and critically reflect on their implications.

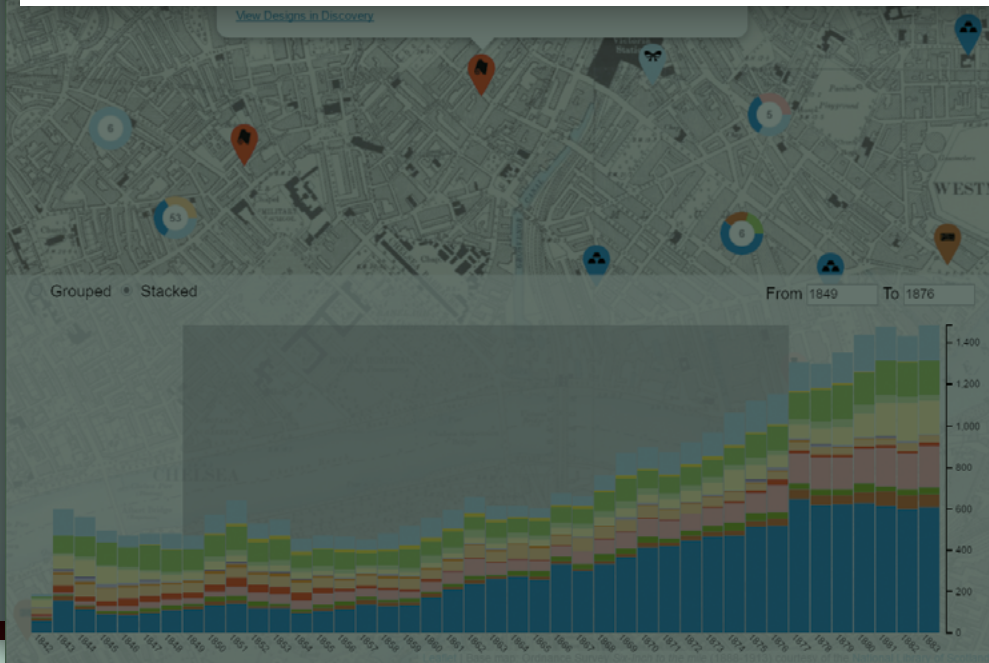
This is done in discussion with archivists, historians and other members of The National Archives to address their requirements for capturing and displaying historical data. By obtaining feedback from stakeholders, insights can be gained on the nature of their collections, potential sources of uncertainty and most importantly a method for evaluating frameworks and software demonstrators.

In undertaking this it may be discovered how capturing and appropriately representing uncertainty can assist in making sense of, and discovering new knowledge in existing data.

"More monitors, especially placed in areas near to major roads will give us additional information about pollutants, and the more we know about pollution in our air the better position we will be in to tackle it."

"By placing so many of these high tech sensors at various key points around our city, it will give us an even more detailed picture of what parts of the borough may have more of an issue with pollution than others, and what pollutants are where. That means we can take steps to clean up our air and protect residents from potential harm."

"The borough currently has four permanent air pollution monitors which are stationed in strategic points across the city, however these more modern monitors will give us a better picture of pollutants unfortunately found in our air."



Exploring Agency, Design and Participation through Pollution in Smart Cities – If We’re So Smart, then Why Aren’t We Healthier?

Gyorgyi Galik

How would you rate the air quality in the room you’re sitting in now? Is it poor, fair, or excellent? If you think it’s poor, does that matter? Is there anything you could do to improve it? What if I told you that your drinking water was contaminated? Would you simply drink it? If not, then why do you accept that the air you breathe every day is heavily polluted?

The smart city vision has become a popular ideology amongst city governments for understanding and managing environmental health risks, such as noise, heat and air pollution. In cities around the world, local governments have been deploying sensing infrastructures as a means to inform policy making and thereby reduce the costs and health impacts associated with environmental pollutants. In parallel, the citizen-sensing movement and private sensor-vendors have been developing sensor networks of their own. While the latter are mostly interested in commercial success, the former aim to democratise the collection of environmental data and thereby engage citizens in environmental health issues directly.

In my thesis I argue that all of these approaches are currently inadequate in addressing the complex social, political and economic factors surrounding urban environmental pollution. With a focus on air quality, in particular, I examine how they fail to consider how pollution is produced, reproduced and downplayed based on urban inequalities; how there is a disconnect between information and action; and how political and economic interests, and current public narratives often determine how cities and citizens respond to pollution. Lastly, I aim to offer examples of practical solutions and interventions that might be more successful for reducing invisible environmental pollutants and for enabling lower carbon lifestyles.

