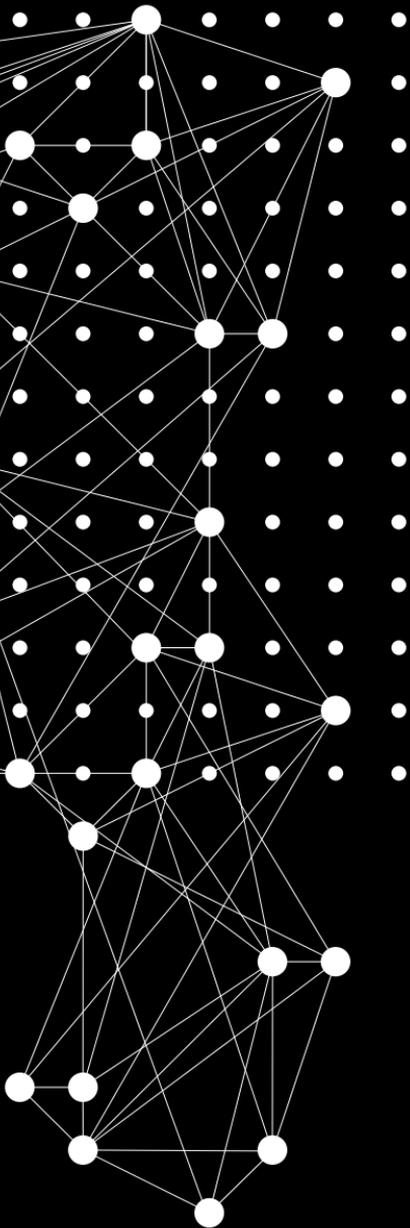
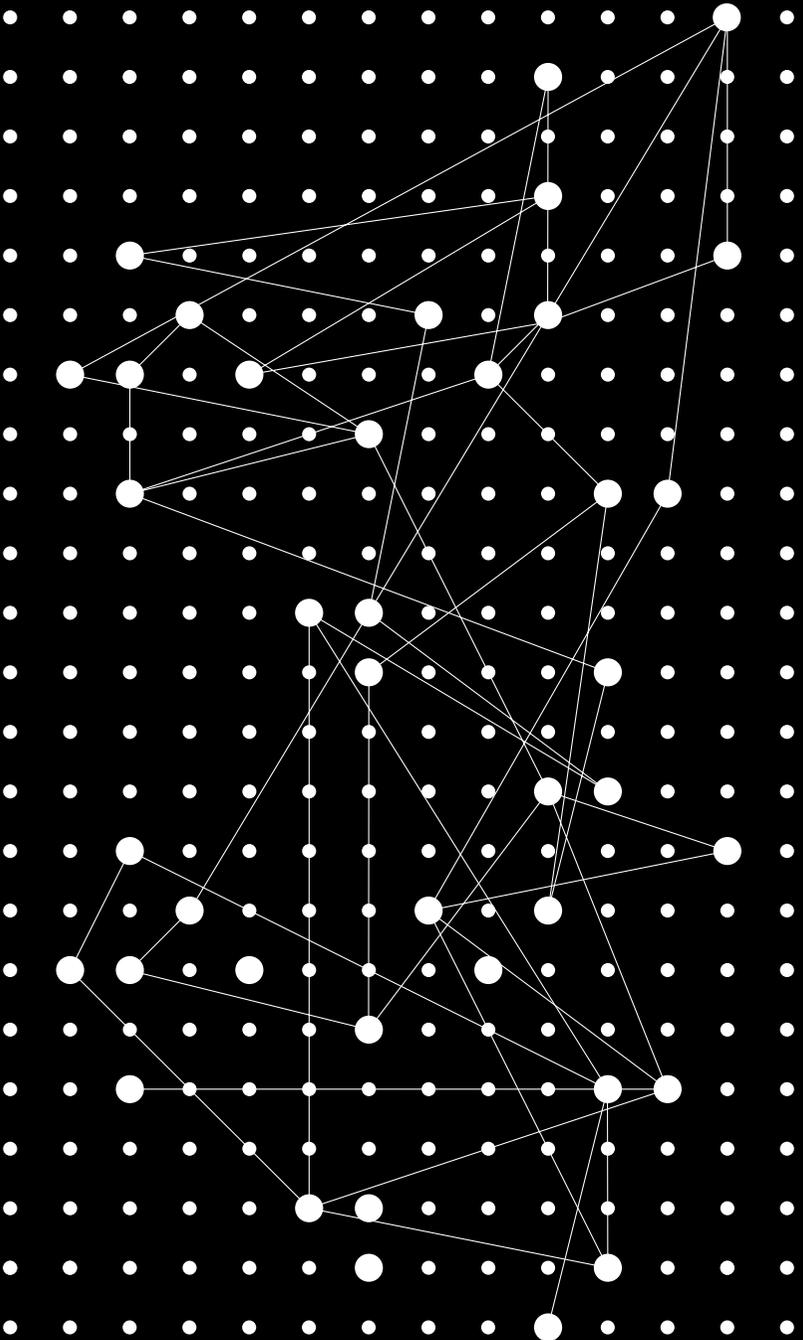


DRS
2014

**DESIGN'S
BIG DEBATES**
PUSHING THE
BOUNDARIES
OF DESIGN
RESEARCH



Schedule



	15-19 June	Sunday	Monday	Tuesday	Wednesday	Thursday
9:00-9:30			Registration Coffee	Registration Coffee	Registration Coffee	Coffee
9:30-11:00	Workshops and Doctoral Colloquium	Workshops and Doctoral Colloquium	Opening Plenary Debate	Debate	Debate	Papers
11:00-11:30		Fika	Fika	Fika	Fika	Fika
11:30-13:00	Workshops and Doctoral Colloquium	Papers	Papers	Papers	Papers	Concluding Debate
13:00-14:30		Lunch	Lunch	Lunch	Lunch	Lunch
14:30-16:00	Workshops and Doctoral Colloquium	Papers Conversations	Papers Conversations	Papers Conversations	Papers Conversations	
16:00-16:30	Pub (16:00-20:00)	Fika	Fika	Fika	Fika	
16:30-18:00	Registration Pub	Papers Conversations	Papers Conversations	Papers Conversations		
18:00-20:00	Pub & Buffet	Pub & Gammilla dinner	Pub & Posters	Conference dinner		

Local Organisation

Leadership

Local Organisation Chair
Heather Wiltse

Head of Department, Umeå Institute of Design
Maria Göransdotter

Conference Experience Team

Operations Manager
Petra Käck

Sponsorship Coordinator
Monica Lindh-Karlsson

Technical Coordinators
Peder Fällfors, Peter Lundholm

Logistics Coordinator aka “Schriftführer”
Helena Moliis

Student Volunteer Coordinator
Aditya Pawar

Head of Student Union
Jenni Toriseva

Visual Communications

Creative Director
Marije de Haas

Designers
Doris Feurstein, Júlia Nacsá, Jenni Toriseva, Marcel Penz, Madyana Torres de Souza, Regimantas Vegele

Welcome to DRS 2014: Design’s Big Debates!

In this Conference Companion we have collected information you might need for navigating this week of discussions and debates on, in and around design.

To open up for different forms of engagement and participation, the conference makes use of multiple publication and presentation formats, including both established ones such as ‘papers’ and new ones such as ‘conversations’. At the plenary end of the spectrum, the traditional ‘keynote lecture’ has been replaced by ‘debates’. At the other end, we invite you to create your own informal, ad-hoc sessions, making use of the suitable spaces designated on the maps included here. In addition, there is a pre-conference program consisting of workshops and a doctoral colloquium. Finally, each day will end with a social event, dinners and pub nights extending the possibilities for continuing conversations.

Many people have been involved in making this happen. We would like to thank all our fellow chairs for their hard work creating the program, the scientific committee and reviewers for their efforts in selecting the best submissions, our speakers and all of you who have come here to participate in design’s big debates. A heartfelt thanks also to our local organizing committee for their effort and commitment to making all of this work not just in (design) theory, but also practice.

Welcome to Umeå!

Johan Redström, Erik Stolterman,
Anna Valtonen (General Chairs) and
Heather Wiltse (Local Organisation Chair)

Essential Information

Conference venue

Umeå Arts Campus, Östra Strandgatan 28.

Contact details

Umeå Institute of Design, Umeå University, 901 87 Umeå, Sweden

+46 (0) 90 786 69 96, www.uid.umu.se

The main point of contact for the conference is the registration desk. Stop by if you need help with any issues that arise. Last-minute schedule changes and other conference announcements will be posted at the registration desk and on Twitter and Facebook.

Emergency

Tel: 112 for any kind of emergency

Walk-in clinic: Ålidhems hälsocentral, Tvistevägen 2. +46 90-785 81 20

Taxi

Eco Taxi: +46 90-911 911, Umeå Taxi: +46 90-77 00 00

Taxi Kurir Umeå: +46 90-18 18 18, Taxi Direkt: +46 90-100 100

Social media

official hashtag: #drs14, facebook: drs2014, twitter: drs14umea

Water

The tap water in northern Sweden is excellent, and we invite you to fill your Kor water bottle provided at registration at any of the taps on campus — watch for signs directing you to convenient ones. This will be the main means of providing water at the conference, so make sure you hang on to your bottle and bring it with you every day!

Wireless network

Eduroam is available throughout Umeå Arts Campus. If you don't have access to Eduroam, look for login information for the Umeå University network in your registration packet.

Cash

The pub accepts cash only. The nearest ATM is in Umeå city centre.

Out and about in Umeå

Umeå — European Capital of Culture 2014
umea2014.se/en/

Bildmuseet — Centre for contemporary art
bildmuseet.umu.se

Umedalen Sculpture Park
umedalenskulptur.se

Västerbottens museum
vbm.se

Visit Umeå (visitumea.se) will be on site at Umeå Arts Campus to suggest things to see and do in Umeå and the region of Västerbotten.

Essential Swedish

Hej = Hello

Hej då = Good bye

Tack = Thank you

Varsågod = You're welcome

Ursäkta = Sorry

Lunches

All lunches will be served in the Hansson & Hammar restaurant at Umeå Arts Campus between 13.00 and 14.30 Monday, June 16 through Thursday, June 19. On Sunday, June 15, Hansson & Hammar will be open to the public, and workshop and doctoral colloquium participants can purchase lunch. Always feel free to bring your lunch outside and enjoy the view of the beautiful Ume River.

Fikas

Fika is both a Swedish verb and noun (pronounced “fee-ka”) which basically implies “drinking coffee,” usually accompanied by something sweet, together with friends or colleagues.

Dinners

All attendees have selected which dinners to attend when registering for the conference. At registration check-in you receive a ticket for each of the events for which you have signed up. Remember to bring your ticket to the event!

Buffet

Sunday, June 15, 18.00-20.00

Swedish buffet served in the main restaurant on the Umeå Arts Campus, right next to the river.

Hansson & Hammar, Umeå Arts Campus.

Gammlia

Monday, June 16, 18.00-20.00

At Gammlia, Västerbotten’s regional museum, you will get a taste of Northern Sweden by experiencing Sami culture and traditional Swedish ways of living. Buses will leave from Umeå Arts Campus starting at 18.00. Show your ticket when you enter the bus. After the dinner there will be buses to take you back to the city centre, or you can walk leisurely under the late-night sun, and you will be in downtown Umeå in 15-20 minutes.

Helena Elisabeths väg 3, Umeå, www.vbm.se

Conference Dinner

Wednesday, June 18, 19:00-02:00

Guitars – The Museum is one of Umeå’s newest attractions and is the home of one of the world’s finest vintage guitar collections. It is also a live music venue, a music store, a bar and restaurant. DRS 2014 is excited to have this unique venue for the final dinner. Casual dress is appropriate.

*Located in the center of the city. Vasagatan 18-20, Umeå.
www.guitarsthemuseum.com*

Pubs

Umeå Institute of Design’s Student Union will be taking over the School of Architecture for three nights during the conference to host pub nights for the participants.

The bar will have aperitivo-style offerings, with a range of alcoholic and non-alcoholic concoctions that come together with a buffet of European finger food crowned with Nordic specialties. The fixed price for the aperitivo is 100 SEK. Additional drinks cost 30-50 SEK. Cash is king.

Sunday, June 15: 16.00-20.00

Monday, June 16: 18.00-22.00

Tuesday, June 17: 18.00-22.00

*Theatre, Umeå School of Architecture (UMA),
Umeå Arts Campus*

DRS 2014 Formats

Debates

Debates replace the traditional keynote format with a curated track of discussions that focus on debates in design issues that are defining of design at the moment and the near future. At the conference, each Debate session will include multiple speakers from the fields of design practice and research speaking together with experts from other disciplines and public intellectuals.

Chaired by Carl DiSalvo, Georgia Institute of Technology (US) and Jamer Hunt, Parsons the New School for Design (US)

Conversations

Conversations is a new format for sessions conceived as alternatives to the traditional paper/presentation format, with the ambition to provide innovative venues for project-based research and work that is not easily captured or conveyed by the scholarly paper. Conversations can be workshops, structured discussions, and experimental session formats that advance conversation around emergent forms of design research.

Chaired by Carl DiSalvo, Georgia Institute of Technology (US) and Jamer Hunt, Parsons the New School for Design (US)

Papers

Papers are peer-reviewed research contributions selected by the scientific committee on basis of relevance to the conference, originality of the research put forward, quality and rigour of research and clarity of presentation. Papers are published in the conference proceedings and presented during the paper sessions of the conference. Ten paper submissions have been selected for poster presentation, and their abstracts are included in the proceedings.

Chaired by Youn-kyung Lim, KAIST (KR) and Kristina Niedderer, University of Wolverhampton (UK)

Workshops

Workshops are full-day sessions that advance existing and emerging areas of design research as a complement to the formats of the main conference program. They take place on the day before the regular conference program starts, and they allow workshop organizers more freedom and more time to stage structured discussions and collaborative processes, and to use experimental session formats.

Chaired by Jodi Forlizzi, Carnegie Mellon University (US)

Doctoral Colloquium

The Doctoral Colloquium is intended for PhD students in the first half of their doctoral research to explore and exchange ideas on design research on equal level. As part of the pre-conference program, it provides an opportunity for participating doctoral students to share their research ideas and approaches with other students and obtain feedback from advisory experts with different perspectives.

Chaired by Peter Gall Krogh, Aarhus University (DK) and Tuuli Mattelmäki, Aalto University (FIN)

DRS2014 is sponsored by



Sunday 15 June

Workshops

9.30-16.00

Workshops

	Sliperiet Motion Capture Room	Project Studio	Art Studio	Green Room	Red Room	White Room
9.30	Designing With People In Sustainability And Behaviour Change Research <i>Dan Lockton, Flora Bowden, Sara Renström, Anneli Selvefors, Pernilla Hagbert, Carolin Baedeker, Najine Ameli</i>	Good Things And Bad Things: Tricky Objects, People And Processes' <i>Tom Fisher, Lorraine Gamman</i>	Critical Design And The Creation Of Alternative Visions: Literally And Metaphorically <i>Katarina L Gidlund, Annelie Ekelin, Karin Danielsson Öberg, Johanna Sefyrin</i>	Designing Commons - Commons For Design <i>Sanna Marttila, Andrea Botero, Joanna SaadSulonen, Erling Björgvinsson, Peter Parker, Anna Seravalli</i>	HomoHominiFaber <i>Caroline Hummels, Ambra Trotto, Pierre Lévy, Tara Mullaney</i>	Slow Change Interaction Design <i>Jordan Beck, Martin A. Siegel</i>
	Abstracts can be found on the website: drs2014.org/en/programme/workshops/					
16.00	Registration					
	You can register between 16.00-18.00 at the reception desk in the Sliperiet foyer					
18.00	Buffet at Hansson & Hammar					

Sunday 15 June

Doctoral Colloquium

9.00-16.00

9.00	Introduction in UMA Auditorium <i>Peter Gall Krogh, Aarhus University (DK)</i> <i>Tuuli Mattelmäki, Aalto University (FIN)</i>
9.15	Design for social innovation: From critique to prototyping an emerging practice <i>Aditya Pawar</i>
9.30	Design as an intervener for social change: The potential of creative urban interventions in transition for sustainable cities <i>Janaina Teles</i>
9.45	Co-designing common good - action research about designer's role in the development of public services <i>Essi Kuure</i>
10.00	Feedback discussion
10.30	Break
10.45	Ambiguity as a Virtue in the Design of Digital Artifacts <i>Moriz Greiner-Petter</i>
11.00	The Politics of object-mediated listening and the sonic narratives of designed artifacts <i>Pedro Oliveira</i>
11.15	'Pata-design': Prototyping a pataphysically infused critical design practice. <i>Søren Rosenbak</i>
11.30	Feedback discussion
12.00	Lunch
13.00	Oh, look, I've done it again: using feedback provided by persuasive technology to disrupt and change unhealthy and unsustainable habitual behaviour <i>Sander Hermesen</i>
13.15	Structured controlled reflexivity prototyping as a way to improve the design of persuasive technologies <i>Jaime Rivera</i>
13.30	Expanding the process of design in sustainable adaptive reuse building projects <i>Kimberly Wilson</i>
13.45	Feedback discussion
14.15	Break
14.45	Information in the Kitchen: A case study of everyday meaning <i>Heidi Overhill</i>
15.00	Exploring aesthetics in experience design using artistic methods of representation <i>Amacker Ariana</i>
15.15	The colors and shapes of the smells: A study of cross-modal associations in perfume packaging designs <i>Camila Assis</i>
15.30	Feedback discussion
16.00	Reflection and Wrap up

Sunday 15 June

18.30-20.00

Pub
UMA Auditorium
The Swedish Faculty for Design Research and Research Education invites you to a discussion Futures of design research education
Is there a place for designers in design research? Is there a need for design research to be carried out by designers educated as researchers? If those are questions and challenges, what actions may we then take?
Faculty and students at the Swedish Faculty for Design Research and Research Education have been exploring such issues since the start in 2008 (http:// www. designfakulteten.kth.se).
Over 70 design PhD students have participated from design schools but also from technical universities, social sciences faculties and art institutions. So far 19 have got their PhD. Now is the time, at least for us, to reflect, regroup, consolidate and find ways to move forward.
We invite students, teachers, supervisors, organizers, etc. with related experiences of design research education to this discussion in Umeå, where we can share and contest experiences and make alliances for further action.
To spark off the discussion we have prepared a short film, <i>The Art of Becoming a Design PhD</i> , featuring challenges and dilemmas that some of our PhD students have had to address.
<i>Bo Westerlund, Pelle Ehn, Maria Hellström Reimer, Peter Ullmark</i>

Monday 16 June

9.00-13.00

9.00

Registration

You can register throughout the day at the reception desk in the Sliperiet foyer

Coffee

Sliperiet Conference Room

9.30

Debate: Life Hacking

Would you trust a teenager to tinker with biological material? Increasingly the means for designing life, life forms, and lifelike matter are immediately at hand, leading to the rise of wet labs bio-hacker studios. Should we be policing the ethical boundaries and security breaches of this new frontier? Are the limits to our freedom to create biomaterials that we should be legislating? And what new questions are emerging as shift from atoms to bits to cells?