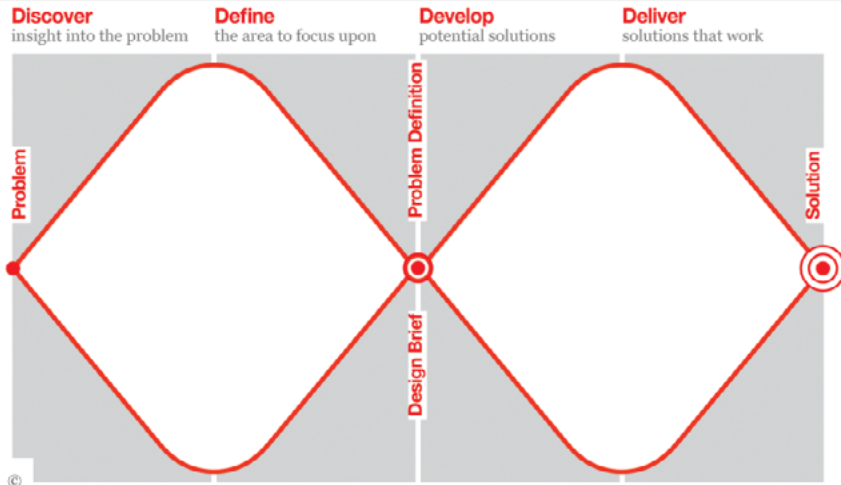


Animatory Thinking – A State of Flow

Hugo Glover

Flow is described as an 'optimal experience' and defined as: 'the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it. (Csikszentmihalyi 2002, 4) Neurologist Daniel Kahnemann expands: 'In a state of flow... maintaining focused attention on these absorbing activities requires no exertion of self-control, thereby freeing resources to be directed to the task at hand.' (2011, 41)

The state of flow is critical to the iterative process of animatory thinking; a stepped journey through imagined concepts, practical experiences and responses. Csikszentmihalyi explains flow's distinctiveness and favourable benefits: '...The ordinary state of mind involves unexpected and frequent episodes of entropy interfering with the smooth run of psychic energy. This is one reason why flow improves the quality of experience: the clearly structured demands of the activity impose order, and exclude the interference of disorder in consciousness.' (2002, 58) If order is fundamental to the production of flow and we understand the world in steps (Kubelka), then it can be proposed that the merging of action and awareness leads to creative thinking. Add to this transformative double-loop thinking, challenging one's own assumptions and beliefs, loosening up objectives and questioning reductionist ways of thinking, then the result can be positively innovative. In this way, animators embody their own practice, as: 'Social consequences are built into the structure and the functioning of the human body, as in the workings of the human hand... Craftsmanship shows the continuum between the organic and the social put in action.' Sennett (2008) How animatory thinking can be understood as craftsmanship of the mind, as embodied social practice and neuro-phenomenological experience is at the basis of my multi-disciplinary research.



The Design Process 'Double Diamond' by Design Council

Source: <http://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond>



Service Design in System Firms' Service Innovation

Jonny Jiang

Service design as a professional practice and an academic study has been advancing progressively since the last decade. Despite the surging appetite of service design practices in service innovation, many recent academic studies have noticed the challenges of such design practices in the context of organisational innovation and transformation. Following Sabine Junginger's inquiry on design legacies and organisational dimensions as barriers for service design practices, this research aims to explore such integration of service design practices in the organisation and new service development in the context of large complex organisation. The researcher has taken participatory action research with a major UK bank over the last year and has currently conducted analysis on the research data.

Since the RCA Design School research conference, several feedbacks on the research methods have been taken, informing the further actions in data analysis and theory construction.



What Furniture Wants:

Designing the Internet of Things for the Domestic Space

Mike Kann

Inspired by Wieser's Calm Computing, embedding intelligence into everyday objects has been pursued since the early 1990's. Today there are larger networking infrastructures, lower technology costs and greater familiarity with computing; it now seems inevitable that in the near future physical objects that we interact with on a daily basis will have virtual representations.

This practice based design research investigates this continuing shift towards physical/digital objects that can sense and act upon their environments, so embodying the IoT. Of particular interest is furniture, an intimate and key component of our domestic lives that we regularly interact and that support our daily activities. These 'smart' objects could gather usage information, cross reference this with relevant online data sources and infer information about our moods, behaviours and states of mind.

This work is concerned with how the change in the fundamental nature of objects will affect our use and relationship to our possessions in the domestic – a space that is not only a material shelter, but a sanctuary for the things that make life meaningful and is defined by intimacy, family and privacy. A key element of this research is the exploration of quantitative/qualitative paradigm through the role of ritual in the home. This shifts the focus of the IoT from a resource management to a human centred model, developing an alternative experiential and reflective model that accommodates how we give meaning to our spaces, objects and acts.

Finally, this research aims to demonstrate the value of design research as a third culture in dealing with 'wicked' problems, as opposed to research from the scientific tradition. Rather than address the issues of implementation, design research allows for the continual reframing of the topic, questioning underlying assumptions and structures and leading to more habitable worlds that other disciplinary approaches are less capable of producing.



Into the Artificial Void: Seeing the World as A Hole

Weiyi Li

My research explores the artificial void; the hole in man-made objects. This could mean a variety of objects created and built by people; from pots and bowls crafted to contain food and water; clothes and shoes designed to protect their bodies; to houses for entering, inhabiting and leaving. Punching a hole into an existing surface is probably one of the simplest ways of shaping physical form but a man-made hole is indeed a token that describes how people can adapt and create environment. A hole, by definition, no matter the size or depth, is a hollow space surrounded by a structure of closure. A hole cannot be considered an object, nor even one of the characteristics of an object but rather, an environment as it separates space into two categories, namely, the inside and outside.