Christina Agapakis, Jessica Nihlén Fahlquist

11.00

Fika

Papers

Design and Emotions: Designing Experiences

Design Areas: Visual Communication

EKSIG: Experiential Knowledge in the Design Product

PEDSIG: Visual Approaches to Design Education

Sustainability SIG: Social Sustainability

Usability

Design for People: Design Values

Sliperiet Conference Room

Sliperiet Motion Capture Room

UMA Auditorium

UID Auditorium

UID Project Studio

UID Art Studio

UID Green Room

11.30

Interaction and Service Design as Offering Perspectives in a Space of Action
Mattias Arvola

Graphic Design: Focus on Nine Professional Reflections?
Karel van der Waarde

Verbalising the Silent? Professionals' Framing of Implicit in Packaging Design
Toni Ryyänen, Visa Heinonen

Designerly Ways to Theoretical Insight: Visualization as a Means to Explore, Discuss and Understand Design Theory
Anne Louise Bang, Silje Alberthe Kamille Friis, Anne Katrine Gøtzsche Gelting

Users, Stakeholders and Researchers: Dilemmas of Research as Practice and the Role of Design Thinking in the Case Study of a Rehabilitation Living Lab
Poldma Tiit, Labbé Delphine, Bertin Sylvain, Kehayia Eva, Swaine Bonnie, Ahmed Sara, Archambault Philippe, Le Dorze Guylaine, Fung Joyce, Lamontagne Anouk

Examining Intuitive Navigation in Airports
Andrew Cave, Alethea Blackler, Vesna Popovic, Ben Kraal

Can a Light Switch Be Beautiful? Aesthetic Appreciation of Products as Means
Odette da Silva, Nathan Crilly, Paul Hekkert

12.00

Deconstructing Expected Passenger Experience in Airports
Phillip Kirk, Anna Harrison, Vesna Popovic, Ben Kraal

Point of View as Mediacy of Information Visualization
Soojin Jun

A Classification of Consumer Involvement in New Product Development
Matt Sinclair, Ian Campbell

Bombs Away: Visual Thinking and Students' Engagement in Design Studio Contexts
Marianella Chamorro-Koc, Andrew Scott, Gretchen Coombs

Incorporating Queer Understandings of Sex and Gender in Design Research and Practice
Isabel Prochner

The Influence of User Characteristics in Negative Product Use Experience
Chajoong Kim

A Shift of Perspective in Design Inquiries: from Individual Boundaries to Common Needs
Daniela Rothkegel

12.30

Experience Design Framework for Securing Large Scale Information and Communication Systems
Azadeh Nematzadeh, Omar Sosa-Tzec

Ecological Perception: Seeing Systems
Joanna Boehnert

An Investigation of Interactive Environment Design Constraints
Mengting Zhang

Locating the Emerging Design Identity of Students Through Visual and Textual Reflection
Colin M. Gray

Altering Expectations: How Design Fictions and Backcasting can Leverage Sustainable Lifestyles
Sara Ilstedt, Josefin Wangel

Defining the Experiential Aspects of Passengers' Comfort in the Aircraft Interior - an Empirical Study
Naseem Ahmadpour, Gitte Lindgaard, Jean-Marc Robert, Bernard Pownall

Design Effectiveness: Building Customer Satisfaction and Loyalty through Design
Ki Woong Nam, Bruce Carnie

Monday 16 June

13.00-16.00

13.00 Lunch								
Papers & Conversations								
Design and Emotions: Product Impact and Perception	Design Areas: Design Transformation	EKSIG: Experiential Knowledge in the Design Process	Conversation	Conversation	Conversation	Conversation	Conversation	
Sliperiet Conference Room	Sliperiet Motion Capture room	UMA Auditorium	UID Auditorium	UID Project Studio	UID Art Studio	UID Green Room	UID Red Room	
14.30	Translating Smells into Colors: a Proposal to Improve the Perception of Perfume Packaging Design. <i>Camilla Assis Peres Silva, Clíce de Toledo Sanjar Mazzilli</i>	A Framework for Design and Assessment of Products in Developing Countries <i>Timothy Whitehead, Mark Evans, Guy Bingham</i>	Making and Perceiving - Exploring the Degrees of Engagement with the Aesthetic Process <i>Priska Falin, Petra Falin</i>	Service Design Education Old Dog or New Tricks? <i>Carl DiSalvo, Jodi Forlizzi, Stefan Holmlid, Froukje Visser</i>	Perpetual Beta <i>Emily Verba, Katherine Kovacs, Kaley Madden</i>	Design Research for Cities in Crisis <i>Janet McGaw, Rochus Urban Hinkel, Alberto Altes Arlandis</i>	The Design of Data <i>Raoul Rickenberg, Manuel Lima, Christopher Falliers</i>	Violence, Militancy and Design Research <i>Maria Reimer Hellström, Mahmoud Keshavarz, Kristina Lindström, John Marshall, Åsa Ståhl</i>
15.00	From Product to Effect: Towards a Human-centered Model of Product Impact <i>Steven Fokkinga, Paul Hekkert, Pieter Desmet, Elif Özcan</i>	Design Prospects: Investigating Design Fiction via a Rogue Urban Drone <i>Andrew Morrison</i>	How to Introduce Experiential User Data: The Use of Information in Architects' Design Process <i>Margo Annemans, Chantal Van Audenhove, Hilde Vermolen, Ann Heylighen</i>					
15.30	Measuring Product Design Preferences with an Affective Stimulus-Response Compatibility Task <i>Katrina L. Schoen, Nathan Crilly</i>	Change through Service Design - Service Prototyping as a Tool for Learning and Transformation <i>Essi Kuure, Satu Miettinen, Mira Alhonsuo</i>	Tactile Augmentation: Reaching for Tacit Knowledge <i>Camilla Groth, Maarit Mäkelä, Pirita Seitamaa-Hakkarainen, Krista Kosonen</i>					

Monday 16 June

16.00-20.00

16.00

Fika

Papers & Conversations

Design and Emotions: Communication and Perception

Design Areas: Textile Design

EKSIG: Experiential Knowledge in Design Research

PEDSIG: Improving Design Education

Conversation

Conversation

Conversation

Conversation

Sliperiet Conference Room

Sliperiet Motion Capture room

UMA Auditorium

UID Auditorium

UID Project Studio

UID Art Studio

UID Green Room

UID Red Room

16.30

Design for Emotional Well-being: A tactile and a Material Investigation
Alexandra Abalada

An Aesthetic Approach to the Use of Textiles in Architecture
Tina Moor, Andrea Weber Marin, Janine Haeberle

Matrix Method: Looking as Generator for Creativity
Thierry Lagrange

Intention-Centred Design Education: Beyond Methods and Techniques
Ylva Fernaeus, Anders Lundström

Prototyping Design Fiction
James Auger, Sara Ilstedt, Eva Knutz, Thomas Markussen

The Practice of Constructive Design Research
Stoffel Kuenen, Johan Redström, Caroline Hummels

Participatory Impact Assessment for Social Design
Denielle Emans, Adina Hempel, Kate Lyon

A Configurative Approach to Digital Imaginaries Design: Rethinking the Index
Jonas Fritsch, Konstantinos Ioannidis, Susan Kozel, Sari Tähtinen

17.00

Learning from Others: A Five-year Experience on Teaching Empathic Design
Caroline Gagnon, Valérie Côté

The Design Alphabet for Textiles as Applied Method at the Frontiers of Textile Design Research
Isabel Rosa Mueggler, Andrea Weber Marin, Françoise Adler, Janine Haeberle, Kim Poldner

Aspects of Research through Design
Danny Godin, Mithra Zahedi

Envisioning a Better Design Education: How Language Can Invite or Discourage Collaboration
Angela Dow, Susanna Engbers

17.30

Framing Behaviours in Novice Interaction Designers
Nicole Lotz, Helen Sharp, Mark Woodroffe, Richard Blyth, Dono Rajah, Turugare Ranganai

18.30

Pub & Gammlia dinner

Tuesday 17 June

9.00-13.00

9.00

Registration

You can register throughout the day at the reception desk in the Sliperiet foyer

Coffee

Sliperiet Conference Room

9.30

Debate: No Future

What are designers avoiding when they speculate on possible futures? Design is often said to be about the future, about initiating change, yet it also plays a central role in keeping things the way they are. And with respect to grand challenges like sustainable development, design is a part of the problem at least as much as it might be a part of a solution. Perhaps it is time we discuss what that notion of 'future' actually stands for in the practice of design?

Clive Dilnot, Anna Rosling-Ronnlund

11.00

Fika

Papers & Conversations

Design in Society and Culture: Activism and Behavior Change

Design and Innovation: Mapping Innovation

Open SIG 1

PEDSIG: Design Education Case Studies

Sustainability SIG: Promoting Sustainability

Design for People: Human-centred Design and Ergonomics

Conversation

Sliperiet Conference Room

Sliperiet Motion Capture room

UMA Auditorium

UID Auditorium

UID Project Studio

UID Art Studio

UID Green Room

11.30

Designing For Democracy; Using Design Activism to Re-negotiate the Roles and Rights for Patients
Eva Knutz, Thomas Markussen, Signe Mårbjerg, Jette Ammentorp

The Chef as Designer: Classifying the Techniques that Chefs use in Creating Innovative Dishes
Barry Kudrowitz, Arthur Oxborough, Jaz Hee-jeong Choi, Emily Stover

Research-led Practice in Design Research Used to Best Demonstrate Design Theories
Blair Kuys, Christine Thong, Nathan Kotlarewski, Scott Thompson-Whiteside

Design Ecologies, Locating and Amplifying Individual Motivations in a Collaborative Research Environment
Nicole Koltick

Evolving a Design Driven 'Hybrid' Research Approach to Inform and Advance Sustainable Outcomes in the Built Environment Sector
Kimberley Wilson, Cheryl Desha, Evonne Miller

Ergonomics Information Flow in Product Design: A Case Study About Handles Used by Turkish Furniture Producers
Yener Altıparmakogullari, Ilgim Eroglu

Intellectual Middleware: Design Research and the Digital Humanities
Anne Burdick, Patrik Svensson, Andrew Morrison, Molly Wright Steenson, Cecilia Lindhé

12.00

Communication Design as an Agent in Creating Gender Equality in India
Nicola St John

Design Wizard: Tools to Accelerate the Outline of Innovation Process Regarding Co-Design Structure and Project Scope
Bruna Di Gioia, João de Souza Leite

How Has Interaction Design been Perceived by Industrial Designers?
Canan Akoglu, Anna Valtonen

Nurturing Creativity: Assemblages in HCI Design Practices
Sisse Finken, Alma Leora Culén, Andrea Gasparini

Communication of Food Sustainability: from Dissemination to Participatory Knowledge Building
Young-ae Hahn

A Design Process based on Field Research: An Adjustable Desk for Children in Rural India
Youngchan Jeong, Sumi Kim, Joongseek Lee

12.30

User Diversity in Design for Behavior Change
Aykut Coskun, Cigdem Erbug

Mapping a Design Innovation Process within a Multinational Corporation - A Design Perspective to Using Delphi Technique
Mersha Aftab, Robert Young

Contradictions in the Design Space
Frederick M.C. van Amstel, Vedran Zerjav, Timo Hartmann, Mascha C. van der Voort, Geert P.M.R. Dewulf

Complexity in Design Driven Innovation: Case Study of Knowledge Transfer Flow in Subsea Seismic Sensor Technology and Design Education
Nenad Pavel, Arild Berg

Design vs. the Design Industry
Joanna Boehenrt

Tuesday 17 June

13.00-16.00

13.00

Lunch

Papers & Conversations

Design in Society and Culture: Social Innovation and Change

Design and Innovation: Business Model Design

Open SIG 2

Conversation

Conversation

Conversation

Sliperiet Conference Room

Sliperiet Motion Capture room

UMA Auditorium

UID Auditorium

UID Project Studio

UID Art Studio

14.30

Our Common Future? Political Questions for Designing Social Innovation
Ramía Mazé

Creating Organisational Knowledge Through Strategic Business Model Design
Luke Feast

Exploring Open Design for the Application of Citizen Science; a Toolkit Methodology
Robert Phillips, Sharon Baurley

Social Capital or Euro Capital? Wroclaw, Poland, European Cultural Capital 2016
Susan Yelavich, Malgorzata Bakalarz, Juliet Golden, Mateusz Halawa, Alessandra Pomarico

Making Sense of Diverse Voices and Technological Imaginaries
Thomas Binder, Tobie Kerridge, Bas Raijmakers, Veronica Ranner, Tim Regan

Creative Collaborative Processes. Maybe not that Creative?
Hlin Helga Gudlaugsdottir, Juha Kronqvist, Jenny Althoff

15.00

Social Design Principles and Practices
Inés Veiga, Rita Almendra

Game Feedback Techniques: Eliciting Big Surprises in Business Model Design
Sune Gudiksen

Desirable Imperfection in Product Materials
Owain Pedgley

15.30

Social Implication Design (SID) - A Design Method to Exploit the Unique Value of the Artefact to Counteract Social Problems
Nynke Tromp, Paul Hekkert

Airport Security Screeners Expertise and Implications for Interface Design
Levi Swann, Vesna Popovic, Althea Blackler, Ben Kraal

Tuesday 17 June

16.00-18.00

16.00

Fika

Papers & Conversations

	Design in Society and Culture: From Poetry to Computing	Design and Science	Design Research Process: Design Research Methods 1	PEDSIG: Design Assessment	Conversation	Conversation	Conversation	Conversation
	Sliperiet Conference Room	Sliperiet Motion Capture room	UMA Auditorium	UID Auditorium	UID Project Studio	UID Art Studio	UID Green Room	UID Red Room
16.30	A Study of Cultural Products and the Characteristics of Qualia <i>Hui Yun Yen, Po Hsien Lin, Rungtai Lin</i>	Are You a Designer or an Engineer? We are Both. An Insight into Product Design Engineering through Graduate Reflection <i>Blair Kuys, Clara Usma-Alvarez, Charlie Ranscombe</i>	The Promise of Cognitive Neuroscience in Design Studies <i>Pirita Seitamaa-Hakkarainen, Minna Huottilainen, Maarit Mäkelä, Camilla Groth, Kai Hakkarainen</i>	Designed Research: Publishing Designs as Scholarship <i>Cheryl Ball</i>	The Visualization of Information - the Symbiotic Relationship Between Science and Design <i>Judith Moldenhauer, Andrew Feig, Peter Johansson</i>	Collaboration in Mediated Environments: A Conversation on Affordances <i>Brooke Chornyak, Tania Allen, Rebecca Tegtmeier, Dan McCafferty</i>	Democratic Design Experiments: Between Laboratory and Parliament <i>Thomas Binder, Pelle Ehn, Eva Brandt, Joachim Halse, Yanki Lee, Ann Light, Jörn Messeter, Per-Anders Hillgren, Lone Malmborg, Tuuli Mattelmäki</i>	Co-embodied Theatre and Enactive Technologies <i>Jelle van Dijk, Jacob Buur, Preben Friss, Andrés Lucero, Robb Mitchell</i>
17.00	Employing Poetry Culture for Creative Design with Six-standpoints <i>Moli Yeh, Chiu Wei Chien, Rungtai Lin</i>	Comparative Analysis of Research on Industrial Design and Engineering Design by Viewpoint of M Model <i>Yuma Sakae, Shuji Kanazawa, Hiroki Tabata, Shuji Takano, Koichiro Sato, Yoshiyuki Matsuoka</i>	Meta-levels in Design Research: Resolving Some Confusions <i>Pieter Jan Stappers, Froukje Sleeswijk Visser</i>	Using a Visually-based Assignment to Reinforce and Assess Design History Knowledge and Understanding <i>Alethea Blackler</i>				
17.30	The Reappearing Computer: the Past and Future of Computing in Design Research <i>Simone Gristwood, Stephen Boyd Davis</i>	Towards a Framework of Design Principles: Classifying System Features, Behaviours and Types <i>Chih-Chun Chen, Nathan Crilly</i>	The Use of Grounded Theory Approach in User Experience Based Design Research: A study on "Automobile Modification" in Turkey <i>Selen Devrim Ülkebaş</i>	Academic Integrity: Differences between Design Assessments and Essays <i>Simple Simon, Beth Cook, Mario Minichiello, Chris Lawrence</i>				

Tuesday 17 June

18.30-19.00

Pub & Poster Session

Poster presentations will take place during the pub in a Pecha Kucha style format

UMA Auditorium

The Communicativeness of Visual Preferences in Design Projects

Anders Haug

An alternative design strategy to reduce the environmental impact of products: the durability of Design Classics as a stimulus for creation

João Martins, José Simões, Teresa Franqueira

Wearable Medical Devices: The rise of the patient as the consumer

Philip J. Kinsella, Paul R. Stoddart, Charlie Ranscombe

Openness in Design Education

Paolo Cardini

Information Guide Map for Art Museums in Seoul

Ji Won Choi, Juhyun Eune

TouchMe! DiffractMe!

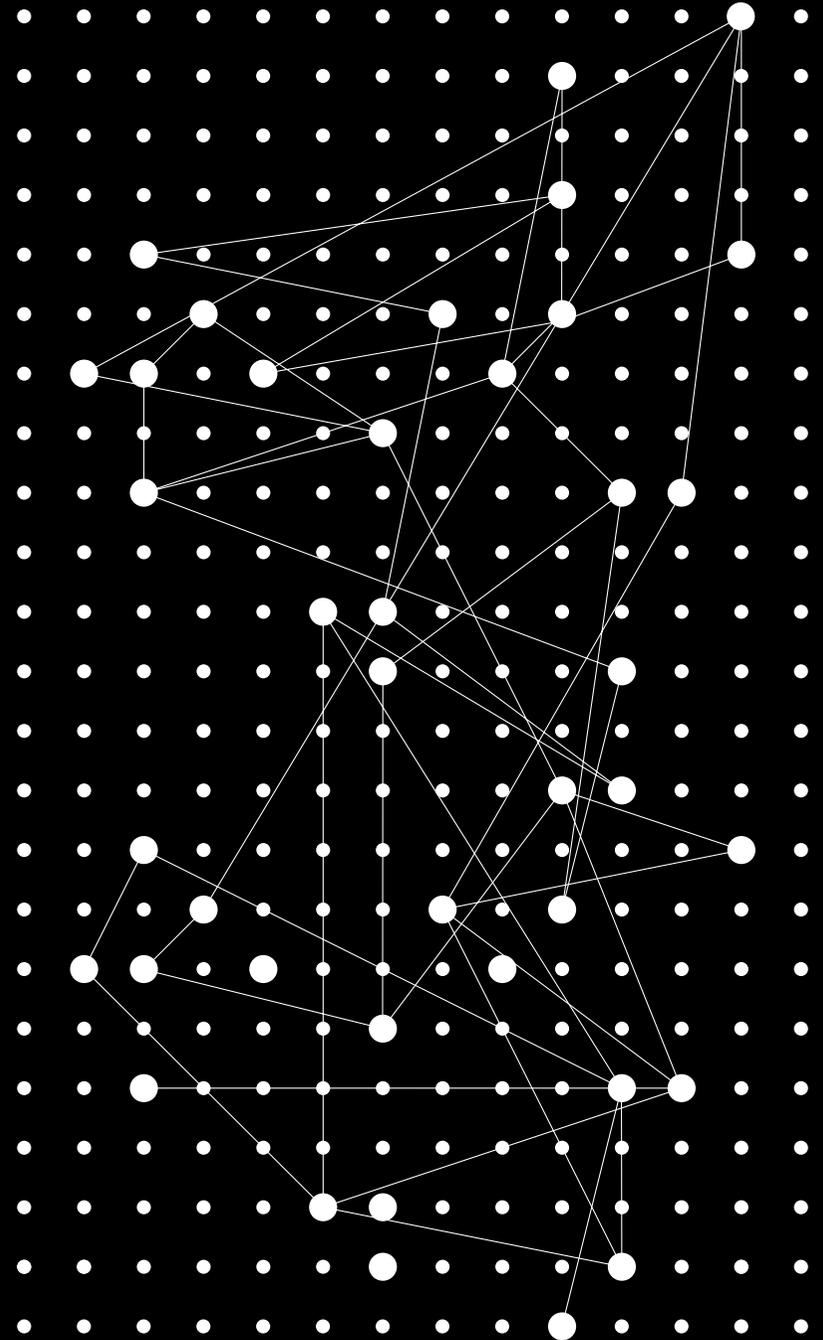
Jeroen Peeters, Stoffel Kuenen, Ambra Trotto, Nigel Papworth, Caroline Hummels

Bodystorming vs Brainstorming: the influence of the body on co-design processes

Philémonne Jaasma, Ambra Trotto, Caroline Hummels

IMMIB Design Contest 2013: A Case Study to Increase the Awareness of Industrial Design Students on Inclusive Design in Turkey

Ilgım Eroğlu, Abdüsselam Selami Çifter, Merve Çakır



Wednesday 18 June

09.00-13.00

9.00

Registration

You can register throughout the day at the reception desk in the Sliperiet foyer

Coffee

Sliperiet Conference Room

9.30

Debate: Open Worlds

Is information meant to be free? How do the creative ecologies of open innovation, open source networks, and creative commons licensing catalyze or stifle true innovation? Is there something inherently more inclusive or democratic about these modes of production? And are there success stories beyond open source software that suggest that these new ways of making are scalable and applicable to others areas of design?