The fundamental purpose or intrinsic value of my work is challenging to define at its present juncture. The early part of my work involved the consideration, recording and reconstruction of man-made holes and spaces, this was achieved by a variety of means such as producing videos and images designed to invoke a more accurate comprehension of the artificial hole. As the research developed, one compelling question gradually revealed itself: What is the artificial hole today? This question becomes especially pertinent in an age where we are capable of achieving virtual reality through various tools and techniques?

I presented three completed projects to the conference: 'Landscapes, Still Lives, and Portraits'. These three consecutive projects were accomplished with the help of a 3D scanner. Indeed, the 3D scanner was not simply a tool, but formed the core of these projects; the scanner itself represents the way in which we observe the world today. A 3D scanner necessarily 'sees' or 'reads' the world as a complete surface surrounding us, it considers the world as a hole and rebuilds the world as an artificial void. This way of seeing is not a new thing. Heidegger claims that it started during the Renaissance and was a product of the invention of techniques for viewing perspective. Through these projects, I have explored the origins of ways of seeing the world as a hole, how it has developed in our age, and the next step we can make based on it.



**The Department of Seaweed:
Co-speculative Design for Transition in A Museum Residency**
Julia Lohmann

The setting for this thesis is the interrelation of the following three subjects: participative methods of making, transition design and museum residencies. This practice-led PhD brings design practice for transition into the museum context.

As part of my collaborative AHRC stipend between the Victoria and Albert Museum (V&A) and the Royal College of Art (RCA) I undertook a six-month residency in the V&A in 2013 that I entitled 'The Department of Seaweed'. I created an immersive, publicly accessible studio in which I conversed and collaborated with designers, craftsmen, scientists, secondary school children, museum staff and academics, as well as all types of museum visitors to develop methods of developing seaweed as a design material, making objects from it, and imagining a future in which seaweed plays a significant role as a material for making. Together, we introduced the raw material seaweed into material culture and through working with it, tested the museum residency as a public space for collaborative making.

Collaborative design practice and communities of practice require a space for a community to come together. In this thesis I am framing the museum of the 21st century as such a space, and am exploring its viability as an infrastructural node in which communities of practice form through dialogue and making, aiming to envision possible futures in an immersive, experiential space. The interactions of the participants become a feedback loop that enables reflection in action (Schön, 1983). Strategies for co-design, participation and community building become important methods and the museum becomes an agonistic public space for co-speculative design.

The student research conference helped me understand how best to present my research in a very concise way. It served as a first trial run before my mock viva and viva later this year. It was also very valuable to see my own research in relation to the other projects.

the ANTHROPOLOGY of THINGS



sketch by Lucian Stanculescu

The Anthropology of Things

Iulia Ionescu

'What goes on four legs in the morning, on two legs at noon, and on three legs in the evening?' – to survive his encounter with the Sphinx, Oedipus had to correctly respond – 'man'; a statement that begs us to question how we define ourselves. Heidegger said that 'Everyone is the other and no one is himself' and in my thesis, I attempt to ponder on the Sphinx's riddle, by analysing how the cane/Heidegger's other/or the connected product in my thesis, urges us to move towards and anthropology beyond the human.

In 1944, psychologists Fritz Heider & Marianne Simmel co-authored 'An Experimental Study of Apparent Behaviour', a landmark study in the field of interpersonal perception. Their experiment revealed how a short animation of three simple geometric shapes (two triangles and a circle) 'interacting' on screen, encouraged the spectators to endorse those figures with social intentions. This is because we need very little hints to take on the assumption that things have motives. After all, our very survival depends on our ability to quickly judge other people's plans (Do I need to worry about this person? Are they looking out for my best intentions?). But, what happens when our predispositions to make these judgements no longer apply to people?

In one of my initial experiment, whereby I asked multiple subjects to draw a representation of themselves through the 'eyes' of eight different smart devices, I noticed that their skewed anthropomorphised depictions were informed by the way in which the subjects perceived some of the devices as characters with 'intentions'. These objects were, in part, able to represent the world, but their inaccuracy in doing so gave birth to an inexplicable tension between the users' expectations and the capabilities of the device.

The Design of IoT holds the prospective of redefining how we interact with our digital-physical products, yet in the last years not much has changed. As consumption moves from digital to physical, we encounter more and more design challenges that are still being addressed with a technological mindset. We are only just starting to understand the impact of IoT on our lives and with its visible expansion, it is imperative to develop a framework for designing it.

With this in mind, the goal of my research is three-folded: firstly, I intend to explore at what point do these objects become 'characters' and what triggers the materialisation of a 'personality'. My current assumption draws on the idea that the nature and the complexity of the interaction is what fuels this process: humans conflate representation to language, so we instinctively perceive anything that is able to 'communicate' as able to think/see/or simply represent the world. Secondly, I intend to investigate the nature of the dialogue and the processes through which we project and become 'the other'. And lastly, I plan on examining how the rising introduction of 'characters' is changing the dynamic of our already established social web.

1  Shaking	2  Shrink, Roll	3  Bending	4  trembling, falling over
5  Bending (surface)	6  Stretching	7  opening	8  volume (surface)
9  Floating	10  Linear translation	11  Pivoting	12  Rotating (Solid)
13  Rotating (rod)	14  Random	15  Swaying	16  volume (Frame)
17  Waving (fluid)	18  Slow revolve (mobile)	19  Sinusoidal	20  Swing



sketch by Lucian

Swing/Swung:

Kinaesthetic Empathy for Designing the Aesthetics of Movement

Kensho Miyoshi

Tick-tock of clock hands, rotation of fans, springing of toasters, waving of curtains, automatic doors – Kinetic movement appears in diverse scenes in designed objects and environments. Each motion not only serves different function but also takes on different aesthetic qualities through its forms and dynamics. Some movements look light, graceful, and effortless while others have the sensation of heaviness, stiffness, and awkwardness.