Marco Steinberg, Anne Burdick

11.00

Fika

Papers

Design in Society and Culture: Culture and Place 1

Design Thinking: Critical Design

Design Research Process: Design Research Methods 2

PEDSIG: Design Education for Innovation

Inclusive SIG: Designing for Inclusion

Design Process: Design Case Studies

Sliperiet Conference Room

Sliperiet Motion Capture room

UMA Auditorium

UID Auditorium

UID Project Studio

UID Art Studio

11.30

Space-and-place modelling-and-making: a dialogue between design and geography
Robert Harland, Maria Cecilia Loschiavo dos Santo

Privilege and Oppression: Towards an Intersectional Critical Design
Luiza Prado de Oliveira

Qualitative Study of Smartphone use: Subjective Experience of Time through Personal Ubiquitous Technology
Yong-Ki Lee, Kun-Pyo Lee

An Evidence-Based Design approach for function, usability, emotion, and pleasure in studio redesign
Peter Scupelli, Bruce Hanington

Reality check: Notions of accessibility in today's architectural design practice
Hannelore Wauters, Peter-Willem Vermeersch, Ann Heylighen

Industrial designers and engineering designers; causes of conflicts, resolving strategies, and perceived image of each other
KwanMyung Kim, Kun-pyo Lee

12.00

Archaeology of the Future. Reconsidering the Place and Nature of Trend Forecasting in Design Discourse
Elisabeth Petermann

Agency, Context and Meaning: The Humanities and Design
Mads Folkmann

Wearing Two Hats: Reflecting Alongside Authentic Designing
Simon Bowen, Andy Dearden, Matthew Dexter

The learning needs of small and medium-sized enterprises for design led innovation
Mieke van der Bijl-Brouwer, Sam Bucolo

Service Innovation and Welfare Technology for Sustainable Home Medication: Insights from Social Practice Theory
Ida Nilstad Pettersen

Political debate as design process: A frame analysis
Darren Umney, Peter Lloyd, Stephen Potter

12.30

Tool complexes of innovation: Spaces for explorative innovation in four manufacturing industrial companies
Jennie Schaeffer, Yvonne Eriksson

Design and the Projecting of the New
Mads Folkmann

Designing Deployment: a Visual paper of the batch deployment of research prototypes
David Cameron, Nadine Jarvis, Andy Boucher

From BoP to ToP and Vice Versa Daily Practices in Settings with Limited Resources to Inspire Designers
Eleonora Ibragimova, Annemiek van Boeijen

The Design of Accessible Self Service Products, Systems and Services: Teaching Inclusive Design
Jenny S. Darzentas, John Darzentas

SOURCE, a Case Study for the Design of Precious Moments' Memory
Pierre Alex, Damien Dupré

Wednesday 18 June

14.30-16.00

13.00

Lunch

Papers & Conversations

Design in Society and Culture: Culture and Place 2	Design Thinking: Design Issues 1	Design Research Process: Collaborative Design	Conversation	Conversation	Conversation	Conversation
Sliperiet Conference Room	Sliperiet Motion Capture room	UMA Auditorium	UID Auditorium	UID Project Studio	UID Art Studio	UID Green Room
14.30 Sustainable Strategies Through Design in Communities of Practice <i>Luiza Rossetto, Celso Scaletsky</i>	Hacking delivery systems: exploring design tools for user-led innovation in urban infrastructures <i>Lorenzo Davoli, Johan Redström, Ruben van der Vleuten</i>	Ecotone: A Model for Art / Science Collaboration <i>Leanne Elias, Christine Clark</i>	Design Methods for Social Dreaming: Challenges, Opportunities and Potential Scenarios <i>Agata Nowotny, Monika Rosińska, Katarzyna Jeżowska, Agata Szydłowska, Maria Jeglińska, Matylda Krzykowski</i>	The Things About Design: Of Ghosts, Spirits and Material Practices <i>Elisa Giaccardi, Speed Chris, Philip van Allen, Jay F. Grossen</i>	New Perspectives from the DESIS Network: Community Resilience through Collaborative Services <i>Mariana Amatullo, Eduardo Staszowski, Adam Thorpe, Virginia Tassinari</i>	Intelligence, Interactivity & Interfaces: Historical Approaches to Contemporary Practice <i>Molly Steenson Wright, Theodora Vardouli, MoaKarolina Carlsson</i>
15.00 What Can Urbanism Be? Problematizing the Design of Cities <i>Aseem Inam</i>	Uncovering Design Competence: An Overview and a Model of Design Skills <i>Ufuk Uluhan</i>	An automatic open-source analysis method for video and audio recordings of co-design processes <i>Miika Toivanen, Minna Huotilainen, Huageng Chi, Pirita Seitamaa-Hakkarainen</i>				
15.30	Why 'design research practice' is not design as we know it <i>Tara Mullaney, Erik Stolterman</i>	Trans-Disciplinary Design Education <i>Christoph Holliger, Roberto Iñiguez Flores, Juan Claudio Monterrubio Soto</i>				

Wednesday 18 June

16.00-20.00

16.00

Fika

Papers & Conversations

	Design in Society and Culture: Cultural Development	Design Thinking: Design Issues 2	Design Research Process: Participation and Co-Design	Conversation	Conversation	Conversation	Conversation
	Sliperiet Conference Room	Sliperiet Motion Capture room	UMA Auditorium	UID Auditorium	UID Project Studio	UID Art Studio	UID Green Room
16.30	Design as Rhetoric in the Discourse of Resonance <i>Veronika Kelly</i>	The Rhetoric of Design for Debate: triggering conversation with an "uncanny enough" artefact <i>Max Mollon, Annie Gentes</i>	Investigating the Changing Relation Between Consumer and Designer in Post-Industrial Design <i>Guido Hermans, Anna Valtonen</i>	Changing Paradigms of Practice and Designery Knowledge <i>Susan Yelavich, Barbara Adams, Sean Donahue, Clive Dilnot, Anna Barbara</i>	The Space of Appearance: The Relationship Between Making & Public Space <i>Kelley Beaverford, Karl Burkheimer, Kurt Espersen-Peters, Jean Trottier</i>	Designing out Waste <i>Britt-Marie Steenari, Isabel Ordoñez, Marcus Bjelkemyr</i>	Designing with Environmental Data <i>Tobie Kerridge, Sarah Pennington, Dave Cameron, John Bowers, Nadine Jarvis, Andy Boucher, William Gaver</i>
17.00	Making the Case: collaborative concept development of products and services for a new design museum <i>Louise Valentine, Joanna Bletcher, Saskia Coulson</i>	Teaching a User-Centred Approach to Exploring Product Personalities and Sensory Attributes <i>Lois Frankel</i>	Co-created Facilitation and Perspective Plurality to Foster Mutual Understandings of Risk <i>Robb Mitchell</i>				
17.30	The Impact of Cultural Differences in Design Thinking Education <i>Katja Thoring, Carmen Luippold, Roland M. Mueller</i>	Designing Boundary Objects: Investigating the Affiliations of Medical Identification Jewellery <i>Alex Haagaard, William Leeming</i>	Beyond methods: Co-creation from a practice-oriented perspective <i>Elisa Ruhl, Christoph Richter, Julia Lembke, Heidrun Allert</i>				
18.30	Conference dinner						

Thursday 19 June

9.00-13.00

9.00

Coffee
Papers

Design for People: User-centred Design	Design Thinking: Design Issues 3	SIGWELL: Wellbeing and Happiness	PEDSIG: Design Education through Experience and Reflection	Inclusive SIG: Designing for Empathy	Design Research Process: Design Tools and Methods
Sliperiet Conference Room	Sliperiet Motion Capture room	UMA Auditorium	UID Auditorium	UID Project Studio	UID Art Studio

9.30

Transforming User Information into User Knowledge: A Multiple Case Study <i>Isil Oygur</i>	Designers in Complex Problem Solving: the Contribution of Systems Thinking <i>John Darzentas, Jenny S. Darzentas</i>	Design Approaches for a RCT Complex Intervention: A Stroke Rehabilitation Case Study <i>Alastair Macdonald, David Loudon, Anne Taylor</i>	Less is too Little - More is Needed - Body-Motion Experience as a Skill in Design Education <i>Helena Tobiasson, Anders Hedman, Jan Gulliksen</i>	Adapting Data Collection Methods for Different Participants of the User Study: to Improve the Empathic Understanding between Designers and Users <i>Shu Yuan, Hua Dong</i>	Tools For Effective Communication About Technologies Of Domestic Ubiquitous Computing Systems In User-Centered Design <i>Youn-kyung Lim, Kun-pyo Lee, Wonjun Lee, Yeoreum Woo, Jong-bum Seok, Jinmin Shin, Ingeon Youn-kyung Lim</i>
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10.00

Adaptable Interface Model for Intuitively Learnable Interfaces: An Approach to Address Diversity in Older Users' Capabilities <i>Raghavendra Reddy Gudur, Alethea Blackler, Vesna Popovic, Doug Mahar</i>	Staging the Interaction - Explorative Interventions for Engaging Citizens in the Development of Public Knowledge Institutions <i>Eva Eriksson, Josef Wideström</i>	How to Interest People for the Hare instead of the Chase. An exploration of open script Design to Change Consumer Behaviour <i>Liesbeth Stam, Wouter Eggink</i>	Learning from Students: Reflections from Personal Magazines in Basic Design Course <i>Koray Gelmez, Humanur Bagli</i>	Supporting the Designers to Build Empathy with People with Parkinson's Disease: the Role of a Hand Tremor Simulating Device and of User Research with End-users <i>Laura Boffi, Monica Milani, Marco Fontana, Gastone Pietro Papini Rosati</i>	Enhancing Collective Creativity Via Enactment: A Comparative Study Of Design Research Methods <i>Emily Elizabeth Strouse</i>
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10.30

Research-based Design and Research through Design: A Case Study of the Improvement in the User Experience of an Autism Caregiver Using ICT. <i>Chun-Meng Cheng, Hsien-Hui Tang, Miao-En Chien, Ni-Miao Lin, Mike Y. Chen</i>	A Framework of Ethical Nudges in the Design of Consumer Goods <i>Anders Haug, Jacob Busch</i>			Enhancing Visual Meaning: Measuring Visual Communication Design Effectiveness <i>David Craib, Lorenzo Imbesi</i>
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Fika
Sliperiet Conference Room

11.00

Concluding Panel

11.30

In this final debate of the 2014 Design Research Society conference we'll ask four participants to reflect upon the state of design research as a whole and to offer provocations for the future of design research. What will we be, what should we be, and what shouldn't we be doing in design research in the coming years? Drawing upon their own experience of the 2014 DRS conference, each participant will give us a reflection back of what she or he perceived to be the most penetrating, promising, and provocative ideas that they picked up during the event.
Peter Lloyd, Bruce Nussbaum, Lin-lin Chen, and Tara Mullaney

Abstracts

Life Hacking

Would you trust a teenager to tinker with biological material? Increasingly the means for designing life, life-forms, and lifelike matter are immediately at hand, leading to the rise of wet labs bio-hacker studios. Should we be policing the ethical boundaries and security breaches of this new frontier? What are the limits to our hubris?



Christina Agapakis

Christina Agapakis is a synthetic biologist, artist, and writer based in Los Angeles, CA. Her research explores symbiosis and ecology among microbes and between biology, technology, and culture. She is a partner at Icosahedron Labs, an adjunct professor of Media Design Practices at Art Center College of Design, and a writer for the Scientific American blog network.



Jessica Nihlén Fahlquist

Jessica Nihlen Fahlquist is a senior lecturer in medical ethics at the Centre for Research Ethics and Bioethics (CRB), Uppsala University and a postdoc researcher at the Philosophy Section at TU Delft. She conducts research into ethics and risk communication, particularly how moral emotions could and should be included in risk communication. Generally, her research focuses on issues related to technology, risk, and ethics with a particular interest in notions of moral responsibility. In addition to ethics and technology, she has published articles in the areas of public health ethics and environmental ethics. She is also affiliated with the Division of Philosophy at the Royal Institute of Technology in Sweden.

Monday 16 June
9.30-11.00
Sliperiet Conference
Room

Interaction And Service Design As Offering

Monday 16 June

11.30-12.00

Sliperiet Conference Room

Mattias Arvola,
Linköping University

This paper makes the proposition that interaction and service design can be seen as offering perspectives in a space of action where acting agents grasp a finite perspective depending on objects of concern and equipment, and then reorganize the space. The meaning of this proposition is outlined in the paper, and it also presents a case study of client meetings at banks, which illustrates the proposition. That case show how equipment was used in the background while the clerk attended the client. The clerk made things available for the client in their shared region, directing the client's perspective on the space of action. It was observed that equipment at times presented too rigid a perspective, not allowing the clerk to restructure it. Still, the clerk could make things available for himself or herself and for others, creating a multi-stable character of the region. Seeing interaction and service design in this way highlight the service moments as they appear to the individual agents who co-create the service throughout an encounter. The region set up by designers region offers a frame of possible perspectives and an orientation in the service moment.

Deconstructing Expected Passenger Experience In Airports

Monday 16 June

12.00-12.30

Sliperiet Conference Room

Philip J Kirk,
Queensland University of Technology, Australia
Anna Harrison,
Queensland University of Technology, Australia
Vesna Popovic,
Queensland University of Technology, Australia
Ben Kraal, Queensland University of Technology, Australia

The effect of passenger satisfaction on airport profitability has been widely acknowledged in the aviation industry. As a result, there has been much attention directed towards developing a deeper understanding of the factors that influence the passenger experience.

In this paper, we explore passenger experience from a novel perspective - that of the activities expected to be undertaken by passengers while in the airport terminal building. Using the Taxonomy of Passenger Experience (TOPA) as our framework, we look at the pre-travel interview data of 48 participants. The results of our analysis are used to construct an activity-centred account of the expected passenger experience for international departures.

Our exploration of the expected passenger experienced revealed that not all of the TOPA activities have an equal impact on the passengers' expected experience. The processing, consumptive, preparatory and queuing activity groups featured most prominently in passengers' accounts of their upcoming airport experiences. Of these, the preparatory category was found to have the most direct impact on passenger satisfaction. Additionally, our analysis indicated that utilising queue time to prepare passengers for upcoming processing activities could have a positive effect on both satisfaction and processing efficiency. A further outcome of this research was the observation that "shopping" did not form a part of the expected experience of any of the interviewed participants.

Abstract continues: www.drs2014.org/en/presentations/299/

Experience Design Framework For Securing Large Scale Information And Communication Systems

Monday 16 June

12.30-13.00

Sliperiet Conference Room

Azadeh Nematzadeh,
School of Informatics and Computing,
Indiana University.
Omar Sosa-Tzec,
School of Informatics and Computing,
Indiana University.

Securing Information and Communication Systems (ICSs) is a highly complex process due in large part to the feedback relationship that holds between the users and the system and its 'ecosystem' of usage. Such a relationship is critical for experience designers. The design of secure systems can thereby be enhanced by using principles from disciplines where similar relations hold, such as security engineering and adaptive systems. In this work, we propose a user experience design framework based on six principles and use a social networking system as an example of its application. The proposed design principles are grounded in complex systems theory. We address several potential security and privacy challenges inherent in the design of a large-scale adaptive system. By means of this framework we reflect upon the participation of an experience designer regarding the conceptualization, selection, review, and update of security and privacy matters. In this sense, we observe the role of the designer as a translator across disciplines. By introducing our framework, we also attempt to start a conversation about the challenges a designer faces in the appropriation of this role, either for the case of securing large-scale systems or in those situations where the boundaries of design and knowledge from other disciplines already overlap.

Graphic Design: Focus On Nine Professional Reflections?

Monday 16 June

11.30-12.00

Sliperiet Motion Capture room

Karel van der Waarde,
Graphic Design-
Research

Graphic designers undertake a wide range of activities in their commercial practice. The variety presents a rather confusing image of the profession and it is difficult to get a general view 'what graphic design actually offers'. A similar difficulty arises in graphic design education where discussions about the contents of curricula need to be based on a reliable description of professional practice.

Through observations of practice, and interviews with practicing graphic designers, a set of common activities, reflections and patterns were distilled. These commonalities were verified and validated through further interviews, and were compared with the literature on reflective practice and visual argumentation.

is characteristic for graphic designers. This characteristic reflection can be further subdivided into three groups: visual elements, visual strategy and visual dialogues.

The description can be used to discuss the role of graphic design in projects and in education to check if a graphic design curriculum covers all reflections sufficiently.

And, the description provides a direct relation to a theoretical basis: the ideas of reflective practice and 'visual argumentation theories'.

Point Of View As Mediacy Of Information Visualization

Monday 16 June
12.00-12.30
Sliperiet Motion
Capture room

Soojin Jun,
Graduate School of
Communication and
Arts, Yonsei University,
Korea

In recent decades, the importance of information visualization has greatly increased in our daily lives, as it has provided a medium through which to analyze, explore, and express the meanings of datasets. Although much current research has been devoted to addressing the process and various types of visualization, information visualization still lacks the theoretical foundation as a discipline to delineate clearly the complex relationship among information, audiences, and context. The purpose of this paper is to investigate how to analyze the complex relationship among information, audience, purpose, and context. This paper presents a point of view framework that helps to describe the design strategies used for to create information artifacts in response to specific design problems. Through examination of the four thematic variations-person, perspective, mode, and principle-we demonstrate the use of this framework to conduct analyses of several examples of information visualizations. This paper contributes to the literature by providing a theoretical framework that models the relationship among information visualization, audiences, and designers in specific contexts and that provides a meta-language that can be used and applied by educators to foster students' thinking processes and to facilitate in-class critique.

Ecological Perception: Seeing Systems

Monday 16 June
12.30-13.00
Sliperiet Motion
Capture room

Joanna Boehnert,
University of Colorado,
EcoLabs

Graphic designers have the unique ability to make hidden ecological processes visible by revealing relationships, patterns and dynamics in complex socio-ecological systems. This paper describes how communication design can support relational perceptual practices and even nurture ecological perception. It presents specific methods to harness the latent potential of graphic design to communicate the context, comparisons, connections and causality. It proposes that aesthetics experiences can provoke deep perceptual insights supporting new ways of perceiving our relationship with the environment, our ecological context. In ways described in this paper, graphic design has the potential to nurture the ability to 'see systems' - supporting both ecological perception and ecological literacy.

Verbalising The Silent? Professionals' Framing Of The Implicit In Packaging Design

Monday 16 June
11.30-12.00
UMA Auditorium

Toni Ryyänen,
Dept. of Economics
and Management,
University of Helsinki
Visa Heinonen,
Dept. of Economics
and Management,
University of Helsinki

The idea for this article was noticed by the authors during analysis of interview materials collected from 14 professionals working with packaging. The professionals frequently touched themes of creative and implicit activities needed to accomplish design projects.

The purpose of this article is to open up discussion about implicit elements in packaging design expressed in verbal form. Drawing on discussions about tacit knowledge (Polanyi, 1974; 2009), reflective practice and practitioner (Schön, 1983; 1995), wicked problems (Rittel & Webber, 1973), and designerly ways of knowing (Cross, 2006) the phenomenon of implicit elements in packaging design is examined. The materials are approached with a case study approach. "Casing" is built around two research themes: how the professionals describe implicit activities typical for packaging design, and what are the characteristics of these implicit practices spontaneously brought up in the interviews.

Three implicit elements were constructed inductively across the interviews. These are 1.) verbal descriptions of interpretation and understanding of a design task, 2.) role of creativity, intuition and instincts when design activities are verbalised, and 3.) meaning of making and experience in design practice. Although, the research design is solely explorative and based on interviews, discussions about implicit phenomena in design are brought forward in the discussion chapter.

A Classification Of Consumer Involvement In New Product Development

Monday 16 June
12.00-12.30
UMA Auditorium

Matt Sinclair,
Loughborough
University, UK
Ian Campbell,
Loughborough
University, UK

Processes such as co-design, crowdsourcing and open design are challenging previously held notions about the role of the consumer within New Product Development. The degree and validity of consumer involvement in product creation varies according to the process concerned, however to date little research exists to classify this involvement. In this paper the New Product Development process is divided into four phases: conception, specification, design and manufacture. The ability of the consumer to influence each phase when engaged in design activity is assessed. A graphical classification of New Product Development strategies is presented, mapped against the commitment of the designer to consumer involvement, and a number of new categories of design are proposed. The changing role of the designer from interpreter to facilitator of consumer wishes is also discussed.

An Investigation Of Interactive Environment Design Constraints

Monday 16 June
12.30-13.00
UMA Auditorium

Mengting Zhang,
Hong Kong
Polytechnic University

Creating interactive environment for public is a complex task, as designers have to manually adhere to various considerations, especially with involvement of stakeholders from diverse background. In real world, the quality of a design result is generally determined by the degree to which compliance constraints have been reached. In contrast to most research about design constraints on technical application, user interface, or architecture, scanty study has been conducted on the constraints of environment design that synchronize interactive experience from comprehensive perspectives. As technology evolves at tremendous speed and interaction design has intertwined with environment experience more and more, it is necessary to discuss the constraints of Interactive Environment Design (IED). In this work, we present an integrated framework to create desirable IED for public use considering both internal parties and external stakeholders. Specifically, we analyze three types of constraints related to IED including management constraints, input constraints and system constraints. The proposed framework is investigated through the case study of Shek Kip Mei IED project for public use in Hong Kong. It could be used as a reference for academic research and industry practice in the future.

Designerly Ways To Theoretical Insight: Visualization As A Means To Explore, Discuss And Understand Design Theory

Monday 16 June
11.30-12.00
UID Auditorium

Anne Louise Bang,
Design School Kolding,
Denmark
Anne Katrine Gøtzsche
Gelting, Design School
Kolding, Denmark
Silje Alberthe Kamille
Friis, Design School
Kolding, Denmark

This paper set out to investigate how design students learn from visualising theory in design education. The exploration rests on the assumption that the application of tools and techniques from design practice supports design students with an entrance to the theoretical part of the field.

The paper is based on teaching experiences from an MA course in design methodology where we use visualisation as a tool to discuss, explore and understand design theory. To throw light on the question, student evaluations and feedback has been included together with a classification of the material from one visualisation exercise. In addition, theories for how to understand designerly ways of knowing and constructing knowledge have been applied as tools to think with in the discussion.

The educational approach where design students read, analyse, and visualise theory, appears to be beneficial to the students' learning process for a number of reasons, which will be discussed in the paper. The main findings indicate that visualising theory is beneficial because it applies a type of practice that the students are familiar with, and supports the construction of new knowledge, by allowing the students to express information and concepts in ways that are personally meaningful to them.

Bombs Away: Visual Thinking And Students' Engagement In Design Studios Contexts

Monday 16 June
12.00-12.30
UID Auditorium

Marianella Chamorro-Koc, Queensland University of Technology, Australia
Andrew Scott, Queensland University of Technology, Australia
Gretchen Coombs, Queensland University of Technology, Australia

In design studio, sketching or visual thinking is part of processes that assist students to achieve final design solutions. At QUT's First and Third Year industrial design studio classes we engage in a variety of teaching pedagogies from which we identify 'Concept Bombs' as an instrumental in the development of students' visual thinking and reflective design process, and also as a vehicle to foster positive student engagement. Our 'formula': Concept Bombs are 20 minute design tasks focusing on rapid development of initial concept designs and free-hand sketching. Our experience and surveys tell us that students value intensive studio activities especially when combined with timely assessment and feedback. While conventional longer-duration design projects are essential for allowing students to engage with the full depth and complexity of the design process, short and intensive design activities introduce variety to the learning experience and enhance student engagement. This paper presents a comparative analysis of First and Third Year students' Concept Bomb sketches to describe the types of design knowledge embedded in them, a discussion of limitations and opportunities of this pedagogical technique, as well as considerations for future development of studio based tasks of this kind as design pedagogies in the midst of current university education trends.

Locating The Emerging Design Identity Of Students Through Visual And Textual Reflection

Monday 16 June
11.30-12.00
UID Auditorium

Colin M. Gray,
Indiana University, USA

Reflective activities have the potential to encourage students to develop critical skills and awareness of mental models. In this study, I address the emerging identity of early design students as they externalize their evolving conceptions of design through visual and textual reflection. Forty-three students in an introductory human-computer interaction (HCI) course completed weekly textual reflections on a course blog, and completed visual reflections at the conclusion of each of three projects. The weekly blog reflections were intended to document their experience as a developing designer, while the visual reflections represented their personal conception of design within HCI-their rendering of the "whole game". Through this process of reflection, students externalized their transformation as designers, including an awareness of the pedagogical, social, and cultural factors shaping them, and a growing sense of their personal and professional design identity. Through interviews and additional analysis of eight of these students, a disjuncture was found between conceptions of design in visual and textual reflections, with visual reflections forming a professional, generic design identity, and textual reflections more congruent with the student's personal identity. Issues relating to lack of representational skill and how these forms of reflection externalize a student's evolving design philosophy are addressed.

Users, Stakeholders And Researchers: Dilemmas Of Research As Practice And ...

Monday 16 June
11.30-12.00
UID Project Studio

Tiiu Poldma,
Université de Montréal
Delphine Labbé,
Université de Québec
à Montréal
Sylvain Bertin,
Université de Montréal
Eva Kehayia,
McGill University
Bonnie Swaine,
Université de Montréal
Sara Ahmed,
McGill University
Guylaine Le Dorze,
Université de Montréal
Joyce Fung,
McGill University
Phillippe Archambault,
McGill University
Anouk Lamontagne,
McGill University
Dahlia Kairy,
Université de Montréal

the Role of Design Thinking in the Case Study of a Rehabilitation Living Lab

Through the lens of a Rehabilitation Living Lab, this paper presents what happens when researchers work with managers and users in the design situation of an urban commercial complex. This multi-sectorial and interdisciplinary research project brings together over 45 researchers to explore issues of social inclusion and social participation of people with disabilities, as they arrive and use the shopping complex. Within the context of a Living Lab, researchers implement various research projects from diverse research paradigms and methodological perspectives. While the research method for the overarching project is within the general framework of participatory action research, all researchers use clinical, basic and experimental forms of research (Friedman, 2003) to move forward the goals and research streams defined at the outset. The research is supported by a parallel design activity with students in a baccalaureate design studio. The overall research project goals and an example of a pilot project are presented in concert with a design studio activity, to consider potential concepts that are research-informed. Discussion of results reveals salient issues that emerge in early findings in pilot studies, and underscores what happens when people from diverse research perspectives work together.

Incorporating Queer Understandings Of Sex And Gender In Design Research And Practice

This paper presents lessons to better incorporate queer understandings of sex and gender in design research and practice. There is much discussion in design literature about how sex and gender are interpreted and attributed in the design process and end products. Discussions revolve around attention toward female and male bodies, and stereotypes of femininity and masculinity. Nevertheless, this work rarely adopts queer understandings of sex and gender, or considers the experiences and identities of queer users. This prevents design research and practice from properly addressing social sustainability imperatives. Project results are based on a multi-part literature review and analysis, focused on industrial design. I highlight key themes surrounding sex and gender in design literature through three examples, and problematize these works in relation to queer understandings of sex and gender. Next, I identify a complementary theoretical perspective and priority for design research and practice, which provides lessons to better incorporate queer understandings of sex and gender in these realms. I end by exemplifying these lessons, their relative potential for social sustainability, and their possible applications.

Monday 16 June
12.00-12.30
UID Project Studio

Isabel Prochner,
Université de Montréal,
Canada

Altering Expectations: How Design Fictions And Backcasting Can Leverage Sustainable Lifestyles

Monday 16 June
12.30-13.00
UID Project Studio

Sara Ilstedt,
Green Leap, KTH Royal
Institute of Technology,
Sweden
Josefin Wangel,
KTH Royal Institute of
Technology, Sweden

Sustainable development calls for fundamental societal changes. Technological development alone won't suffice; in order to reach sustainable development objectives there is a need to rethink the way we live our lives. Sustainable lifestyles are today however often depicted through a sacrifice-based cultural narrative, in which losses, rather than gains stand in focus. The paper takes its starting point in recognizing that the future is open and possible to influence, but also that (ideas about) the future influences present decisions. These ideas, or expectations, about the future thus provide an opportunity for intervention. Through presenting concrete and positive representations of what a sustainable future might imply in terms of everyday life, the expectations for such a future might be altered. This paper aims to explore how design fiction and backcasting can be used to alter expectations regarding sustainable lifestyles, through creating concrete and engaging visions of everyday life in a sustainable future. The paper also presents a project based on this approach as well as some early findings from this.

Examining Intuitive Navigation In Airports

Monday 16 June
11.30-12.00
UID Art Studio

Andrew Cave,
Queensland University
of Technology,
Brisbane, Australia
Alethea Blackler,
Queensland University
of Technology,
Brisbane, Australia
Vesna Popovic,
Queensland University
of Technology,
Brisbane, Australia
Ben Kraal,
Queensland University
of Technology,
Brisbane, Australia

Airports accommodate passengers with a range of prior experience, from frequent flyers, to passengers who fly every couple of years, to those who have never flown before. Passengers with varying levels of prior experience may use different visual elements when navigating the airport. Ensuring all passengers can navigate to the processing activities intuitively is important for passengers, airports and airlines.

This paper examines how participants with Low, Medium and High airport familiarity navigate through the departures area at an Australian international airport. Three navigation activities are investigated (i) navigating to the check-in row, (ii) navigating through the Liquids, Aerosols and Gels (LAGs) preparation area before security screening, and (iii) navigating to either the boarding gate first or to a discretionary activity first, after exiting customs. In the three activities, differences were observed between the familiarity groups. These differences include the use of different information to locate the check-in desk, different actions when navigating through the LAG preparation area, and evidence that Low familiarity passengers have a desire to locate the boarding gate as soon as possible once through customs. This research provides evidence based design recommendations for airports to benefit from intuitive passenger navigation.

The Influence Of User Characteristics In Negative Product Use Experience

Monday 16 June
12.00-12.30
UID Art Studio

Chajoong Kim,
School of Design and
Human Engineering,
UNIST

Although User-centred design is prevalent in designing consumer electronic products, the number of product in consumer electronic industry is continuously increasing. Most of the reasons are not technical in nature but have to do with negative product use experience resulting from all kinds of non-technical problems, defined as 'soft' problems. The problems are becoming a threat to the industry leading to a large number of product returns. A lack of responding to user diversity due to globalisation is supposedly to be blamed for this product return, considering that user experience with a product cannot be necessarily the same between people. This represents that the current user-centred design methods applied by companies have limits to cope with the diversity between users. Therefore, this study aims to reveal the interaction between user characteristics representing user diversity and soft problems as negative product use experience. A sample of 567 people was invited to a questionnaire survey: 181 American, 201 South Korean and 176 Dutch people. The results indicate that types of soft problems are influenced by particular user characteristics including culture. The implications to the industry are discussed as well.

Defining The Experiential Aspects Of Passengers' Comfort In The Aircraft Interior – An Empirical Study

Monday 16 June
12.30-13.00
UID Art Studio

Naseem Ahmadpour,
Polytechnique
Montréal
Gitte Lindgaard,
Swinburn University of
Technology, Melbourne
Jean-Marc Robert,
Polytechnique
Montréal
Bernard Pownall,
Bombardier Aerospace

The wellbeing and comfort of passengers have always been a concern for the aerospace industry; passenger comfort has therefore been subjected to a lot of research in the past few decades. While previous studies aimed at setting priorities for the aircraft interior elements that are significant to passenger's comfort, this paper introduces passenger's perception of those contextual elements in relation to comfort experience. Eight themes of passenger's perceptions during the flight are identified as the result of a qualitative data analysis. They are named peace of mind, physical wellbeing, proxemics, pleasure, satisfaction, aesthetics, social, and association. The implication of some themes such as proxemics, i.e., recognition of one's personal space by others, and association, i.e., the symbolic significance of the design to the passengers, for comfort are particularly original. Furthermore, psychological peace and tranquility is found to be as big an influence on passenger's comfort as physical wellbeing. The eight themes are proposed to be used as a road map for generating design solutions in the aircraft interior with the aim of delivering pleasurable and positive experiences.

Can A Light Switch Be Beautiful? Aesthetic Appreciation Of Products As Means

Monday 16 June
11.30-12.00
UID Green Room

Odette da Silva,
Faculty of Industrial
Design Engineering,
Delft University of
Technology, The
Netherlands
Nathan Crilly,
Engineering Design
Centre, University of
Cambridge, United
Kingdom
Paul Hekkert,
Faculty of Industrial
Design Engineering,
Delft University of
Technology, The
Netherlands

Research in design aesthetics usually focuses on how products are experienced as they appear to the senses. The everyday experience of products is not an experience of appearance only, though. It can be shaped by knowledge of designers' intentions gained through sources such as press releases, marketing campaigns, critical reviews, and guesswork. In this paper, we explore the aesthetic appreciation of products in relation to perceived designers' intentions, as an assessment of means by which designers try to achieve certain aims. We report on an interview study in which participants reflected on a series of products in these terms. The participants' reflections indicate that the appreciation of a product depends on a perceived set of alternatives assumed for both the product and the aim. Determinants of aesthetic pleasure such as novelty are based on these assumed alternatives, rather than on mere product appearance. Ultimately, we find that a product can be perceived to be beautiful not only because of how it looks, but also because of how it works as a means to achieve a given aim.

A Shift Of Perspective In Design Inquiries: From Individual Boundaries To Common Needs

Monday 16 June
12.00-12.30
UID Green Room

Daniela Rothkegel,
Umeå Institute
of Design, Umeå
University

This paper extends design and systems literature by evaluating issues in methodology and practice that maintain learning on an individual context and doesn't allow an improvement of the whole system. The problem that has initiated this research is that it seems difficult for those engaged in a design process to reflect upon their own point of view in relation to other participants' perspectives to identify the whole situation's meaning. The idea of this research is to critically examine, from a practical design perspective, the framework of Critical-Systems-Heuristics (CSH) W. Ulrich, by taking previous critiques carried out and practical aspects derived from a case study under consideration. The purpose of this study is to identify issues of the current CSH-framework and to propose practical aspects to improve the same for civil engagement. In order to fulfill this purpose, strengths and weaknesses of the current framework have been evaluated in terms of what is currently possible through the framework and what are the consequences of that for practical engagement. This research identifies the need of methodological tools for designers that allow and support them to overcome individual boundaries in order to be able to engage into common needs of a system holistic.

Design Effectiveness: Building Customer Satisfaction And Loyalty Through Design

Monday 16 June
12.30-13.00
UID Green Room

Ki Woong Nam,
University of Leeds,
United Kingdom
Dr. Bruce W. Carnie,
University of Leeds,
United Kingdom

The contribution of design is regarded as one of the most crucial factors in business. However, there remains ambiguity about how design affects the building of customer satisfaction and loyalty. Furthermore, in terms of any business situation, the output of design efforts and investment should arguably be greater than management expect in order to be recognised as a worthy investment. This paper presents a novel combined conceptual framework of the design audit and value typology. By employing design embedded business theories, design value can be both assessed. Taking Freeman's stakeholder theory and conflating this with Holbrook's typology of value, a novel and more inclusive theory emerges upon which to clearly identify the scope of perspectives of value across all stakeholders within a business. Empirical findings through customer survey verify the suitability of the proposed measuring matrix used in this study. Furthermore, this empirical finding from customers can be the corner stone of determining the effectiveness of design in the food and beverage service industry by embedding design perceptions in a business theory of practice.

Translating Smells Into Colors: A Proposal For Improve The Perception Of Perfume Packaging Design.

Monday 16 June
14.30-15.00
Sliperiet Conference
Room

*Camila Assis Peres
Silva,*
University of São
Paulo, Brazil
Clice Sanjar Mazzilli,
University of São
Paulo, Brazil

The present paper is an exploratory research within packaging design for perfumes. It discusses about the possibility of enhancing the experience of the user by associating the visual language with the smells. It is common sense in the design field the importance of user experience. Designers from different areas have been discussing a way of enhance it. One of the approaches which appear in this scenario is the term (multi)sensorial. It is believed in the contribution of this approach for the packaging design. It is interest of the authors the use of color as a language in design able to enhance the communication, and consequently, the experience. The authors investigate the relationship that the colors can establish with the smells. They start from the assumption that it is possible to establish an association between the senses of vision and smell. They believe that, once synchronized, visual and olfactory stimuli may increase the perception of a perfume. Therefore the paper explores and discusses the visual and olfactory senses and their meanings. Moreover, it is proposed an intersemiotic translation between these senses.

From Product To Effect; Towards A Human-Centered Model Of Product Impact

Monday 16 June

15.00-15.30

Sliperiet Conference Room

Steven Fokkinga,
Delft University of Technology
Paul Hekkert,
Delft University of Technology
Pieter Desmet,
Delft University of Technology
Elif Özcan,
Delft University of Technology

This paper introduces a human-centered model of product impact, which involves all experiential and behavioral effects that can result from human-product interaction. It proposes two levels of impact: the ‘product interaction’ level and the ‘overall effect’ level. The product interaction level concerns the product experiences that result directly from the user-product interaction. The overall effect level concerns the behavioral and experiential effects on the user and other people, in which the product is not the center of attention anymore. On the first level, the user experience is conceptually divided in aesthetical experience, emotional experience and experience of meaning. The second level is divided in effects on behavior, experience, and attitude. The model is intended to accommodate to the developing research agenda of product experience, which is becoming increasingly concerned with the wider impact of products on people. A short case demonstrates how the model can be used to analyze products.

Measuring Product Design Preferences With An Affective Stimulus-Response Compatibility Task

Monday 16 June

15.30-16.00

Sliperiet Conference Room

Katrina L. Schoen,
University of Cambridge,
Engineering Design Centre
Nathan Crilly,
University of Cambridge,
Engineering Design Centre

Researchers often use interviews and questionnaires to measure consumer response to product designs. This practice continues despite the inherent limitations of these “explicit” self-report methods. “Implicit” reaction time tests have been developed in an attempt to overcome self-report biases and to obtain a more automatic measure of attitudes. These implicit methods are often applied to study addictive or phobic responses to stimuli such as drugs or spiders. They have also been used to measure consumers’ brand attitudes. To determine whether implicit testing methods can be used to provide a measure of consumer preferences for product designs, we conducted an implicit consumer study that measured reactions to product images using an affective stimulus-response compatibility task. Results suggest that implicit methods can be used to distinguish between consumer responses to different product images and to predict consumers’ product choices. With further development, implicit tests may become a helpful tool for investigating how consumers respond to variations in product design.

A Framework For Design And Assessment Of Products In Developing Countries

Monday 16 June
14.30-15.00
Sliperiet Motion
Capture Room

Timothy Whitehead,
Loughborough
University
Mark Evans,
Loughborough
University
Guy Bingham,
Loughborough
University

In an attempt to increase opportunity and quality of life for people in poverty, governments and non-government organisations (NGOs) sell and donate products to developing countries. Typically these are essential household items such as cookstoves, water filters, and solar lighting. However, to date there has been limited research into the uptake and long term effectiveness of these products. To overcome this problem and provide guidance to future and existing designers and NGOs an assessment framework has been created consisting of eight critical indicators for product success. These indicators have been identified from a literature review, the analysis of 63 products and 18 interviews with product designers and NGOs. The results have been presented in an easy to use assessment web which can assist designers in the design process and ensure that products designed for these markets are long-lasting and effective.

Design Prospects: Investigating Design Fiction Via A Rogue Urban Drone

Monday 16 June
15.00-15.30
Sliperiet Motion
Capture Room

Andrew Morrison,
Institute for Design,
Oslo School of
Architecture and
Design (AHO)

Design fiction is garnering attention as a mode of inquiry on the prospective in design practice and inquiry. This paper addresses design fiction as a potential area for design research to explore communicatively. The paper does so through a performative essayistic research text. Presented are extracts from an online visual-verbal hypertext and expository research writing. The performative exploration includes views from the persona of a unmanned aerial vehicle (UAV) or drone policing a near future city. Her perspectives are prospective. However, the urban 'drone-gone-rogue' is crafted as a design fictional rhetorical device to comment on topical issues in the hereand- now. Her views are located in relation to the matter of voice in design fiction. The drone asserts that cultural critique is needed from within design practice and research; she maintains that design fiction is one means to conveying it in contrast to the prevailing regimes of surveillance and promotional discourses of the 'smart city'.

Change Through Service Design – Service Prototyping As A Tool For Learning And Transformation

Monday 16 June
15.30-16.00
Sliperiet Motion
Capture Room

Essi Kuure,
University of Lapland,
Faculty of Art and
Design
Satu Miettinen,
University of Lapland,
Faculty of Art and
Design
Mira Alhonsuo,
University of Lapland,
Faculty of Art and
Design

This article aims to explain how transformational change can be achieved through service design process and methods, especially through service prototyping, and how the learning process enables change. Results are based on case study research conducted in a service prototyping laboratory, SINCO (Service Innovation Corner), during a MediPro (Practices, Processes and Products for Medicine and Healthcare) research project. This paper examines if SINCO service prototyping methods can influence transformational change in companies and organizations, what kinds of learning processes SINCO and service prototyping activate, and how the service design process is constructed when using the SINCO environment.

The aim of this paper is to present new information and insight regarding the benefits of service prototyping in development work between universities, companies and organizations. The key findings suggest that service prototyping can be an influential tool to transformational change as well as to encourage facilitation and team work. The co-design approach used in service design fosters a strong peer-to-peer learning process, and prototyping in the SINCO environment enables a technology-aided learning process and supports experiential learning. Research findings complement the theoretical background, which includes the key thematic of the service design process, learning process, transformational change in companies and service prototyping.

Making And Perceiving – Exploring The Degrees Of Engagement With The Aesthetic Process

Monday 16 June
14.30-15.00
UMA Auditorium

Priska Falin,
Aalto University,
School of Arts, Design
and Architecture,
Helsinki
Petra Falin,
University of Lapland,
Rovaniemi

Artistic practice and education build on a long tradition of aesthetic critique and problem solving. This tradition has later on influenced also practice-led and practice-based research approaches centering on the artistic process. Although these research approaches depend on the processes and objects that essentially have not only cognitive but aesthetic qualities, the role of the aesthetics in these research processes still lacks an analytical discussion in this context. In this article we explore the process aesthetics in the context of artistic, practice-led research. Namely, we examine the potential of the concept of aesthetic engagement as a framework for understanding and analyzing the involvement with the artistic process. The results of this investigation are the two complimenting degrees of involvement with the artistic process through making and perceiving, and the relations that activate these different ways of engagement. To illustrate and concretize the subject, we employ an example of video material capturing moments of experimentation with ceramic art.

How To Introduce Experiential User Data: The Use Of Information In Architects' Design Process

Monday 16 June
15.00-15.30
UMA Auditorium

Margo Annemans,
KU Leuven, Dept.
of Architecture,
Research[x]Design &
Osar
Architecten
Chantal van
Audenhove,
KU Leuven, LUCAS
Hilde Vermolen,
Osar Architecten
Ann Heylighen,
KU Leuven, Dept.
of Architecture,
Research[x]Design

As architecture influences people's daily life considerably, architects need in-depth insights in people's spatial perception, needs, and desires. To be able to provide them with sufficient and suitable information on these matters we aim to investigate how architects currently use information in design, and how experiential user data could change their thinking about their projects and way of working. We conducted two focus group interviews with architects (designing healthcare buildings), each covering two parts. First, we discussed information use and knowledge generation during design. This resulted in a better understanding of a design process' iterative nature with shifts in information content, type, and use. Several nuances were identified, e.g. between using general legal information and information focused on the building's actual situation, and between obligatory and inspiring sources. Second, we presented different forms of research data, and probed participants' interest in and possible use of these. This provided insights in what information qualities architects look for while designing, identifying strengths and weaknesses. Also ideas for disseminating research results amongst architects were collected. We conclude by pointing out opportunities of using experiential user data to initiate and support changes in design practice that improve users' wellbeing, especially in healthcare buildings.

Tactile Augmentation: Reaching For Tacit Knowledge

Monday 16 June
15.30-16.00
UMA Auditorium

The experiential knowledge of a practice lives within the practitioner and is out of reach for an outsider researcher. Only when practitioners have intrinsic motivation in researching their practice, can experiential knowledge reach an outside audience. The present case study is an attempt to access some of the issues forming the embodied knowledge in the act of throwing clay on a potter's wheel. One of the researchers attempts to augment her tactile sensitivity and awareness by throwing porcelain clay blindfolded for five days. Her experience is documented and reflected upon through diaries, a contextual activity sampling system (CASS) and videos that includes thinking aloud accounts. The tentative findings reveal that the researcher was able to articulate her tactile experiences and share her experiential knowledge to a great degree. Patterns in the making, such as dividing hands into categories of active and perceiving, and metaphorical language use was identified that may be of value in an educational setting. Feelings were acknowledged as major contributors to risk assessment and decision-making in the material problem solving process.

Camilla Groth,
Aalto University,
School of Arts, Design
and Architecture.
Department of Design.
Maarit Mäkelä,
Aalto University,
School of Arts, Design
and Architecture.
Department of Design.
*Pirita Seitamaa-
Hakkarainen,*
Helsinki University,
Department of Teacher
Education.
Krista Kosonen,
Aalto University,
School of Arts, Design
and Architecture.
Department of Design.

Monday 16 June
14.30-16.00
UID Auditorium

*Carl DiSalvo,
Jodi Forlizzi,
Stefan Holmlid,
Froukje Visser*

With the growth of mobile and social computing, designers are increasingly being asked to design services and systems intended for societal change. In response, our current educational missions also need to change. Current design approaches, inspired by user experience and user-centered design, are insufficient in adequately training students in how to take on these new design challenges. An open question is how we best design the curricula of the future to best accommodate for designing future product service systems and services and systems intended for societal change.

In this proposed conversation at DRS 2014, we compare a contrast several educational approaches to managing the increasing breadth and complexity of our discipline. We bring together leaders in academic service design to discuss their thoughts and experience in creating new service design curricula, or instead tuning more traditional curricula in industrial and communication design. Through position statements and a lively debate, we propose to reveal what critical skills are needed to train future designers and to propose alternative models for teaching service design.

Monday 16 June
14.30-16.00
UID Project Studio

*Emily Verba,
Katherine Kovacs,
Kaley Madden*

We live in a time when lines between technology and humanity are perpetually blended. Although technology is intuitive and compatible with our lives, we are losing sight of the effects it incurs on our minds, bodies and behavior. The Internet separates imagery from its point of origin, thereby affecting society's collective emotions and modes of consumption. Design research becomes the perfect platform for discussion of these topics through a critical and analytical lens.

Driven by a concern for the preservation of physical experimentation and craft in the design process, design through making is employed to raise awareness of the ways designers communicate in our digital age. The investigation seeks to explore the inevitable, infinite, and indiscriminate torrent of digital matter in our lives. Building from the predictions of McLuhan and others, the idea of "Perpetual Beta" refers to a constant process of renewal in image making—construction, reconstruction, and deconstruction, through analog and digital methods.