What invites us to communicate and empathise with the sensation of movement? How do we derive (dis)pleasure from the convergence of complex elements embraced in motion? My research pursues this question through the lens of kinaesthetic empathy as well as the creation and observation of kinetic artefacts. Kinaesthetic empathy allows us to understand the nonverbal kinetic experiences through which we may acquire knowledge of other's physical movements on the basis of our own body topography. The ideas such as aesthetics, embodied cognition, tacit knowledge, and affordance are concerned. Whereas the direct projection of body map may be possible between humans, how does it work when we observe the motion of non-anthropomorphic objects? What do we see and feel in objects' movement and how do we attribute our kinaesthetic sensation to it?

Currently, two kinds of practices are present. One is to explore what is the core element that triggers kinaesthetic empathy through the repetitive creation and observation of kinetic objects. The other is to investigate the relationship between bodily movement and motion observation using swing motion as a case study.

The conversation at the conference provided me with a new perspective on the complexity of movement, one of the intricate but endemic problems at hand. Whilst the complexity of movement for me used to be a target to eliminate with the aim of simplifying the phenomena, it can also be considered as one of the qualities that affect how much we relate ourselves to the movements.

History Episode

Allergies:

ALERTS:

Expand

Medication:

Psychosocial:

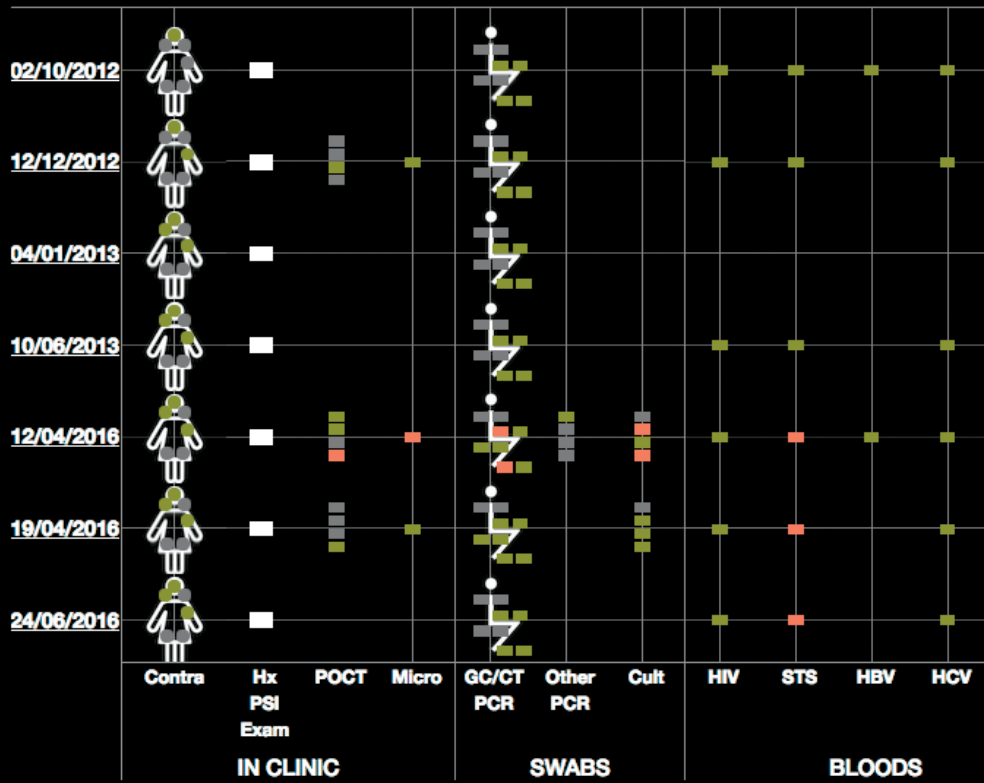
Collapse

PMH / FH:

HIV Risk:

Obstetric Hx:

VAX:



Waving

Slow revolve

Sinusoidal

Swing



sketch by Lucian

Electronic Medical Records: Visualizing Data for A Liminal Space

Dave Pao

My research investigates the evolution of the medical record, with particular emphasis on the shift from paper to Electronic Medical Records (EMR).

It is not sufficient simply to convert paper records to digital format, because their potential benefits require harnessing in different ways. In a health informatics world vulnerable to technological determinism, paper versus digital is a complex comparison that warrants attention.

Whilst paper has limitations, its natural affordances—such as writing, sketching or annotating—are intuitive and easy to exploit. Digital promises so much but any affordance beyond typing, storing and retrieving text needs to be designed explicitly—deep clinical relevance is rarely realised.

EMR are primarily designed for administration, or derived from similar models, yet expected to be clinically meaningful. Designers and evaluators of conventional EMR interfaces typically view the consultation as workflow—pre-defined steps to achieve a task or outcome.

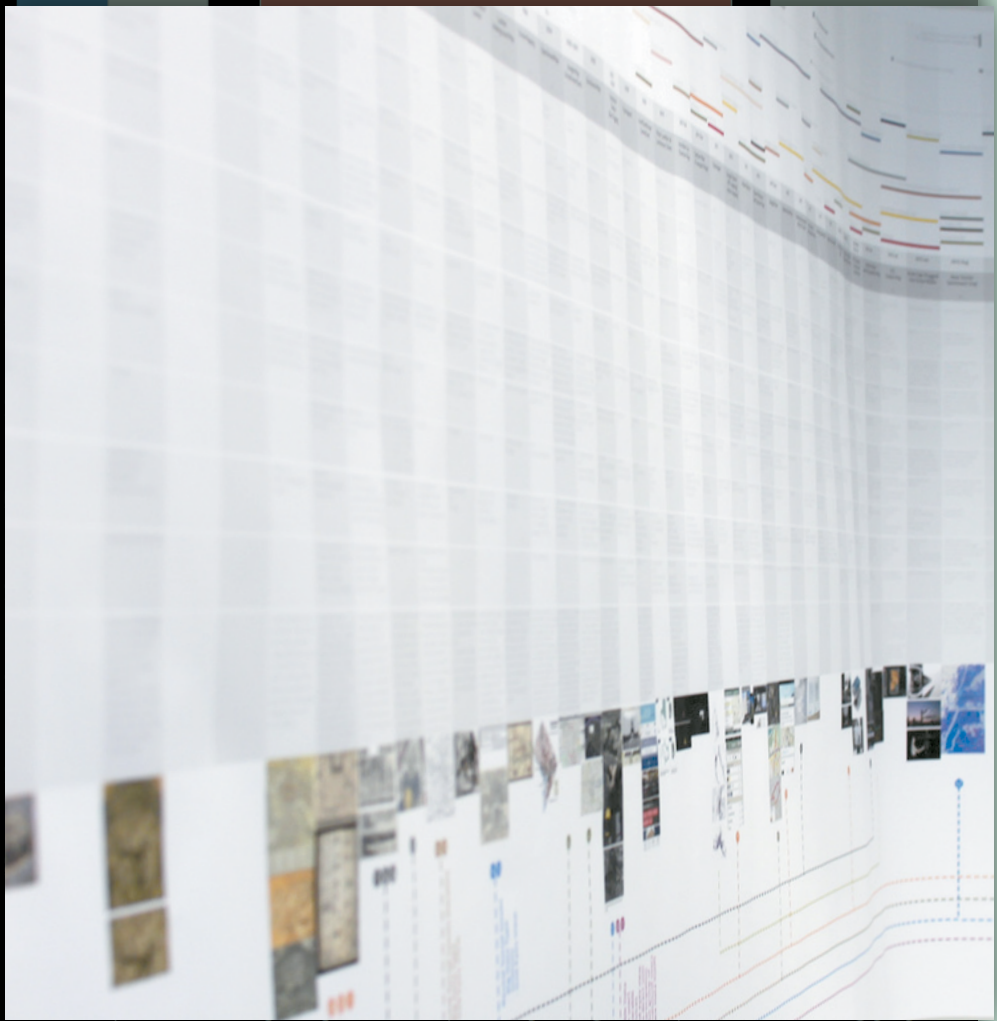
In response, I first argue for a radical re-envisioning of the clinical consultation itself—as a messy, unfolding, unpredictable conversation that is first about thinking and only subsequently about task or outcome.

Secondly, I assert that the machinic [interface] aesthetic is ideally suited to this viewpoint, being associated with process rather than object, dynamics rather than finality, instability rather than permanence, communication rather than representation, and with action.

With this coupling, I use design methodology to demonstrate that the accessibility, relevance and flow of clinical information impacts upon the intimate, liminal space of the consultation.

I then draw on established theory from graphic design, visual analytics, information architecture and UX/UI design to create prototype interfaces that present complex patient data rich in clinical context and functionality.

I aim to demonstrate that an increased sense of connection between clinician and patient comes from matching clinical thinking to a navigable landscape of clinical information.