The analysis and visual interpretation of new realities through experimental projects have instigated several mutations of media. By presenting process work alongside the final pieces in an exhibition, the role of process is elevated to match, or even exceed, the impact of the final work.

Design Research For Cities In Crisis

Monday 16 June
14.30-16.00
UID Art Studio

*Janet McGaw,
Rochus Urban Hinkel,
Alberto Altes Arlandis*

Design Research for Cities in Crisis:
A multi-modal methodology for inquiry and visioning

Traditional modes of research - quantitative, qualitative and archival - privilege logical, linear thinking in pursuit of new knowledge about the world that was or is. Design research, on the other hand, is a multi-modal methodology that integrates traditional methods of exploration with creative research, a path of discovery that embraces lateral thinking and non-textual, non-numerical modes of representation to imagine the world that could be. This session explores design research as a mode of exploration and an agent of change for cities in crisis. How do we integrate interdisciplinary research about the urban condition and with creative research that imagines new futures?

Participants share their creative research methods, discuss the urban conditions they have uncovered, and the futures they imagine. Methods include installations, creative mapping, diagramming, collaborative creative encounters, critical spatial practices, activism, sense-scapes and other yet-to-be imagined modes of inquiry. We will discuss the capacities of design research to address the pressing problems of our age. And we will imagine hopeful alternatives for future cities to the apocalyptic visions presented by environmental and social scientists circulating in scholarly discourse and the media.

The Design Of Data

Monday 16 June
14.30-16.00
UID Green Room

*Raoul Rickenberg,
Manuel Lima,
Christopher Falliers*

New approaches to data have sparked debate over how we construct and apply knowledge in many domains. In governance, for example, the dramatically expanding capacity to collect and process data has brought conflicts between traditional notions of privacy and public safety to the fore. Analogous debates are occurring in realms such as business and medicine as we come to recognize that no thread of our social fabric is immune to data-driven transformation. Yet, curiously, the impact of data is rarely addressed as a matter of design — and this despite the fact that designers are actively and intimately engaged in shaping the ways that data are generated and used in other disciplines.

This conversation will address the need to educate designers on the data-centric environments in which they now practice. The catalysts will be asked to help the broader group scaffold new approaches to data — approaches that extend beyond illustration to facilitate the forms of speculation and improvisation that distinguish design from the empirical sciences. Our objective is to spark a conversation that, in essence, questions the role of design in contexts that are increasingly defined and determined on the basis of data.

Violence, Militancy And Design Research

Monday 16 June
14.30-16.00
UID Red Room

*Maria Hellström
Reimer,
Mahmoud Keshavarz,
Kristina Lindström,
John Marshall,
Åsa Ståhl*

Contemporary discussions in design research have been heated up with celebrated concepts such as democracy, well-being and collaboration. Since these research activities deal with already “good” intentions, they are presented as non-violent makings. We would however argue that these approaches, like any other research activities, are always-already violent. More particularly, whose violence are we talking about and in what directions could different formulations of violence take us? In our discussion we will engage with examples of militancy - militancy as a materialised and sensual form of violence engaged with situations while remaining resistant to the state of situations - extracted from our research and our experiences as researchers, as they refuse to, stand against or stay with the trouble of disciplined, institutionalised and paternalised violence.

The conversation takes its form as a patchworking seminar, which means that while gathered in a circle, the catalysts will put patches on the floor to share example of militancy and to elaborate and unfold various forms of resistance against violence while engaging with it. Other participants are invited to rearrange the patches and to contribute with patches on the given topic.

Design For Emotional Well-Being: A Tactile And A Material Investigation

Monday 16 June
16.30-17.00
Sliperiet Conference
Room

Alexandra Abalada,
Malmö University, Lund
University, Sweden

This paper presents how the research through design approach contributed to drive the exploration on design for emotional well-being on cognitively impaired children, who have visual and memory disabilities.

A user understanding was gained through iterative process between research and practice. The tactile investigation and the responsible coupling between the physical and the computational materials are a key strategy to evoke positive emotions.

The motivation is to define appropriate emotional effects through the combination of the physical and computational materials and gather relevant user information, using video to reflect on the initial designs, to envision how these emotional effects can be achieved. Subsequently, it will support to design qualities in the interaction that evoke intended emotions among children and pedagogues.

The outcomes are the tangible designs, the emotions' evaluation and a compilation of written and visual annotations that describe the knowledge gathered from the design thinking of the research through design methodology applied along the project activity. Additionally, the findings obtained from the knowledge, grounded by the iterative process, can be viewed as an attempt to encourage designers and researchers to consider the emotional well-being topic that has gaining a steady interest in the design community.

Learning From Others: A Five-Year Experience On Teaching Empathic Design

Monday 16 June

17.00-17.30

Sliperiet Conference Room

Caroline Gagnon,

Laval University,
Quebec, Canada

Valérie Côté,

University of Montreal,
Montreal, Canada

Design is about making our world a better place. Design education is a key factor in improving the quality of life and we have to teach our future designers to be better listeners, observers, storytellers and creators. A toolbox to help aspiring designers to seek insight through the aesthetic experience of others is essential to develop their empathic abilities and to learn how to think outside the box. However, it is surprising to realize that only a few design schools offer courses, let alone approaches, to engage in such methodology. This kind of toolbox was created in a pedagogical integration project conducted at the University of Montreal School of Industrial Design and was the result of five years of workshop teaching. Thus, this paper proposes a critical reflection on pedagogical challenges met in teaching empathic design practices. The observations collected in the workshops allowed three types of findings: the a priori, the learning experience, and the limits of the creative integration of data. As a way to integrate research based-tools to support and defend design strategies, the approach presented in this paper allows the use of more refined methods to teach empathic design.

An Aesthetic Approach To The Use Of Textiles In Architecture

Monday 16 June

16.30-17.00

Sliperiet Motion Capture Room

Tina Moor,

Lucerne University of Applied Sciences and Arts, CC Products & Textiles

Andrea Weber Marin,
Lucerne University of Applied Sciences and Arts

Janine Häberle,
Lucerne University of Applied Sciences and Arts

Current trends indicate that ways of living will change due to longer life expectation, urbanization, scarcity of raw materials and energy resources and increased mobility leading to a need for flexible housing. 1. 2. Using textiles in architecture can be energy efficient and economic: it is lighter to transport and easier to (dis)assemble. We are interested in an aesthetic approach to using textiles in architecture: textiles can i.e. be soft, foldable, elastic and they are available in a variety of colours and textures. We want to play with the sensory capacity of textile to give architectural spaces a different touch and feel. Our team of designers, architects and engineers at the Lucerne University of Applied Sciences and Arts (LUASA) is currently working on the project 'Stoffwechsel' ("textile change") with the aim to disclose the aesthetic potential of textiles in architecture. In this paper we focus on two sub-components within the 'Stoffwechsel' project: textile insulation and textile pavilion. We present the state of the art and key learnings from the project and end the paper with offering suggestions for further research.

The Design Alphabet For Textiles As Applied Method At The Frontiers Of Textile Design Research

Monday 16 June
17.00-17.30
Sliperiet Motion
Capture Room

Andrea Weber Marin,
Lucerne University of
Applied Sciences and
Arts

*Isabel Rosa Mueggler
Zumstein,*

Lucerne University of
Applied Sciences and
Arts

Françoise Adler,
Lucerne University of
Applied Sciences and
Arts

Janine Haerberle,
Lucerne University of
Applied Sciences and
Arts

Kim Poldner,
Lucerne University of
Applied Sciences and
Arts

In applied textile design research between institutions and industry members the project groups are mainly interdisciplinary and it is therefore necessary to find agreement on the design vision in order to achieve results successfully and to communicate with the partners from different fields. Our textile design research method (TDRM) addresses this kind of interdisciplinary framework for design research in order to structure the collaboration within our practice-based context. The method consists of four steps, which have been identified as being crucial to the application of product language to textile design research projects:

1) Design Vision; 2) Systematic experiments;
3) Design Alphabet for Textiles; 4) Design Briefing.

Within our TDRM the design alphabet has a key function as it materializes the design vision on the first hand and serves as a decision tool for future product developments in the innovation process. This paper presents the design alphabet and its application within three cases: DAFAT, Interior Embroidery and E-broidery. The established method interprets and challenges the traditional knowledge about how textiles are constructed and designed. Therewith it will enrich the present and predict a future product language in order to enable innovative materials and product identities in the textile field.

Matrix Method: Looking As Generator For Creativity

The central theme of the research project presented in this paper is the act of looking at the way a person is looking. An essential part of this investigation concerns the development of a creative method; the Matrix Method. This method makes use of 'matrices' as tools to generate experiences and creative ideas by using the look as a layered way of acting. With this method we develop tools for collaboration, so that people can solve the types of problems that are characteristic of their domain or discipline. This might be architectural design, but we have also tackled communication, acting and organization development. The research project explores how looking is related to this technique. This relation is a central theme during the fieldwork and in the ensuing discussion. C. Otto Scharmer's Theory U, the phenomenon of indistinctness, the Self, the relation with other creative techniques and forms of intuition are important themes in this reflection and are part of this paper.

Monday 16 June
16.30-17.00
UMA Auditorium

Thierry Lagrange,
Faculty of
Architecture, KU
Leuven

Aspects Of Research Through Design

Monday 16 June
17.00-17.30
UMA Auditorium

Danny Godin,
Université du
Québec en Abitibi-
Témiscamingue
(UQAT)
Mithra Zahedi,
Université de Montréal

Research through design is, by nature, embedded in the design process. In other words, while its main concern is to inform a research question, it also must be concerned with the end product of the design. As such, designers/researchers become concerned with the same type of “wicked problems” the professional designers are, especially when using research through design. Moreover, they also add a new layer of complications that are inherent to research. Since the approach is quickly gaining in popularity, it is necessary to develop a base of knowledge about it. Thus, this paper’s aim is to present a literature review of texts about research through design to demystify this approach and provide a deeper understanding for future work in the field. The gathered views on the subject are then classified into one of six sets of aspects: ontological aspects, epistemological aspects, methodological aspects, limits and expected contributions.

Intention-Centred Design Education: Beyond Methods And Techniques

Design work can be driven from a variety of intentions, e.g. to serve users, to generate profit, to explore a new concept, or to trigger reflection and debate. However, it is not always clear how such intentions can be addressed concretely in education, and in specific design domains, such as interaction design, they might easily get lost among course content related to specific methods and technologies. In this paper, we discuss how we have addressed design intentions in our advanced course in interaction design, and also what we see as its main qualities in relation to more conventional course structure in this area.

Monday 16 June
16.30-17.00
UID Auditorium

Ylva Fernaeus,
Royal Institute of
Technology, KTH,
Stockholm, Sweden
Anders Lundström,
Royal Institute of
Technology, KTH,
Stockholm, Sweden

Envisioning A Better Design Education: How Language Can Invite Or Discourage Collaboration

Monday 16 June
17.00-17.30
UID Auditorium

Angela L. Dow,
Kendall College of Art and Design of Ferris State University, Grand Rapids, Michigan, USA
Susanna Kelly Engbers,
Kendall College of Art and Design of Ferris State University, Grand Rapids, Michigan, USA

The possibilities for collaboration among faculty teaching in various disciplines in an art and design college are often limited by the language we use to analyze, create, and discuss our work. Although there may, in fact, be a great deal of overlap, our language sometimes obscures rather than clarifies the possibility of productive and fruitful overlap. Our paper-itself the fruit of a collaboration between a professor of graphic design and a professor of English-discusses the ways in which various constituent groups at our college talk about visuals (e.g., logos, advertisements, interiors, photographs, illustrations, etc), noting the ways in which our language limits cross-disciplinary critique and collaboration and suggesting ways in which it might be more inclusive and encouraging of both. We share the results of our surveys and interviews with members of our faculty from diverse disciplines in design, fine art, art history, art education, and general education. Using the rhetorical triangle as a tool, we then consider the implications that our results have for improving interdisciplinary dialogue among faculty at the college as well as for improving our students' educational experiences across the curriculum so that we may better prepare them for an increasingly collaborative work environment and world.

Framing Behaviours In Novice Interaction Designers

Monday 16 June
17.30-18.00
UID Auditorium

Some recent findings with expert designers relate problem-solution co-evolution and analogy use to framing practices. We wanted to understand if novices also use coevolution and analogies to frame their thinking. Furthermore we wanted to see if there are any differences across cultures. The paper reports an analysis of data gained from protocol studies with novice interaction designers in the UK and Botswana. Novice interaction designers in the UK and Botswana show some similarities in framing behaviours using co-evolution and opening analogies to develop metaphorical themes in framing. But within these observations we also found differences across the cohorts. The implications are discussed in the light of adopting appropriate design pedagogy for novices in different cultures.

Nicole Lotz,
The Open University, UK
Helen Sharp,
The Open University, UK
Mark Woodroffe,
The Open University, UK
Richard Blyth,
The Open University, UK
Dino Rajah,
Botho University, Botswana
Turugare Ranganai,
Botho University, Botswana

Prototyping Design Fiction

Monday 16 June
16.30-18.00
UID Project Studio

*James Auger,
Sara Ilstedt,
Eva Knutz,
Thomas Markussen*

Design fiction is a designerly way to speculate about the future through a combination of prototyping and storytelling. As such it brings together the notion of design, the capacity to imagine and make concrete not yet existing products and services for everyday life, with that of science fiction, the imaginative storytelling that speculates about future worlds. Design fiction is about liberating design practice from narrow market-driven values, consumerist ideologies, political power and the technological possibilities of today. Design fiction looks at the future, but instead of starting with policies and legislations, it begins with a description about everyday life. What objects, services and products will be available and how will they be used? Design fiction is a new approach and there are different ideas about what it is and how to use it. How does it relate to similar approaches such as speculative design and critical design? What is the purpose of design fiction? Who is the audience? What problems might appear with the approach? What can we learn from it?

Participators will bring examples of design fictions. Together we will map these into a design space, finding themes and clusters. The mapping procedure will be an outset for discussions and a better understanding of design fiction as a tool for design.

The Practice Of Constructive Design Research

Monday 16 June
16.30-18.00
UID Art Studio

*Stoffel Kuenen,
Johan Redström,
Caroline Hummels*

People practicing constructive/experimental/practice-led/etc. design research come from a range of different academic traditions, which leads us to argue in certain ways, look for support in different places, and format and disseminate our work towards particular audiences.

Such contextual factors might be the cause of some of the issues we struggle with in our work, while at the same time they obfuscate the 'real' foundational issues in the kind of design research we practice.

When we look to current discourse concerning constructive design research, much attention seems to be given to positioning and justifying of the work in various contexts. What seems to be less exposed are foundational issues relating to how the practice unfolds, the kinds of issues that are tackled and by what means this is done. In this debate, four design researchers from various backgrounds will lead the discussion to uncover some of these issues. The debate will be fueled and framed with short video quotes from well and lesser known design research practitioners.

Participatory Impact Assessment For Social Design

Monday 16 June
16.30-18.00
UID Green Room

*Denielle Emans,
Adina Hempel,
Kate Lyon*

Social Design, a multidisciplinary field focusing on social, humanitarian, and environmental issues, is quickly becoming a new area for collaboration between designers, educators, practitioners and policy makers. While social design aims to create a positive impact on communities both locally and globally, social design lacks a long-term assessment methodology to determine the success of solutions after dissemination. Without a system for evaluation, how can designers determine the impact of design in fostering change? Program evaluators and social designers share the need to understand the impact a project has made on society, however, these two fields often work independently from one another and at different stages of a project. This isolation hinders the growth of rigorous evaluation for design, whilst both fields could greatly benefit from a collaborative approach. If the role of social design is to work as a catalyst for sustained transformation, then a shared measurement system should track, assess, and evaluate design efficacy. Evaluation can help designers judge performance, mitigate negative impacts of a project, and drive future work. This interdisciplinary panel brings together experts in architecture, graphic design, and program evaluation to stimulate a discussion on the role and current practices of impact assessment for social design.

A Configurative Approach To Digital Imaginaries Design: Rethinking The Index

Monday 16 June
16.30-18.00
UID Red Room

*Jonas Fritsch,
Konstantinos Ioannidis,
Susan Kozel,
Sari Tähtinen*

The narrative function of a digital index is, first, an imaginary construct embedded in the initial intentions of the creator. As the observer enters into the understanding of the configurative relations that its interface encourages, it is gradually objectified as a symbolic construct within the subject. In terms of the practice of indexing and exhibiting in the digital landscapes of the 3.0 era, along with the implementation of the technological developments, a design interaction methodology of the user/interface relation reflecting the configuration, presentation and displacement of space (from the analog to the digital one) seems to be absent. In some cases, it is replaced by a mere static image-driven representation of objects on the computer screen. The scope of the conversation is to foster a discussion on the exhibition of place and object in the digital environment as a broad phenomenon of cultural practices and to explore the configurative relationships and communication that emerge on the light of a “studia humanitatis” of the nonmaterial museum-as-index. The proposal puts on the table this particular form of exhibition promoting a discussion beyond the conventional notion of the “index” as a static and linear presentation of online images of places and objects.

No Future

What are designers avoiding when they speculate on possible futures? Design is often said to be about the future, about initiating change, yet it also plays a central role in keeping things the way they are. And with respect to grand challenges like sustainable development, design is a part of the problem at least as much as it might be a part of a solution. Perhaps it is time we discuss what that notion of 'future' actually stands for in the practice of design?

Clive Dilnot

Clive Dilnot is professor of design studies at New School University and Parsons School of Design in New York. Previously he was Professor of Design Studies and Director Design Initiatives at the School of the Art Institute in Chicago. Earlier he taught at Harvard University, in Hong Kong and in the UK. He has lectured extensively around the world, and written on a range of topics from aesthetics through design theory. Besides the politics of the photographic essay (Chris Killip, 2009, 2012) Current interests and areas of publication include the ethics of design (Ethics? Design 2005), the relationship of design and philosophy, the question of design knowledge and the wider relation of design, history and the artificial (Design and the Question of History, with Tony Fry, 2014 forthcoming).



Anna Rosling-Rönnlund

Anna Rosling Rönnlund co-founded Gapminder Foundation (www.gapminder.org) in 2005. She currently works as Art Director and Project Manager at Gapminder. Anna divides her time between two major projects: Gapminder School (free videos and apps focusing on global proportions and slow global trends) and Dollar Street (photo documentations of home functions - such as cooking, eating, sleeping, hygiene - at different income levels globally). Both projects aim at building a fact-based world view everyone can understand. In 2007 Gapminder sold their Trendalyzer technology to Google. For three years Anna worked at Google as an User Experience Designer to improve public data search. Since 2010 Anna is back at Gapminder. Her main passion is to make statistics understandable and useful! She has a Masters Degree in Social Sciences (with major in Sociology) and a Bachelor Degree in Photography.

photo: Viktor Gårdsäter

Tuesday 17 June
9.30-11.00
Sliperiet Conference
Room

Designing For Democracy: Using Design Activism To Re-Negotiate The Roles And Rights For Patients

Tuesday 17 June

11.30-12.00

Sliperiet Conference Room

Eva Knutz,

Department of Communication Design, Kolding School of Design, Denmark

Thomas Markussen,

Department of Communication Design, Kolding School of Design, Denmark

Signe Mårbjerg

Thomsen, Department of Communication Design, Kolding School of Design, Denmark

Jette Ammentorp,

Health Services Research Unit, Hospital Lillebaelt/IRS Vejle, University of Southern Denmark.

In this paper we focus on 'patient-democracy' and 'shared decision-making' seen from the perspective of design practice and design research. In the research on democracy in healthcare it is rarely questioned what forms of democracy underlies these concepts. We have examined three different theories of democracy and the democratic practices that belong to each of these.

For designers working to increase patient democracy it is of vital importance to be able to distinguish different structures underlying democratic practices and to work out methods for prototyping democracy. In design research there are already a number of approaches available which in one way or the other address the relationship between design, democracy and power.

We provide an account of participatory design, adversarial design and design activism thereby pointing towards design's potential for re-distributing power and authority in healthcare. Positioning ourselves within design activism, we have set up a series of disruptive design experiments at a Danish Hospital. The aim of these experiments is to make inquiries into the hospital's own conception of democracy and to use design activism to re-negotiate the roles and rights for patients thereby exploring various disruptive realities wherein the patient becomes a citizen with democratic rights.

Communication Design As An Agent In Creating Gender Equality In India

Tuesday 17 June

12.00-12.30

Sliperiet Conference Room

Nicola St John,

Swinburne University of Technology

Developing from the field of behavior change through design, this study investigated if communication design is an effective tool in changing cultural behaviors and perceptions of gender in India. Previous studies on gender violence campaigns (Gadornski, 2001; Murphy, 2009; Kostick et al., 2011) suggest utilising men and traditional gender stereotypes are effective in creating behavior change. Yet there exists a gap on specific cultural roles and changing ingrained behaviors.

This study focuses on the necessary recognition of cultural traditions and behaviours that must precede any design activity within an epistemological setting. Developing communication strategy within sensitive and complex social issues must be created in full recognition of cultural inflections on patriarchy and sociological insights.

I conducted two stages of investigation. First, male Indian participants were interviewed about gender equality in India. Second, participants completed self documentation kits, which focused on perceptions of gender. Insights indicated the term gender equality was misunderstood with many believing India was very much an equal society for men and women. I argue that the findings from this study can position a communication campaign that is culturally relevant, can tackle gender violence from an insider perspective, and can promote behavior change within the Indian context.

User Diversity In Design For Behavior Change

Tuesday 17 June

12.30-13.00

Sliperiet Conference Room

Aykut Coskun,
Department of Industrial Design,
Middle East technical University, Ankara,
Turkey
Cigdem Erbug,
Department of Industrial Design,
Middle East technical University, Ankara,
Turkey

Recently, using design to change user behavior for the purpose of sustainability has gained considerable interest. One of the essential aspects of design for behavior change is to choose the right design intervention strategy for the right behaviors and for the right individuals. In this respect, consideration of different user characteristics when designing for behavior change is critical to ensure positive behavior change. This paper argues that user diversity can be addressed by grouping users with similar characteristics into different user types. It provides a framework and a methodology to create these user types based on psychological variables including global environmental attitude, attitude towards behavior, subjective norms, perceived behavioral control, intention and finally personality traits. It discusses how the framework and the methodology could be integrated into design process, and illustrates the process by using hypothetical user types. The aim of this illustration is to clarify the predicted outcome of the methodology. As a result, four main user types are proposed: irresponsible users, undecided users, worried users and lastly enthusiastic users. Design intervention strategies are matched with these user types and the paper concludes with a brief discussion on the implications of the framework and methodology for design for pro-environmental behavior change.

The Chef As Designer: Classifying The Techniques That Chefs Use In Creating Innovative Dishes

Tuesday 17 June

11.30-12.00

Sliperiet motion capture room

Barry Kudrowitz,
University of Minnesota, USA
Arthur Oxborough,
University of Minnesota, USA
Jaz Choi,
Queensland University of Technology, Australia
Emily Stover,
University of Minnesota, USA

This qualitative study explores the methods that chefs use to create innovative marketable product and compares these findings to other design tools. This study is based on a series of interviews with locally recognized chefs in Minnesota and observations of them in their kitchens in order to understand the details of how they conceive and develop dishes from preliminary concept to final plating and user consumption. This paper focuses on idea generation and discusses two key findings: first, the variety of idea generation techniques presented by the chefs can be classified into the creativity tool SCAMPER (substitute, combine, adapt, modify/magnify, put to other use, eliminate, reverse/rearrange); second, chefs evoke the theory of MAYA or Most Advanced Yet Acceptable when innovating new dishes, which implies making novel changes while remaining relatable to the consumer. Other reoccurring topics in the interview discussion of food innovation include play, surprise, and humor.

Design Wizard: Tools To Accelerate The Outline Of Innovation Process Regarding Co-Design Structure And Project Scope

Tuesday 17 June

12.00-12.30

Sliperiet motion capture room

Bruna Pontes Di Gioia,
Graduation Program
in Design at Escola
Superior de Desenho
Industrial, State
University of Rio de
Janeiro (PPD/ESDI/
UERJ)
*PhD (DSocSci) João
de Souza Leite*,
Graduation Program
in Design at Escola
Superior de Desenho
Industrial, State
University of Rio de
Janeiro (PPD/ESDI/
UERJ)

This article proposes the basic outline of a tool to provide a consistent basis for successful innovation in co-design. Forms of interaction are currently affected by technology, meaning a great array of collaboration and innovation pathways. To achieve desired outcomes, project outline process can include steps to devise the appropriate strategy. Definitions and main concepts of innovation and collective interactions are transformed into stages to adequately evaluate the appropriate approach, partners and concepts in defining the innovation pathway. Essentially open while sustained by academic research, classification and theoretical concepts by OECD, Verganti and Pisano, Krippendorff and Dewey, we propose a process tool in three phases (Requirements and Partnership Strategy, Innovation Sources and Resources and Conceptual Design Approach) to methodologically assist in project scoping and assess the most appropriate 'co-design innovation strategy'.

Mapping A Design Innovation Process Within A Multinational Corporation – A Design Perspective To Using Delphi Technique

Tuesday 17 June

12.30-13.00

Sliperiet motion capture room

Mersha Aftab,
Northumbria
University, Newcastle
Upon Tyne
Robert Young,
Northumbria
University, Newcastle
Upon Tyne

The aim for the research was to proclaim Delphi technique as an appropriate tool to explicitly define the Philips Design strategic design innovation process and align the two fragments of the Research Development and Innovation team; the thinkers involved in making strategies for the breakthrough innovation and practitioners who were involved in protecting the core business for the organisation.

The aim was met by identifying a six-step approach incorporating Delphi technique, all participant workshops and one-on-one interviews. The approach enabled audit of design outputs for the functional leadership programme, explicitly defining the roles of involved stakeholders and communicating the process to other sectors within the organisation.

The paper contributes knowledge by describing a design approach that uses Delphi technique as a tool, incorporated within six-stages. The paper describes the six stages and their outcomes in detail before justifying Delphi as a design tool that could enable multinationals to obtain a detailed view of their process knowledge and bridge the gap between thinkers and practitioners.

Research-Led Practice In Design Research Used To Best Demonstrate Design Theories

Tuesday 17 June
11.30-12.00
UMA Auditorium

Blair Kuys,
Swinburne University of Technology, Faculty of Health, Arts and Design
Christine Thong,
Swinburne University of Technology, Faculty of Health, Arts and Design
Nathan Kotlarewski,
Swinburne University of Technology, Faculty of Health, Arts and Design
Scott Thompson-Whiteside,
Swinburne University of Technology, Faculty of Health, Arts and Design

There is contention in the design research community surrounding the legitimacy of industrial design practice used in design research in academia. This study claims that research-led practice in design research within the context of universities through industry-sponsored projects is deserving of scholarly recognition. It can be argued that research-led practice in design research provides a platform for demonstrating the applicability of design theories in practice. Design practice is inspired and directed by research where concepts generated through industrial design practice provide evidence that research-led industrial design practice has the ability to generate a new body of knowledge. It is the research that informs decisions concerning the design process; and by default informing practice of 'research-led industrial design practice'. To substantiate this, two research-led industrial design practice case studies from Swinburne University of Technology, Melbourne, Australia are highlighted to show how design theories are used in practice to benefit industries separate to academic environments.

How Has Interaction Design Been Perceived By Industrial Designers?

Tuesday 17 June
12.00-12.30
UMA Auditorium

Canan Akoglu,
Ozyegin University, School of Architecture and Design, Department of Industrial Design, Istanbul, Turkey
Anna Valtonen,
Aalto University, School of Art, Design and Architecture, Helsinki, Finland

In this paper, we aim to portray the emergence and growth of interaction design within the practice of industrial design and show how the practitioners of industrial design have perceived this development. To achieve this, we first show the ambitions of the early pioneers, then bring forward how interaction design becomes an optional area for the industrial design professionals and how it is adopted by industrial designers and then finally how it becomes an area on its own within industrial design based organisations. To picture these developments within the professional practice of industrial design, we use the voices of industrial designers and interaction designers themselves. Much of the primary material for this paper has been gathered through three sets of interviews between early 2000 and 2012 in Finland, USA and Sweden. From this study, we see that the development of interaction design within industrial design does not follow a chronological path. The understanding of interaction design varies among industrial design practitioners. Hence, it is very much related with how organisations make investments and adopt interaction design as a professional practice either in-house or out-source, as well as the cultural contexts of the environment in which it is performed.

Contradictions In The Design Space

Tuesday 17 June
12.30-13.00
UMA Auditorium

Frederick M.C. van Amstel,
Vedran Zerjav,
Timo Hartmann,
Geert P.M.R. Dewulf,
VISICO Center,
Department of
Construction
Management &
Engineering, University
of Twente
Mascha C. van der Voort,
Laboratory of
Design, Production
and Management,
University of Twente

The design space is a concept often used to encompass all possible designs for a given brief, impossible to be determined, but passive of manipulation by creative designers. The concept as such cannot prevent deterministic accounts of design activity. With the aim of overcoming determinism, this concept is reconsidered beyond the cognitive realm, as part of the social production of space. This renewed perspective is applied to study a medical imaging center project in The Netherlands. The boundaries found in this design space were not self-imposed constraints, but imperative economic, political, and cultural conditions that contradicted each other. To reveal the materiality of the design space, the project has been brought to a teaching experiment, where students analyzed the project drawings and proposed changes using a custom parametric modeling tool. Students faced similar contradictions, despite working under different conditions, supporting the claim that the design space has intrinsic contradictions even if not cognized.

Design Ecologies, Locating And Amplifying Individual Motivations In A Collaborative Research Environment

Tuesday 17 June
11.30-12.00
UID Auditorium

Nicole Koltick,
Drexel University

Design practice exists as a complex and varied ecology of practitioners, methodologies and outcomes, one that harbors varying internal biases, tangents and conceptual stances. As designers interface with outside practitioners in science, engineering and theory, they are confronted with both problems and opportunities from these external domains that can appear quite foreign in both approach and outcome. Design process and its resultant biases are distinct and yet malleable and these unique aspects should be emphasized when confronting and collaborating with outside disciplines. In acknowledging our own disciplinary and project specific values, we must remain mindful of the risk of ceding authority to more pragmatic or quantifiable concerns from collaborators outside of the design discipline. Negotiating these collaborations requires a careful attention to communication, methodologies and how project goals are defined and articulated. In analyzing the procedures, methodology and resulting projects from an interdisciplinary design led research group, this paper will offer insight into the nature of interdisciplinary conversations and translations within the context of design education and offer examples of design-led collaborative research. This paper will argue that identifying, amplifying and communicating the conceptual, aesthetic, intellectual and emotional goals of a project is a crucial component to fruitful design-led research collaboration.

Nurturing Creativity: Assemblages In HCI Design Practices

Tuesday 17 June
12.00-12.30
UID Auditorium

Sisse Finken
Department of Informatics, University of Oslo, Norway
Alma Leora Culén
Department of Informatics, University of Oslo, Norway
Andrea Gasparini
Department of Informatics, University of Oslo, Norway

This paper investigates the emergence and nourishment of group creativity within humancomputer interaction design (HCID). HCID practitioners are groomed within a scientific tradition and primarily perceive themselves as knowledge seekers, rather than creative makers of things. In an effort to add new value to HCID we refer to 'assemblage of skills' and 'assemblage of design practices' suggesting that practitioners acquire creativity when combining epistemology (finder) and ontology (maker). We do so by example from an advanced graduate course in HCID where the students were to design products to be exhibited in a well-visited and established annual fair at the university. This task required the presence of skills and practices of both 'finder' and 'maker'. In the process of product making, the students were not allowed to rely exclusively on learned methods and approaches involving users and other stakeholders. Rather, they were to unleash their own creativity. The paper follows this process of emerging creativity through photo documentation, it provides lessons learned, and it discusses how design comes about through a relationship between finding and making.

Complexity In Design Driven Innovation:

Case Study Of Knowledge Transfer Flow In Subsea Seismic Sensor Technology And Design Education

To the extent previously claimed, concept exploration is not the key to product innovation. However, companies that are design-focused are twice as innovative as those that are not. To study design-driven innovation and its occurrence in design education, two case studies are conducted. The first is an example of design practice which includes observation and cooperation process maps in an offshore project. The second is an example of product design education which includes observations of teamwork, team member interviews and archival studies. While the first case study demonstrates how a company innovates through a design-driven process with complex knowledge transference and systematic planning and improvisation, the second case study shows students managing their design processes through concept generation in a less complex trial and error process. Knowledge exploration as a part of design activity was analyzed through the criteria of network paradoxes. A pedagogic concept has been synthesized and validated internally based on the case study, and externally based on other design practices and design research. The pedagogic concept synthesized was Knowledge Transfer Flow [KTF]. The KTF concept can help to orient design students within the information-saturated design processes integrated within complex innovation systems.

Tuesday 17 June
12.30-13.00
UID Auditorium

Nenad Pavel,
Oslo and Akershus University College of Applied Sciences
Arild Berg,
Oslo and Akershus University College of Applied Sciences

Evolving A Design Driven Hybrid Research Approach To Inform And Advance Sustainable Outcomes In The Built Environment Sector

Tuesday 17 June
11.30-12.00
UID Project Studio

Kimberley Wilson,
Queensland University
of Technology,
Brisbane, Australia
Cheryl Desha,
Queensland University
of Technology,
Brisbane, Australia
Evonne Miller,
Queensland University
of Technology,
Brisbane, Australia

A significant reduction in global greenhouse gas (GHG) emissions is a priority, and the preservation of existing building stock presents a significant opportunity to reduce the carbon footprint of our built environment. Within this 'wicked' problem context, and moving beyond the ad hoc and incremental performance improvements that have been made to date, collaborative and multidisciplinary efforts are required to find rapid and transformational solutions. Design has emerged as a strategic and redirective practice, and lessons can therefore be learned about transformation and potentially applied in the built environment. The purpose of this paper is to discuss a pragmatic and novel research approach for undertaking such applied design driven research. This paper begins with a discussion of key contributions from design science (rational) and action research (reflective) philosophies in creating an emerging methodological 'hybrid design approach'. This research approach is then discussed in relation to its application to specific research exploring the processes, methods and lessons from design in heritage building retrofit projects. Drawing on both industry and academic knowledge to ensure relevance and rigour, it is anticipated that the hybrid design approach will be useful for others tackling such complex wicked problems that require context-specific solutions.

Communication Of Food Sustainability: From Dissemination To Participatory Knowledge Building

Tuesday 17 June
12.00-12.30
UID Project Studio

Young-ae Hahn,
Aalto University /
Yonsei University

For the communication of food sustainability, the traditional approach of disseminating scientific knowledge from experts to citizens is limited in linking the experts' knowledge with citizens' actions: sustainability messages may cause negative effects, because citizens with different background knowledge, circumstances, and interests may ignore, misunderstand, or exaggerate the messages. To have citizens as proactive-creative partners and empower them with actionable knowledge, this study discussed different communication situations where sustainability knowledge is constructed in a participatory manner, between citizens and experts; the situations differ in the participants' interdependency (no dependency-unilateral-bilateral) and communication goals (information-interests). In this paper, four types of sustainability communication activities-that arise from aforementioned situations-were illustrated: Education activities transfer information between participants in unilateral dependence relations. Understanding activities uncover information on participants' circumstances and ambivalent interests for mutual understanding. Assertion activities let independent participants express various point-ofviews, without making agreements. Negotiations are making agreements between interdependent, interest-seeking participants, by exploring how participants' assets are useful in achieving their conflicting goals. To facilitate the communication activities, multiplayer games, personalized recommendation systems, and online knowledge databases are suggested as potential directions of design interventions.

Design Vs. The Design Industry

Tuesday 17 June
12.30-13.00
UID Project Studio

Joanna Boehnert,
Center for Science
and Technology Policy
Research, Cooperative
Institute for Research
in Environmental
Sciences, University
of Colorado, Boulder,
USA.

Design can be understood as a practice that evolves as new cognitive and perceptual capacities enable a greater understanding of complexity, context and system dynamics. These emergent capacities create greater potential for social and technological innovation. This paper will argue that despite emergent skills, designers are not able to effectively address contemporary problems in a sustainable manner due to the systemic priorities of the design industry. This paper theorises “design” as the professional practice of creating new products, buildings, services and communication as a broader practice than the work that is produced within the “design industry”. The design industry operates according to highly reductive feedback generated by capitalism that systemically ignores signals from the ecological and social systems. The exclusive focus on profit and quantitative economic growth results in distortions of knowledge and reason thereby undermining prospects for the design of long-term prosperity within the context of the current political and economic regime.

Ergonomics Information Flow In Product Design: A Case Study About Handles Used By Turkish Furniture Producers

Tuesday 17 June
11.30-12.00
UID Art Studio

Yener
Altıparmakoğulları,
Mimar Sinan Fine Arts
University
Ilgım Eroğlu,
Mimar Sinan Fine Arts
University

Ergonomics aspects are usually considered within a product design process from the beginning, and therefore all possible ergonomics issues should be taken into account in this phase. However, designers sometimes use readily designed sub-elements (semi-finished products) like accessories, where the criteria for the evaluation of their ergonomics may differ when they are used as an element of a new design.

In this paper, it was investigated how the ergonomics evaluation process takes place when designers tend to use a semi-finished product in their designs. As a case study, furniture handle production and application is researched, and interviews are conducted among handle producers, wholesalers/retailers and furniture designers separately. The aim of this paper is to investigate how ergonomics knowledge is produced and transferred between the phases from the design of handles to their application in furniture design.

A Design Process Based On Field Research: An Adjustable Desk For Children In Rural India

Tuesday 17 June
12.00-12.30
UID Art Studio

Youngchan Jeong,
Seoul National
University
Sumi Kim,
Seoul National
University
Joongseek Lee,
Seoul National
University

Learning is an essential element for social, cultural, and economic growth in developing countries. Effective learning requires education materials like desks, books, and writing instruments. However, most students in developing countries do not have sufficient access to these basic materials.

This research examines desk designs for children in developing countries that are having trouble in learning due to lacking education materials. We conducted field research in the West Bengal region of India over the past three years. The study was performed using human centered design (HCD) toolkit developed by IDEO.

Because entire families were living together in a single small room, we found that what students needed most was study space. The desk we designed uses a folding structure so that it can be used in small spaces. It is also height-adjustable, making it possible for any students to use it. Moreover, it is designed for both floor-sitting and chair-sitting positions to meet the needs of local students.

In this research, we utilize a design process that is based on field research and catering specifically to local needs to create suitable product for users in developing country. The findings of this research can apply to students of other developing countries.

Intellectual Middleware: Design Research And The Digital Humanities

Tuesday 17 June
11.30-13.00
UID Green Room

Anne Burdick,
Patrik Svensson,
Andrew Morrison,
Molly Wright Steenson,
Cecilia Lindhé

Scholars in the emerging field of the Digital Humanities are engaged in lively experimentation and debate over how humanities knowledge is modelled, accessed and disseminated in a networked world. The best of this work dissolves the distinction between thinking and making and looks to the multi-modal and project-based orientation of design as a model. This DRS conversation will explore how design research might (re-)appropriate what can be learned from the digital humanities to form its own “conceptual cyberinfrastructure” — the research “middleware” in which concepts, research questions, and digital and physical materiality are integral to one another.

To do so, participants will experience demos of diverse digital research projects installed in UMEA's HUMlab-X. These projects will be curated to highlight how key notions from scholarly research such as author, archive, memory, and even knowledge itself, are being recast in the digital information age. Participants will be invited to engage in a dialogue about the implications for their own work in design research, history, and theory.

Our Common Future? Political Questions For Designing Social Innovation

Tuesday 17 June

14.30-15.00

Sliperiet Conference Room

Ramia Mazé,
Interactive Institute
Swedish ICT, Kista,
Sweden

Design roles are expanding in society, as reflected in a growth of interest and funding for design and design research in the area of 'social innovation'. By social innovation here, I refer to the provision of social services and resources, such as habitation, education, care, mobility and food, in which design is increasingly engaged in the complexity and dynamics of local provision of such services and resources, and in the co-production of alternatives. The question of designing for social innovation necessarily involves political questions about the role of design in how, where, by and for whom, and in what forms, wider social practices and systems, beliefs and authority, may be altered. To explore such questions, I outline methodological approaches, emergent themes and key examples from three case studies, in the US, Denmark and The Netherlands, in which designers, design methods and materials took part in issues and controversies of sustainable development. In these cases, design had roles in (re)producing or rupturing a particular 'commons' in terms of how and where social innovation is framed and staged, for and by 'who' and in 'what' forms.

Social Design Principles And Practices

Tuesday 17 June

15.00-15.30

Sliperiet Conference Room

Inês Veiga,
Faculty of
Architecture,
University of Lisbon,
Portugal
Rita Almendra,
Faculty of
Architecture,
University of Lisbon,
Portugal

Last century, a new design area bond with new aims and principles emerged, committed to answer more urgent and relevant needs of humanity.

Multiple terms come forward to identify it and because there isn't a unifying language among its practitioners, questions have been raised about whether they refer to a general area in design or to single design practices. This "social" vocabulary, caused so far enormous controversy and dispersion of this area in design that wants - and today it needs - to assert itself practically and theoretically.

In this paper, we propose to clarify some of these questions. By searching in written records we intend to analyse how "social" design practitioners identify and describe their work and approach, while aiming to better understand this area and discipline the existing multiplicity.

Moreover, the aim of this paper is to verify the possibility of encompassing all expressions- and practices, if demonstrated - into a single umbrella term that can include all the disparity between them and simultaneously reinforce their similarities. This will lead to a more concise and precise identification and recognition of this area and its practitioners, helping to build a stronger case for its assertion.

Social Implication Design (SID) – A Design Method To Exploit The Unique Value Of The Artefact To Counteract Social Problems

Tuesday 17 June

15.30-16.00

Sliperiet Conference Room

Nynke Tromp,
Delft University of
Technology
Paul Dekkert,
Delft University of
Technology

The role of design in changing people's behaviour and causing social implications has been referred to as an inherent aspect of design. In taking responsibility for this influence of design, emphasis is often placed on the prevention of undesired consequences rather than the realization of desired ones. Little research exists on how to exploit this implicit yet inevitable role of design in the social realm.

This paper presents the development of a method to help designers in exploiting this influence of design to realize social benefit. We explain how design is part of the 'choice architecture' in social dilemmas and discuss methodological steps we derived from this. We show how the integration of these steps in an existing design method has led to the method Social Implication Design (SID).

The SID method has been applied in a project to improve the social situation in a deprived neighbourhood. We discuss the process and the outcome of this and illuminate strengths and weaknesses of the method. We conclude by reflecting on this type of design practice in relation to other practices of social design, and discuss the unique contribution of the artefact when it comes down to solving issues of social kind.

Creating Organisational Knowledge Through Strategic Business Model Design

Tuesday 17 June

14.30-15.00

Sliperiet Motion Capture Room

Luke Feast,
Swinburne University
of Technology

Innovation requires teams to create knowledge through integrating insights from different domains. However, the innovative power that interdisciplinary approaches bring can also increase complexity. Consequently, collaboration is required to support design activity. I take the position that while Horst Rittel's argumentative approach provides a crucial point of departure for understanding collaborative design, the tools and methods developed within this research stream have remained focused on capturing design decisions to act as a memory aid. In contrast, I argue that the argumentative approach to design should aim to create organisational knowledge through critical inquiry.