Waving

Slow revolve

Sinusoidal

Swing



sketch by Lucian

Map as An Object of Service Design and Value Co-creation System

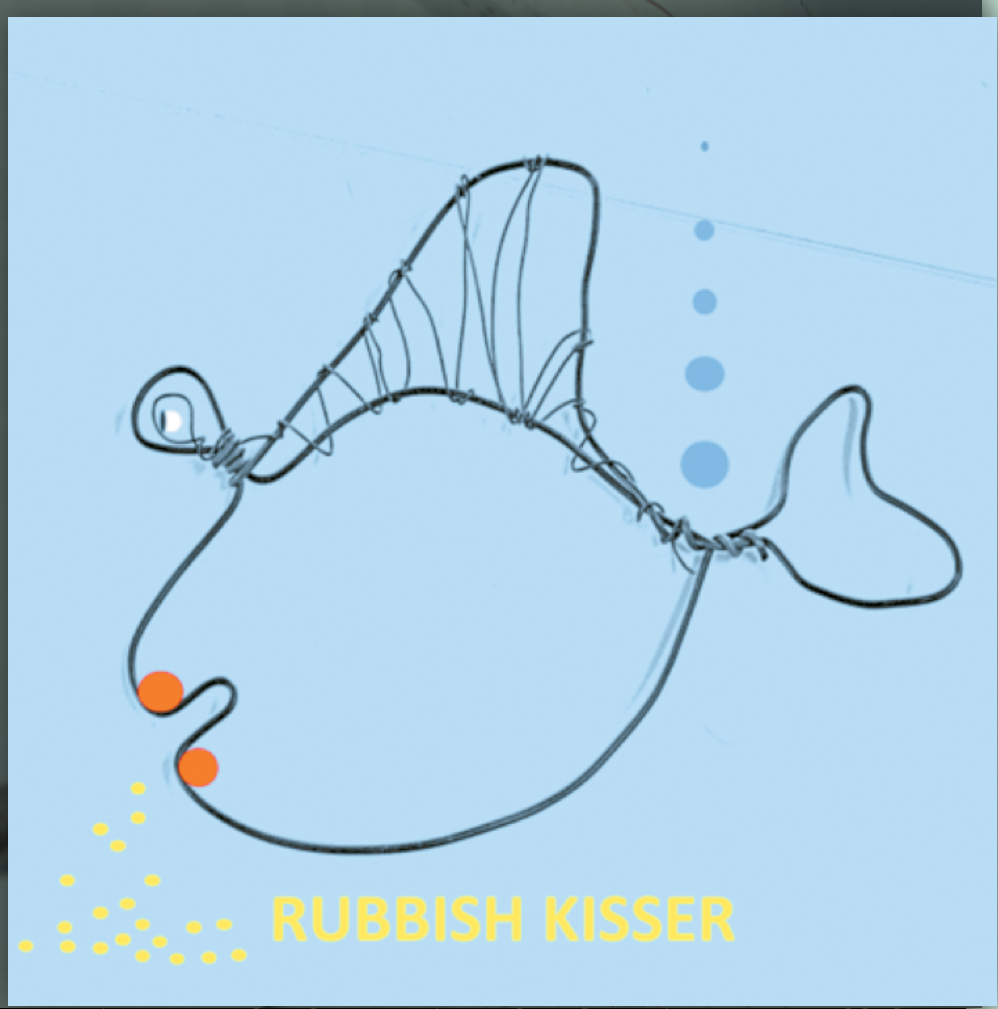
Shera Park

Traditionally, maps were the domains of cartography. The rapid development of ICT has led to the transformation of maps from printed-paper to virtual digital publishing and three-dimensional mapping. This allows speculation to be replaced with certainty and accuracy in maps.

The advanced digital technology and smart devices allow maps to function as participatory platforms with the capacity to collect, create, store and process data through people's interaction with others, environment and cities. These have significantly changed the way that key stakeholders interact with each other through maps, and further changed the way that designers are involved in map development. This shift has opened up fundamental ontological and epistemological questions about the nature of maps and mapping.

The nature of maps as services and service systems has become more evident in this context, when maps are more closely associated with various complex service systems, e.g. smart cities. The diffusion of boundaries between different stakeholders suggests that maps become the systems of co-creation through the integration of resources.

In light of this, the research suggests that maps become the objects of service design and leads to the discussion of re-defining designer's role as the facilitators of value co-creation through map services. In this role, service designers consider maps as services and take a user-centred approach to facilitate the engagement of key stakeholders in complex systems. The key contribution of this research lies in the fact that it initiates a discussion of the potential of service design in developing digital platforms, smart cities and public services through mapping. It suggests that future studies could contextualize the involvement of service design in this new territory and investigates its implications and limitations.