Drawing on insights from a recent empirical study of interdisciplinary collaborative design activity in industry, this paper highlights the essential role of organisational knowledge creation within collaborative design activity. I show that the organisational knowledge creation cycle can be usefully supported at a strategic level through business model design. However, business model design has historically been undertaken as a tool to represent structure rather than as technique for critical inquiry and investigation. In this paper I show that recasting business model design through a collaborative argumentative approach presents a new technique for designers to create knowledge at the strategic level.

Game Feedback Techniques: Eliciting Big Surprises In Business Model Design

Tuesday 17 June

15.00-15.30

Sliperiet Motion
Capture Room

Sune Gudiksen,
Department of
communication and
psychology, Aalborg
University, Denmark

One major design debate is how design thinking can be applied in non-traditional design contexts. A particular hot new area is business model design. When entering new design grounds, codesign and the direction of design games have proven beneficial in the past, especially when it comes to engaging a cross-disciplinary circle of stakeholders and reframing and proposing new scenarios. In early business model design workshops in which I experimented with design games, observations revealed two concerns. First, to create big surprises that could lead discussions to novel directions, there was a need for techniques supporting the game purpose during play. Second, participants who are not predisposed to a constructionism agenda and who do not have an immediately playful attitude find it harder to relate to the game, and the rules and procedures governing it. This paper investigates through three design games how game feedback techniques during play can be used to elicit big surprises and how to sustain the subsequent action in which novel business model configurations tend to occur. The findings suggest game feedback techniques as a major addition to design games and the role of the facilitator as that of a co-enabler of the feedback.

Exploring Open Design For The Application Of Citizen Science; A Toolkit Methodology

Tuesday 17 June

14.30-15.00

UMA Auditorium

Robert Phillips,
the Royal College of
Art, London
Sharon Baurley,
the Royal College of
Art, London

The manufacture of mass produced quality assured products has previously remained within professional practice. Digital manufacture presents opportunities for producing products in low volumes, catering to bespoke requirements. This phenomenon can benefit parties where the manufacture of goods has previously been financially unobtainable, i.e. non-government and charitable organisations. Open hardware (accessible electronic components) can complement digital manufacture, enabling bespoke products to become intelligent, with the ability to sense, monitor, record and produce data. This paper tests an Open Design / Citizen Science toolkit drawing from practice based research and supporting ethnographic activities. The study documents design workshops with The Sussex Wildlife Trust and Cornell Laboratory of Ornithology, conservation and wildlife experts. The papers research contribution is a design toolkit, identifying insightful opportunities for Open Design through Citizen Science. The study showcases new prospects for organisations to engage with the public. The prospects form 'reciprocal relationships' via members of the public fabricating monitoring devices and gathering data. Users' individual accrued data can meet wider community needs and address local or national conservation challenges. The emphasis of this study has focused on accessible wildlife monitoring, beyond the valuable but limited versatility of the smartphone, extending Citizen Sciences reach.

Desirable Imperfection In Product Materials

Tuesday 17 June
15.00-15.30
UMA Auditorium

Owain Pedgley,
Middle East Technical
University, Turkey

Manufactured products are customarily made with materials having 'perfect' surface qualities, such as uniformity, flatness, glossiness, repetition etc. They are generally devoid of defects. Although the aesthetic of 'material perfection' prevails, this is not to say that alternative aesthetics based on 'material imperfection' are either irrelevant or undesirable. If we especially consider the pressing need to be more responsible about discarding 'worn but still functioning' products, alongside the satisfaction that can be gained from owning unique appearance products, then in principle there seems to be unexplored territory in 'designing for desirable imperfection through materials'. This paper explores why and how imperfection in materials can be desirable. Literature sources are used to elaborate on the aesthetics of imperfection and the origins of material surface imperfections. Thereafter, graduate student design projects on the topic of 'imperfection in product materials' are presented, with their common attributes analysed so as to give advice to designers who may wish to adopt imperfect materials. The paper concludes that since material appraisals are highly contextual, designers must temper their ambitions towards material activism and user behaviour change by establishing boundaries beyond which material imperfection will be neither acceptable nor desirable.

Airport Security Screeners Expertise And Implications For Interface Design

Tuesday 17 June
15.30-16.00
UMA Auditorium

Levi Swann,
Queensland University
of Technology,
Brisbane, Australia,
Vesna Popovic,
Queensland University
of Technology,
Brisbane, Australia,
Alethea Blackler,
Queensland University
of Technology,
Brisbane, Australia,
Ben Kraal,
Queensland University
of Technology,
Brisbane, Australia,

This paper describes research investigating expertise and the types of knowledge used by airport security screeners. It applies a multi method approach incorporating eye tracking, concurrent verbal protocol and interviews. Results show that novice and expert security screeners primarily access perceptual knowledge and experience little difficulty during routine situations. During non-routine situations however, experience was found to be a determining factor for effective interactions and problem solving. Experts were found to use strategic knowledge and demonstrated structured use of interface functions integrated into efficient problem solving sequences. Comparatively, novices experienced more knowledge limitations and uncertainty resulting in interaction breakdowns. These breakdowns were characterised by trial and error interaction sequences. This research suggests that the quality of knowledge security screeners have access to has implications on visual and physical interface interactions and their integration into problem solving sequences. Implications and recommendations for the design of interfaces used in the airport security screening context are discussed. The motivations of recommendations are to improve the integration of interactions into problem solving sequences, encourage development of problem scheme knowledge and to support the skills and knowledge of the personnel that interact with security screening systems.

Social Capital Or Euro Capital? Wroclaw, Poland, European Cultural Capital 2016

Tuesday 17 June
14.30-16.00
UID Auditorium

*Susan Yelavich,
Malgorzata Bakalarz,
Juliet Golden,
Mateusz Halawa,
Alessandra Pomarico*

Umeå is currently Cultural Capital of Europe (CCE), the same title which will be awarded to Wrocław, Poland, in 2016. This conversation explores how the designation affects cities at large, by looking at the opportunities being considered in Wrocław. As a borderland city, Wrocław has been called the “City of Encounters” and a “Microcosm of Europe.” Those monikers refer to the cosmopolitan nature of the city that emerged from its sometimes painfully complicated history. In the 20th century alone, was German Breslau with the third largest Jewish population in Europe before the Holocaust; after 1945 it became part of the People’s Republic of Poland (at which time all Germans were expelled); and then after 1989, the fourth largest city in the Republic of Poland. Now the “City of Encounters” styles itself as the “City of Meetings” as it seeks a larger presence in Europe. Looking forward to 2016, there is a risk that design will be seen more as an instrument for attracting visitors to Wrocław and less as a means to an equitable environment for its residents. This conversation considers how design initiatives can leverage urban cultural designations to privilege public agency over private opportunity.

Making Sense Of Diverse Voices And Technological Imaginaries

Tuesday 17 June
14.30-16.00
UID Project Studio

*Thomas Binder,
Tobie Kerridge,
Bas Raijmakers,
Veronica Ranner,
Tim Regan*

Over the last decade, design processes have come to prominence as a means of integrating knowledge in complex domains and communicating the potential implications of ineffable new ideas and emerging technologies, such as synthetic biology, nano-engineering or smart cities, to broad and diverse audiences. Such audiences may include the public with differing vested interests, and technology research teams engaging diverse sets of expertise that present complex challenges for collaboration.

This Conversation addresses this communicative potential for design in knowledge integration. It speaks to the growing discourse on the significance of design practice and artefacts in making emerging technology research intelligible and accessible to broad audiences and interdisciplinary teams, in terms of potential applications, user experience, public engagement, or other forms of sense making. It also speaks to current conceptual explorations of what it means to do ‘research through design’ and what the research contribution of design could be, what roles designers could adopt in research, and how design practice and artefacts could serve to produce knowledge. Such explorations foreground rich opportunities for design as a form of inquiry, to foster dialogue in complex technological landscapes.

Creative Collaborative Processes. Maybe Not That Creative?

Tuesday 17 June
14.30-16.00
UID Green Room

*Hlin Helga
Gudlaugsdottir,
Juha Kronqvist,
Jenny Althoff*

A conversation on the challenges of fueling creativity in inter- and transdisciplinary collaborative projects when working on complex problems in human- or user-centred processes. Is the involvement of stakeholders killing creativity? Is it time to rethink our toolboxes?

A designer who hasn't been involved in such a design process is probably hard to find nowadays. It is also probably equally hard to find one that hasn't felt the bitter taste of compromising along the way, often at the cost of a not-so-creative solution. In effect, the involvement of stakeholders in the human-centred process has been identified as problematic in this respect. We're constantly moving towards more complex forms of collaborations across disciplines and borders of all sorts and increased complexity of problems to solve. But before continuing the ride, maybe it's time to take a deep breath and look ourselves in the mirror for a moment; are we confident enough to apply our innate skills of creativity and lateral thinking to be visionary and rethink things? Or do we merely sustain broken systems under the pressure of delivering practical solutions? Do we need new tools to support us in those processes? Tools that empower us to be the creative force we are.

A Study Of Cultural Products And The Characteristics Of Qualia

Tuesday 17 June
16.30-17.00
Sliperiet Conference Room

*Hui Yun Yen,
Department of Advertising, Chinese Culture University, Taipei, Taiwan.
Po Hsien Lin,
Graduate school of creative industry design, National Taiwan University of Arts, Taipei, Taiwan.
Rungtai Lin,
Graduate school of creative industry design, National Taiwan University of Arts, Taipei, Taiwan*

In recent years, countries worldwide have been attempting to use their culture as a feature in increasing the value of creative design for developing an aesthetic economy. The interface of product aesthetics gives people a sense of beauty and impression and encourages people to consume and collect. Therefore, successful products should conform to the 5 factors of qualia: attractiveness, beauty, creativity, delicacy, and engineering. We chose cultural products from the cultural creative awards in Taiwan to be the stimulus samples to investigate the participants' psychological feelings. The purpose of this study was to discover the correspondence between product textures and consumers' feelings, and to generate specific guidelines for design in the future. The findings are listed as follows: (a) Qualia characteristics should be considered in the market demand of cultural products. (b) The performance of the creativity and engineering characteristics of qualia should be emphasized. (c) From the perspective of cultural product preference, winning entries are more popular than non-winning entries. The guidelines developed in this study support the future development and growth of an aesthetic economy.

Employing Poetry Culture For Creative Design With Six-Standpoints

Tuesday 17 June

17.00-17.30

Sliperiet Conference Room

Moli Yeh, Hsing,
Wu University, Taipei, Taiwan
Chiu Wei Chien,
National Taiwan University of Arts, Taipei, Taiwan
Rungtai Lin,
National Taiwan University of Arts, Taipei, Taiwan

In recent years, countries from all over the world have been attempting to employ their “Culture” as features in increasing the value of “Creative Design” for developing an aesthetic economy. Chinese traditional poetry, full of expression created with poets’ fascinating words and still highly appreciated today, carries not only our predecessors’ wisdom but also principles which correspond to those for modern creative design. This study starts with the distinctive features of our classical poetry, lays its foundation on traditional theory of Chinese poetry, consults literature regarding the feasibility of employing poetry for cultural creative design, and furthers the trend for such application through investigating current case studies. Starting with analyzing relevant poetry-transfer theories, the operational process in transferring an abstract poetic concept into concrete poetic product design involves five implementation phases of conceptualizing the abstract, visualizing the concepts, concretizing the visuals, making the visuals 3-dimensional, and eventually utilizing the 3-D products so as to present a concrete step by step process for exploring how the internal meaning and external form in traditional poetry could be transferred and integrated into design. With further illustration of actual implemented cases, a model framework for employing poetry culture for creative design is thus completed.

The Reappearing Computer: The Past And Future Of Computing In Design Research

Tuesday 17 June

17.30-18.00

Sliperiet Conference Room

Simone Gristwood,
Middlesex University, UK
Stephen Boyd Davis,
Royal College of Art, UK

This paper investigates the early history of computing in design and in design research, focusing on individuals who were associated with the Department of Design Research at the Royal College of Art between the 1960s and the 1980s. The authors suggest that the theory and practice developed at that time may be valuable in thinking about the future, particularly when considering how computing may be used, in various forms, by designers in their work. A taxonomy of some early ideas and activities is presented which, it is suggested, displays a different emphasis from the way computing in design is conceived now. It is argued that as computing has become absorbed into mainstream culture, it has tended to “disappear” and its special qualities have become lost since it is regarded as “just a tool” like any other.

A contrast is presented between this model of computing focused on facilitating or replacing hand-work and earlier models which prioritised computing’s relation to the mind. The authors note that some other fields seem currently to be reengaging with the idea of computing as something that is not quite like other tools. The article concludes with a list of questions addressed to the design and design research communities based on our analysis.

Are You A Designer Or An Engineer? We Are Both. An Insight Into Product Design Engineering Through Graduate Reflection

Tuesday 17 June
16.30-17.00
Sliperiet Motion
Capture Room

Blair Kuys,
Swinburne University
of Technology, Faculty
of Health, Arts and
Design, Melbourne,
Australia
Clara C. Usma-Alvarez,
Swinburne University
of Technology, Faculty
of Health, Arts and
Design, School of
Design, Melbourne,
Australia
Charlie Ranscombe,
Swinburne University
of Technology, Faculty
of Health, Arts and
Design, School of
Design, Melbourne,
Australia

This study was developed to understand the relationship between Product Design Engineering education and Product Design Engineers in industry. It is the intention of the authors to communicate data gathered from Product Design Engineering graduates from Swinburne University of Technology in Melbourne, Australia, to better determine the roles and responsibilities of a Product Design Engineer in the workforce. This information provides a learning platform for other Product Design Engineering programs, as well as create a greater understanding in industry as to what a Product Design Engineer can contribute to product development or manufacturing industries.

The overall objective of this research is to continually improve Product Design Engineering education around the world to align closely with industry expectations and to differentiate Product Design Engineers from Industrial Designers and Mechanical Engineers. With this aim, a focus group and survey-based data collection of Product Design Engineering graduates was completed to provide a greater understanding of the roles a Product Design Engineer has in a professional context.

Comparative Analysis Of Research On Industrial Design And Engineering Design By Viewpoint Of M Model

Tuesday 17 June
17.00-17.30
Sliperiet Motion
Capture Room

The division and specialization of Industrial Design (I.D.) and Engineering Design (E.D.) has made artifacts become large and complex, which turned to be one of the reasons of causing environmental issues and man-made disasters in recent years. Because the issues are difficult to solve using a single field, and works of comparison and analysis of both fields from a same viewpoint are few, I.D. and E.D. should be comparatively analyzed from comprehensive viewpoint. This paper describes the analysis of comparing research on I.D. and E.D. using comprehensive viewpoint. Herein, Multispace Design Model (M model), which consists of value, meaning, state, and attribute spaces, and circumstance, is introduced. Along with the extraction of research papers from both I.D. and E.D. research, whether each paper deals with 4 spaces or circumstance is analyzed. From the ratio of each space and further analysis, the characteristics and relations of I.D. and E.D. are clarified. By comparing works, both fields show a complementary relation with respect to meaning space, state space, and circumstance. In conclusion, this paper indicates the characteristics and the differences of I.D. and E.D. Additionally, by analyzing both fields with use of M model, the comprehensiveness of the model is discussed.

Yuma Sakae, Faculty
School of Science
and Technology, Keio
University, Japan
Shuji Kanazawa,
Graduate School
of Science and
Technology, Keio
University, Japan
Hiroki Tabata,
Graduate School
of Science and
Technology, Keio
University, Japan
Shuji Takano, Faculty
of Computer Design,
Shonan Institute of
Technology, Japan
Koichiro Sato, Faculty
of Science and
Technology, Keio
University, Japan
Yoshiyuki Matsuo,
Faculty of Science
and Technology, Keio
University, Japan

Towards A Framework Of Design Principles: Classifying System Features, Behaviours And Types

Tuesday 17 June
17.30-18.00
Sliperiet Motion
Capture Room

Chih-Chun Chen,
University of
Cambridge,
Engineering Design
Centre
Nathan Crilly,
University of
Cambridge,
Engineering Design
Centre

'Modularity', 'redundancy', 'robustness', ... these and other terms refer to principles that are well known in design research and widely applied in many varieties of design practice. What is less well considered within design is that these same principles are invoked by scientists as a way to characterise the structure, function and underlying 'logic' of biological systems. More generally, they are also being studied in a wide variety of disciplines concerned with defining, modifying or maintaining systems, whether those systems are comprised of hardware, software, ecologies, economies, societies or some combination of these. This widespread interest in 'design principles' and, in particular, their attention from biologists, provides an opportunity for design research to provide other disciplines with well defined, well characterised and well related concepts. However, in design, science and elsewhere, the lists of design principles offered are often developed in a seemingly ad hoc manner and are evidently (and knowingly) incomplete. This paper suggests that a framework can be developed which structures the existing design principles in a way that is applicable across different types of system. We explore the foundations upon which such a framework could be built by drawing on work from a broad range of disciplines.

The Promise Of Cognitive Neuroscience In Design Studies

Tuesday 17 June
16.30-17.00
UMA Auditorium

Pirita Seitamaa-Hakkarainen,
University of Helsinki,
Department of Teacher
Education
Minna Huottilainen,
Finnish Institute of
Occupational Health
Maarit Mäkelä,
Aalto University,
School of Arts, Design
and Architecture
Camilla Groth,
Aalto University,
School of Arts, Design
and Architecture
Kai Hakkarainen,
University of Turku,
Department of
Education

The process of design is a complex, multifaceted activity that requires sophisticated professional thinking and competence, described as reflection in action and embodied process where hand, eye, and mind collaborate. We propose that cognitive neuroscience provide valuable tools for analysing processes of thinking and acting relevant to designing. This paper discusses the challenges and opportunities that use of brain imaging methods, especially, provides for understanding activities, skills, and cognition of design. We argue that cognitive neurosciences provide valuable instruments and methods complementing traditional design research.

Meta-Levels In Design Research: Resolving Some Confusions

Tuesday 17 June
17.00-17.30
UMA Auditorium

Pieter Jan Stappers,
ID-StudioLab, Faculty
of Industrial Design
Engineering, Delft
University of
Technology
Froukje Sleeswijk
Visser,
ID-StudioLab, Faculty
of Industrial Design
Engineering, Delft
University of
Technology

Doing design and doing research are related activities. When doing design in a (PhD) research project, a number of confusions pop up. These confusions stem from the fact that most of the basic terms, such as ‘designer’, ‘research’, and ‘product’, have many connotations but not a shared definition. Because design research often happens in a multi-disciplinary context, the confusions can be even larger, as each discipline brings its own connotations and associations to the discussion without making them explicit. Especially when the researchers build on design skills themselves, and conduct research-through-design, it can be difficult to distinguish where and how activities are done to create new particular solutions for users or new generalizable knowledge for discourse. We present a visualization that has helped to clarify a number of these issues by separating out the different goals, roles, and activities in which we engage when we do design research. It takes the form of a diagram of six meta-levels, where at each level an actor works to develop both a theoretical insight as well as a practical application to be used at the next level. We discuss how the diagram helps to separate roles and persons, different levels of (academic and practical) discourse, and to clarify competing tensions within a research project, for instance when defending a design decision in a research prototype as serving the research goals at the cost of practical utility or vice versa.

The Use Of Grounded Theory Approach In User Experience Based Design Research: A Study On “Automobile Modification” In Turkey

Tuesday 17 June
17.30-18.00
UMA Auditorium

Selen Devrim Ülkebaş,
Bahçeşehir University

In today’s so called post-industrial societies, increasing influence of the symbolic use of object overwhelmingly dominates the relationship between human and object. As objects have become an important part of individual’s social and psychological world, qualitative research approaches aiming to gather a deep understanding of human behavior and experiences have gained importance not only in the disciplines of social sciences but also in design related disciplines.

Grounded Theory is one of the qualitative research approaches aiming to discover and uncover the experiences and interactions of people “grounded” in everyday life practices and generate theories regarding social phenomena. Although Grounded theory was developed for sociology, it has been applied by different disciplines. The systematic methodology of grounded theory in analyzing data, differentiates it from most of the traditional qualitative research approaches. Consequently, grounded theory deserves a scholarly attention in design research.

This paper intends to explore the contribution of grounded theory approach in design research by exploring the analyzing process of user experiences and preferences in the interest called automobile modification. Within the analysis process of the case study presented, this paper aims to transparentize the analysis process for those who are going to use grounded theory approach in design research.

Designed Research: Publishing Designs As Scholarship

Tuesday 17 June
16.30-17.00
UID Auditorium

Cheryl E. Ball,
West Virginia
University, USA

Scholarly publications are a primary means for researchers in any field to foster and support a shared discourse. As design researchers debate what forms their scholarship might take, this author suggests looking to examples from other, transdisciplinary academic fields that have long traditions in publishing designed research, or scholarship that enacts its argument through design. The author offers cases of several online journals in the sciences, arts, and humanities that publish designed research of various types, including one example from digital writing studies, which shares design researchers' interests in collaborative, processbased, rhetorical practices. By considering alternative modes of publishing design research through designed research, the shared discourses of scholarly practice can serve as a pedagogical site of knowledge-building for the field.

Using A Visually-Based Assignment To Reinforce And Assess Design History Knowledge And Understanding

Tuesday 17 June
17.00-17.30
UID Auditorium

Alethea Blackler,
Queensland University
of Technology,
Brisbane, Australia,

This paper presents a visual timeline-based assignment used in an undergraduate Industrial Design History, Theory and Criticism unit. The assignment was developed in order to find a better way of supporting design history learning than an exam or essay assessment. It was developed using constructive alignment and it allows design students to use their strong visual thinking skills to understand unfamiliar content, develop their visual literacy of design history, and think deeply about the links between the designs, styles, movements, events and people in their timeline. The task produced a variety of responses, from websites and electronic presentations to large paper timelines, scrolls and 3D models. These have been admired by peers and used for end of year shows and permanent displays. Questionnaires were issued to students to gain feedback about the assessment. Students stated that the visual nature of the assignment helped them to understand how different aspects of design history related to each other, assisted with retaining the information, and that it was more interesting and fun than a report or an exam. This paper explores the theories behind and the benefits of using such methods of assessment for design history courses.