RUBBISH KISSER

Waving | Slow revolve | Sinusoidal | Swing



sketch by Lucian

Theatre of the Imagination

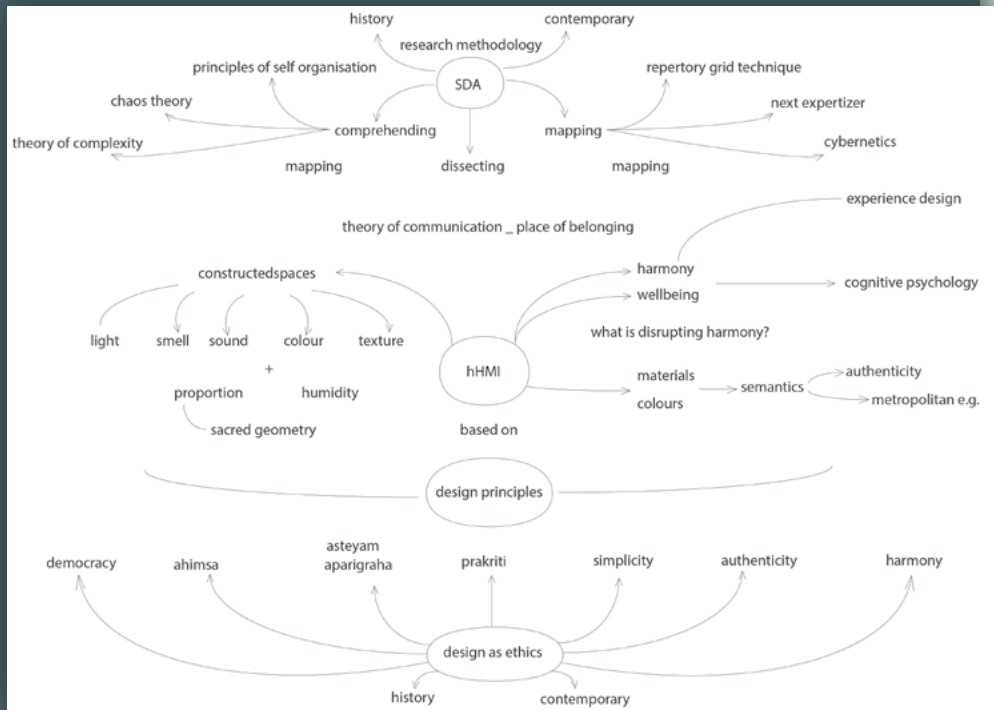
Robert Pulley

Theatre of the Imagination sets out to explore how design and making may help raise awareness of the United Nations Sustainable Development Goals by nurturing personal agency in primary education across geographic boundaries. Metacognitive learning strategies are introduced through a series of pilot workshops, constructed to encourage creative thinking and to develop haptic skills. The approach is constructivist in nature and invites participants to depict lived experiences and generate imaginative ideas by articulating tacit knowledge through drawing and making stories. A portfolio of creative tools is under development to encourage children and teachers to practice metacognitive thinking strategies when exploring complex problems.

Cameron Tonkinwise explains how transition design thinking may encourage designers to construct a vision of what might be possible in the future. The Winterhouse Symposium Matrix for Education and Social Change provides a framework linking transition design to efforts being made in schools to nurture what Craig Bremner describes as 'responsible stewardship of the planet and society'. Frances Hunt found that global learning is linked to higher awareness of diversity and to developing learners as socially-aware, responsible global citizens which echoes John Dewey's assertion that empathy is a critical part of a constructivist epistemology.

Esther Burkitt's research highlights how mainstream primary education finds it difficult to match specialist schools in teaching creative arts practice because of the relatively low number of hours dedicated to developing creative skills in teacher education. Burkitt's analysis of paintings and drawings made by children suggests creative practice helps to develop cognitive skills and haptic skills, at the primary level, which are transferable across disciplines. The importance of developing haptic skills is emphasised by Roger Kneebone who highlights the fact that they are declining in newly-qualified surgeons.

Theatre of the Imagination echoes Ashley Hall's belief that the production of artefacts and experiences is a mechanism through which we can create changes in the world that influence our sense of who, where and what we are and this contemplative approach to global design is key to developing personal agency in primary education. Design and making projects introduce primary aged children to John Schaar's reflection: 'The future is not some place we are going, but one we are creating. The paths are not to be found, but made. And the activity of making them changes both the maker and the destination.'



RUBBISH KISSER

Waving | Slow revolve | Sinusoidal | Swing



sketch by Lucian

harmonising Human Material Interaction (hHMI) within Interiors of Public Transportation

Shalini Sahoo

This research is an effort to analyse, understand and enhance the quality of Human-Material-Interaction in interiors of public transportation, aiming to generate a rational understanding of elements that contribute to the 'wellbeing' for humans in these shared public spaces.

Any well-designed environment can become a strong influence on what people think and do. Interiors of urban transportation systems are intersection points for culture, society, technology and environment. harmonising Human-Material-Interaction (hHMI) in this space, has the potential to balance and de-stress the human component in it. Thus transforming the passive commutation time into a time of relaxation contributing to the general upliftment of the urban life experience.

More than addressing the established issues of sustainability, this investigation is human centred. Grounded in a vision of ethical design, it is looking at the potential for design to enhance the qualities of public realm. An enclosed space in movement is a complex composition of proportions, materials, surfaces, colour, lighting, sounds and smells. How can these elements be arranged in sensitive ways to create a space which positively influences the state of being? The research will be an in-depth study of their semantics – indicating, symbolic functions and its connection to formal aesthetic aspects. The outcome will be guidelines, defining parameters to induce a 'quality-of-life' experience in the urban system of mass transit.

Feedback: To loosen the structure and let more playful research in. Letting the path of unreserved experimentation define the research direction. The ethical part of the work received an appreciative resonance. Even though the methodology of SDA aims to gain a holistic perspective to the problem – it is bound to fail as these are wicked in nature. The contacts to the industry was made to not work in a bubble but gain constant feedback on the work done.

history

contemporary



Symbiotic Relationships in Environments of Change: The Potential of Biological Interactions in Intelligent Machines

Marcos Soares

This design research seeks to explore in depth how humans and intelligent machines can enhance their relationships based on biological ideas of sharing. A progressive relationship between humans and technology has always been present and with the introduction of intelligent machines into the diverse aspects of everyday life of people new tensions and opportunities emerge. This research aims to understand what are the underlying factors that might incentivise these relationships and subsequently how can researchers and designers envision a greater symbiotic connection between humans and intelligent machines. The project touches upon issues relating to social context, environmental context, human transcendence and the fuzzy boundaries that separate humans and the technology that they use.

Through design practice the research will investigate the design of intelligent machines based on biological interactions with the aim of exploring a greater sense of adoption and attachment enhancing the symbiotic relationship between people and the intelligent machines that oversee the technological devices these people interact with. At the same time, the research project speculates that imposing limitations and barriers to machines that have not been yet been conceived may have a harmful influence on the design and engineering of future intelligent machines. In addition, this research will draw inspiration from biological interactions, in particular symbiosis, in order to design intelligent machines with 'biological' attributes that will be responsible for providing richer decision making actions and create stronger ties with their human counterparts according to their context of use. Examples for these contexts of use range from personal behaviour change for sustainability including introducing healthy habits into a person's lifestyle, adaptable community based education, and long-term societal changes such as the introduction of autonomous vehicles, the evolution of IoT networks and the integration of intelligent machines in areas with low digital technological proficiency.

history

contemporary



DO_FIX: Creating Deeper Relationships Between Users and Products through Visible Repair

Nazli Terzioglu

Current economic systems depend on large quantities of resource and energy use that cannot be sustained with the planet's finite resources. Producing long-lasting, purposeful and 'circular' products is essential to decrease the rate of consumption and its negative environmental impacts. Repair is an effective strategy for extending product lifespan and closing the material loops. However, increasing the product's lifespan is also dependent upon the attitudes and behaviour of users. Therefore, the aim of this research is to explore the role of repair in user-product engagement and create a product or service that encourages people to repair products more for the purpose of awakening human sensitivity to environmental and societal problems. Conventional repair methods are combined with new technologies and materials. All the repair techniques were tested in workshops with users. The results were fed back into the research, which was then used to develop Do-Fix repair kits. The Do-Fix repair kits include four different kits, namely the kintsugi kit, 3D-printed patches, plaster patches and textile patches. The value of this research for design practice is in its exploration of potential methods and materials of product repair by providing concrete examples, as well as the creation of the Do-Fix repair kits. For academics and researchers its value lies in reframing the position of repair in the circular economy and developing design considerations related to product repair.

The Students Research Conference was a great opportunity to practice my presentation, present final version of my thesis and get valuable feedback. It took me one step further in terms of the original contributions to knowledge section in my thesis. I decided to include one more contribution to design practice after the discussion. This contribution refers to how my PhD portrays the changing role of the designer to foster positive impacts towards the circular economy.

history

contemporary



Tradition – Hybridisation – Innovation

Savina Torrisi

The focus of this research is impactful innovation as a result of processes of hybridisation implemented in a context strongly informed by tradition: Japan. Tradition, Hybridisation and Innovation are the key factors unfolding the narrative of this study. For the purpose of this research they are interpreted as follows: Tradition refers to the Japanese culture explored through the role of the Geisha in contemporary society.

Hybridisation refers to the blending of creative practices that reflect key societal and behavioural aspects of the respective originary cultures.

Innovation is the creation of disruptive novelty that generates societal, economic and cultural value in the above-mentioned context.

A hybrid, intended as a new and as-yet unframable offspring originating from two distinct entities, seems to be the gene that triggers the creation of radical novelty enabling valuable societal changes.

Contemporary Japanese culture is shaped by the contradictory yet intriguing juxtaposition of unchanged tradition with an extreme fascination for futuristic technology. Over the last fifty years, Japan's industry, based on corporate loyalty, has shaped the field of technology. However several studies investigating Japan's current resistance to prompt evolution highlight the clash between rigid social norms with the dynamic, self-generative creative and entrepreneurial landscape.

Geisha represents the pedigree of the Japanese timeless tradition. As a mirrored image of Japanese societal structure, Geisha are the living manifestation of unevolved and refined to perfection rules. The gap between the Geisha world and the contemporary world recalls dichotomies – Structured vs Loose, Expertise vs Improvisation, Vertical & Hierarchical vs Horizontal & Democratic, Perfection vs Evolution, Agreement vs Conflict, Success vs Failure – that inform part of the literature focusing on impactful innovation, and lead to questions that act as drivers for this research:

What if hybridisation is the trigger to enable behavioral changes, societal, cultural and economic evolution?

How to overcome cultural assumptions and resistance to change while preserving the value of regional cultures?

1910

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Using Data Visualisation to explore Digitised Cultural Collections

Olivia Vane

Cultural institutions have become swamped by digital data. Digitising the objects, images and texts in their collections has resulted in millions of electronic records; the British museum currently has over 900,000 images in its digital collection and is adding 2,000 new ones each week. How can museums, archives and libraries make sense of it all?

This PhD's focus is designing interfaces to improve search within cultural collections across time; designs will be tailored for humanities researchers/curators. Olivia's work explores how current practice in data visualisation may inform search user-interface design. By adopting visual rhetorical forms such as trees, streams and other geometric shapes in the design of novel interfaces, this PhD will aid researchers in drawing out patterns or highlighting anomalies in collection data. The balance between curating data to offer a framing and context and the need for interface users to interact freely will be explored.

A number of digital visualisations/visualisation tools will be designed and built in conversation with humanities scholars. The PhD output will be a selection of these visualisations and a complementing thesis. Olivia is currently working with partners at the Wellcome Library and the V&A, and will undertake a Smithsonian Fellowship at the Cooper Hewitt Design Museum, NYC.



Royal College of Art

Postgraduate Art and Design

Extremely Inverted Commas

Edited by Ashley Hall, Weiyi Li, Marcos Soares
Designed by Weiyi Li