Academic Integrity: Differences Between Design Assessments And Essays

Tuesday 17 June
17.30-18.00
UID Auditorium

Simon Simple,
University of
Newcastle, Australia
Beth Cook,
University of
Newcastle, Australia
Mario Minichiello,
University of
Newcastle, Australia
Chris Lawrence,
University of
Newcastle, Australia

Perceptions of plagiarism and collusion in essays have occupied much research in academic integrity. This project explores such perceptions in relation to both text-based assessments such as essays and non-text-based assessment such as visual designs. The principal research instrument was an Australia-wide survey of academics and students who use nontext-based assessments. We find substantial differences between perceptions in the text and non-text environments. With design assessments, participants are less likely to think that basing work on that of another student, or using freely available material without referencing it, is plagiarism or collusion; but they are more likely to think that discussing tasks with others or asking others to improve their work is plagiarism/collusion. Some participants deemed particular practices acceptable despite identifying them as plagiarism/collusion, and some regarded practices as unacceptable despite not considering them to be plagiarism/collusion. As well as substantial differences in perceptions of plagiarism/collusion between text and non-text assessments, we find greater uncertainty regarding plagiarism and collusion in design assessments. This suggests a need for clear definitions of plagiarism and collusion for design assessments, and for universities to incorporate these definitions into their academic integrity policies and to implement appropriate educational strategies for academics and students.

The Visualization Of Information – The Symbiotic Relationship Between Science And Design

Tuesday 17 June
16.30-18.00
UID Project Studio

Judith Moldenhauer,
Andrew Feig,
Peter Johansson

In a presentation titled, “Reading Images: Multimodality, Representation and New Media,” Gunther Kress compared two high school students’ reports of examining onion skin cells when asked to “write what you did” and “draw what you saw.” The work of one student presented the actual empirical experience (this happened, then this happened, then this happened, etc.) while the work of the other student described the experience as a procedure (what happened as translated into series of steps of things that should lead to a certain result). As Kress says, “the question of design is in the center here... what is it to be scientific?” and that the truth of the experience – and thus of the science – lies in what is to be communicated and how it is visualized. What is the “proper” design for the visualization of data and how does it shape scientific knowledge? This session examines the development of diagrams through exchanges between designers and scientists and address how the inclusion of design in scientific research can change the way scientists think about the goals, processes, and outcomes of an experiment and how this collaboration can change the way designers make visual choices and think about the design process.

Collaboration In Mediated Environments: A Conversation On Affordances

Tuesday 17 June
16.30-18.00
UID Art Studio

*Brooke Chornyak,
Tania Allen,
Rebecca Tegtmeyer,
Dan McCafferty*

Collaboration has a long history in design as well as a variety of terms to describe it, including participation, co-creation, co-design, and crowdsourcing. Each of the many existing interpretations shed light or perspective on some aspect of collaboration and each has value in its own right. To that end, this conversation does not seek to define collaboration, but to bring focus as well as scrutiny to the tools and conditions of the design world that structure it. As author Clay Shirky writes in his book *Cognitive Surplus*, “Flexible, cheap, and inclusive media now offers us opportunities to do all sorts of things we once didn’t do.” At our fingertips are the tools that grant us the agency to easily connect, share, upload, and build work together. In this conversation, we will focus on the affordances and hinderances these various environments contribute to a collaborative process. We will give attention to the design professions drive for idea-sharing as an inherent component to innovation. This conversation will also seek to unpack the distinction between collaboration and contribution, with particular focus granted to how mediated environments enhance the ability of one or both of these aspects.

Democratic Design Experiments: Between Laboratory And Parliament

Tuesday 17 June
16.30-18.00
UID Green Room

*Thomas Binder,
Pelle Ehn,
Eva Brandt,
Joachim Halse,
Yanki Lee,
Ann Light,
Jörn Messeter,
Per-Anders Hillgren,
Lone Malmborg,
Tuuli Mattelmäki*

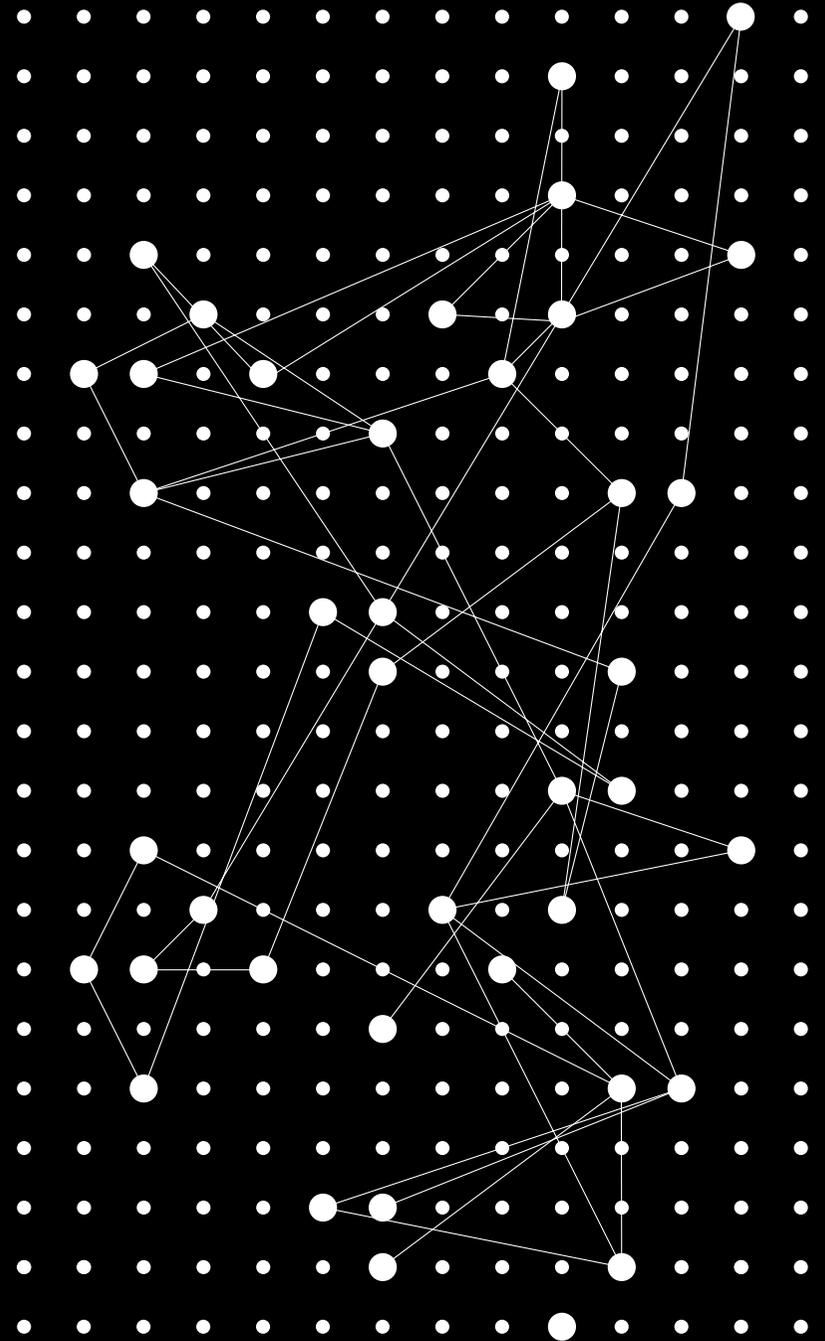
Designers and design researchers are increasingly exploring societal challenges through engagements with issues that call forward new publics and new modes of democratic citizenship. Whatever this is called design activism, social design, adversarial design, participatory design or something else we here see design engagements which are both controversial in their commitment to agendas of social change and experimental in the sense that they openly probe for what can possibly be enacted. In this conversation we want to explore how such engagements may be seen as democratic design experiments that form a third space of re-presentation and emergent civic action between laboratory and parliament.

Co-Embodied Theatre And Enactive Technologies

Tuesday 17 June
16.30-18.00
UID Red Room

*Jelle van Dijk,
Jacob Buur,
Preben Friss,
Andrés Lucero,
Robb Mitchell*

In this conversation, the catalysts and guests will take part in a series of experiential theatre activities. We ask the question of how researchers may reach deep understanding of the idea of 'Enactive Technologies'. With Enactive Technologies we mean physical-digital systems that seamlessly integrate with the embodiment of human being, including our embedding in the social situation. We recognize a trend towards Enactive Technologies in for instance Tangible Interaction, Wearable Computing, Ubiquitous Computing and Augmented Reality. However, it remains quite a challenge to really get to the core of what it means to design for embodiment. Part of the problem may be that the topic as such does not lend itself well to explicit, analytic discussions using classic academic formats of for example a conference paper and presentation. We believe that if we are to talk about embodiment, then this means we should actually not talk about it, but instead engage with the matter in a more embodied way. This theatrical approach is one possible way to enable researchers to create a more implicit, sensuous understanding of 'embodiment', one that draws on our own embodied experience and grows from continuous social interactions with others.



The Communicativeness Of Visual Preferences In Design Projects

Tuesday 17 June
18.30-19.00
UMA Auditorium

Anders Haug,
University of Southern
Denmark

In the design literature, communicative challenges in design projects are widely mentioned. However, this literature does not account for the different reasons behind such communicative challenges. To address this issue, this paper presents a typology of the communicativeness of visual preferences. The typology is developed through interviews with 12 industrial and fashion designers. The relevance of the eight categories in the typology is demonstrated through empirical examples given by the designers. Next, the paper justifies the particularity of the proposed typology to visual preferences as opposed to other types of preferences or knowledge. Finally, the paper discusses how designers may deal with the different types of communicativeness of visual preferences. In this context, it is an interesting aspect that for the five most problematic types of communicativeness, participatory design approaches seem to be particularly useful. The proposed typology contributes to an improved understanding of design communication — insights that may help designers to deal with communicative problems. Furthermore, the proposed typology provides a framework to which various techniques and methods for facilitating design processes may point.

An Alternative Design Strategy To Reduce The Environmental Impact Of Products:

The Durability Of Design Classics As A Stimulus For Creation.

In this paper we describe the research work in progress that aims to build an alternative design strategy to increase product life and reduce the environmental impact that the planned obsolescence causes. Based on the knowledge and environmental consequences from excessive consumption and disposal of products, including waste production and use of resources, the research focused on the mechanisms that enable the reduction of consumption and the resulting waste prevention. The durability of some products designated as Design Classics was the trigger and motivation for the research. Based on the literature definition of Design Classics, we defined the universe of products that fall within this classification. Through the analysis of a sample of these products we obtained a standard model which will allow a strategy to design products with potential for greater durability than other competing products. The results of the practical applicability of this strategy should end in the production of artefacts by the national industry.

Tuesday 17 June
18.30-19.00
UMA Auditorium

João Martins,
University of Aveiro/
Polytechnic Institute of
Viana do Castelo
José Simões, School
of Art and Design of
Matosinhos/University
of Aveiro
Teresa Franqueira,
University of Aveiro

Wearable Medical Devices: The Rise Of The Patient As The Consumer

Tuesday 17 June
18.30-19.00
UMA Auditorium

Philip J. Kinsella,
Swinburne University
of Technology, Faculty
of Engineering &
Industrial Sciences
Paul R. Stoddart,
Swinburne University
of Technology, Faculty
of Engineering &
Industrial Sciences
Charlie Ranscombe,
Swinburne University
of Technology, Faculty
of Health, Arts and
Design. School of
Design. Melbourne,
Australia

Advances in technology have seen a reduction in the size of microprocessors and improved capabilities in medical sensors. This has given rise to a new paradigm of medical devices (MD), termed wearable medical devices. Such devices allow for diagnosis and monitoring of health to occur remotely while patient data is transmitted wirelessly to practitioners.

This paper sets out to review the current design practice with the aim of better understanding the implications of this new device paradigm to future medical device design practice. From the review it is shown that, previously, medical devices have been developed with the practitioner as the primary user. It is also seen that increased intimacy with the product combined with disassociation from practitioner results in the patient becoming the primary user. Hence, it is shown that the major implication for the design of new wearable MD's is the heightened requirement to account for the patient's needs in addition to those of the practitioners. This conclusion suggests the need to further research and develop methods to promote user adoption and acceptance of wearable MD's through incorporation and balancing of both patient, and practitioners needs.

Openness In Design Education

Tuesday 17 June
18.30-19.00
UMA Auditorium

Paolo Cardini,
Virginia
Commonwealth
University Qatar

From the creation of a sharing culture to the acceptance of a new authorship system, from the freedom of the net to the boundaries of a proper personal ethic, from the classroom to the world - these are a few topics explored within this research. The introduction of the concept of Openness in design education means teaching students how to move in a global collaborative environment, respecting the rules and being aware of the risks but, moreover, letting them understand the great potential of project sharing as key to speed up innovation and progress. Through the analysis of various teaching and learning case studies the paper sets some guidelines for a better match between traditional design practice and new open-source based methodologies.

Information Guide Map For Art Museums In Seoul

Tuesday 17 June
18.30-19.00
UMA Auditorium

Ji Won Choi, Seoul National University
Juhyun Eune, Seoul National University

The art museum is a place not only for cultural exchanges communicating with people through various arts, but also for education that makes our lives more valuable and meaningful. The visual information system of the integrated and systematized art museum induces users' active participation by providing users with easy accessibility, usefulness, convenience and differentiated sensitivity. The new visualization through integration of art museum information increases the understanding, which reduces the amount of unnecessary information dealt by users, and also increases its efficiency.

This study developed the identity combined with "contents" containing eight types of information: geographical location, opening time, operating days and hours, size, type of exhibit art, admission fee, the number of annual audience and public transportation, after selecting top forty art museums that should be visited in Seoul. Performing the function of the general icon reflecting the characteristics and the detailed information of the art museums, it delivers information and knowledge about the art museums easily and intuitively for better understanding and memory. Consequently, it leads to smooth communication with users, and also creates efficient interaction. Therefore, it aims to create 'valuable experience' in art museums as the ultimate goal.

TouchMe! DiffractMe!

Tuesday 17 June
18.30-19.00
UMA Auditorium

Jeroen Peeters, Interactive Institute Swedish ICT and Department of Informatics, Umeå University
Stoffel Kuenen, Umeå Institute of Design
Ambra Trotto, Interactive Institute Swedish ICT and Umeå School of Architecture
Nigel Papworth, Swedish ICT
Interactive
Caroline Hummels, Department of Industrial Design, Eindhoven University of Technology

In this poster we present an engaging, interactive lighting installation entitled DiffractMe!. The design process for DiffractMe! was based on skill-based techniques, aiming to extract subtle yet profound experiential qualities from everyday perceptual motor-skills, in order to design and build engaging interactions.

The installation consists of a frame and two interaction columns. The frame houses moveable transparent prisms, Rendering a complex and colourful light projection. Each interaction column features a transparent surface that visitors can manipulate, using their hands. These movements influence the movement of the prisms, and provide a type of force-feedback to the other interaction surface.

This allows us to explore the qualities of engagement in this design on three levels: Firstly, visitors engage with the installation themselves, through a subtle, haptic interaction that allows them to play with light diffraction. Secondly, visitors at one installation engage with each other, in a subtle, haptic dialogue that makes them aware of, and involved in, each other's movements. Thirdly, the dynamic and colourful light projection has a profound effect on the space surrounding the installation, enticing and engaging passers-by to become involved.

Bodystorming vs Brainstorming: The Influence Of The Body On Co- Design Processes

Tuesday 17 June
18.30-19.00
UMA Auditorium

Philémonne Jaasma,
Department of
Industrial Design,
Eindhoven University
of Technology
Ambra Trotto,
Interactive Institute
Swedish ICT and Umeå
School of Architecture
Caroline Hummels,
Department of
Industrial Design,
Eindhoven University
of Technology

What is the effect of skilful coping in multi-stakeholder co-design activities? During a 2 months research-through-design project, we explored the potential and the effect of bodystorm techniques in comparison with more commonly used brainstorm techniques. Would bodystorm techniques have the potential to increase people's level of engagement or even the quality of the outcome of the co-design process? In two separate co-design workshops, we invited residents of the neighbourhood Vaartbroek in Eindhoven, employees from the housing cooperative Woonbedrijf and civil servants from the Municipality of Eindhoven to generate ideas and initiatives for creating a self-empowered community.

Although the presented research is an explorative experiment, we see a tendency that exploiting bodily skills in the co-design process has a clear impact on engagement and cooperation, which even seems to influence the quality and value of the concepts produced. The bodily involvement of participants elicited a direct engagement and a (pro)active, empathic and responsible attitude, propelled by personal experiences. Bodily engagement pushed participants away from the abstract towards concrete ideas. Moreover, the merging of different perspectives resulted in more faceted proposals. This poster we will explain and exemplify these findings that show the potential of embodiment in co-design processes.

IMMIB Design Contest 2013: A Case Study To Increase The Awareness Of Industrial Design Students On Inclusive Design In Turkey

Tuesday 17 June
18.30-19.00
UMA Auditorium

Ilgım Eroğlu,
Mimar Sinan Fine Arts
University
Abdüsselam Selami
Çifter,
Mimar Sinan Fine Arts
University
Merve Çakır, IMMIB

The awareness of inclusive design is increasing fast in Turkey, although its reflection in the industrial design education is not that apparent. Due to lack of funding and inflexible curriculums it is not always possible to incorporate inclusive design into design education effectively in Turkey. However, complementary activities (such as design contests, workshops and seminars) organised by various design bodies may help in promoting the development of inclusive design.

This paper presents a case study of a design contest organised by IMMIB (Istanbul Mineral and Metals Exporters Association) in 2013, in which the theme was designated as "Products for disabled people, elders and children". Prior to the design contest, IMMIB also organised a number workshops on inclusive design in the universities providing design education. For the purpose of this research, semi-structured interviews were conducted with the design contest participants (N=6) who both participated in the workshop and won one of the awards. All the interviewees expressed that their experience in the inclusive design workshops had a significant contribution on their both success in the design contest and understanding of inclusive design.

Open Worlds

Is information meant to be free? How do the creative ecologies of open innovation, open source networks, and creative commons licensing catalyze or stifle true innovation? Is there something inherently more inclusive or democratic about these modes of production? And are there success stories beyond open source software that suggest that these new ways of making are scalable and applicable to others areas of design?



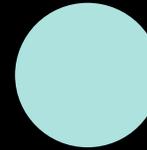
Marco Steinberg

Founder & CEO of Snowcone & Haystack; www.snowcone.fi
Marco Steinberg believes we can solve the complex challenges that our governments, societies, and environment face. To do so we need to shift from trying to improve the efficiency of what was, to redesigning what could be. His passion is in helping leaders find the pathway to these strategic improvements.

He is based out of Helsinki, Finland and shares an office with Esko Aho, the former Prime Minister. They share a deep interest in helping governments transform themselves to meet 21st century challenges. Prior to kick-starting Snowcone & Haystack, he was Strategic Design Director at Sitra, the Finnish Innovation Fund (2008-2013). There he led Sitra's Strategic Design capability, launching a portfolio of initiatives to systemically address the acute need for strategic improvement in the public sector which included: Helsinki Design Lab (HDL) a global initiative to help address today's large scale strategic redesign & transformation needs; Design Exchange Programme an initiative embedding designers within public sector organizations; Low2No a transitional strategy to create a national carbon free urban development market in Finland through a real estate development project in downtown Helsinki.

He has published extensively on design, innovation and public sector transformations. Recent books include "Legible Practises: Six stories about the craft of stewardship" (2013) and "In Studio: Recipes for Systemic Change" (2011).

Wednesday 18 June
9.30-11.00
Sliperiet Conference
Room



Anne Burdick

Anne Burdick is Chair of graduate Media Design Practices at Art Center College of Design, a program dedicated to bringing new practices to design in the context of cultural, technological, and environmental change. She is co-author of *Digital Humanities* (MIT Press, 2013), "a compact, game-changing report on the state of contemporary knowledge production." Burdick's award-winning design and research includes the *Writing Machines* book and web supplement with N. Katherine Hayles; the *Fackel Wörterbuch* series and the *Austrian Academy Corpus*-an online database of historical texts - which work separately and together; and *The New Ecology of Things* (2009), a critical examination of pervasive computing distributed across print, web, and mobile devices. From 1995-2012, she was Designer and Design Editor of electronicbookreview.com. Her work with the Commission for Non-Literary Text Types at the Austrian Academy of Sciences includes the experimental text-dictionary, *Fackel Wörterbuch: Redensarten* (2000), for which she received the Leipzig Award for the "Most Beautiful Book in the World."

Space-And-Place Modelling-And-Making: A Dialogue Between Design And Geography

Wednesday 18 June
11.30-12.00
Sliperiet Conference
Room

Robert Harland,
Loughborough
University
Maria Loschiavo dos
Santos,
University of São Paulo

Geography and design have much in common. Both draw from or reflect science, social science, humanities, and employ sophisticated technology to achieve their aims. However, aside from a mutual interest in urbanism, there appears to have been little collaboration between the two. And yet some aspire for design to learn from geography. In this paper we explore how the characteristics associated with geography and design may function together in a space-and-place modelling-and-making dialectic.

Archaeology Of The Future. Reconsidering The Place And Nature Of Trend Forecasting In Design Discourse

Wednesday 18 June
12.00-12.30
Sliperiet Conference
Room

Elisabeth Petermann,
University of Applied
Arts, Vienna.

This paper examines the place of trend forecasting in current design debates concerning the varying notion of design being a change agent and crafting the future, in order to point to a limited understanding of trend forecasting within these debates. Moreover, the paper indicates research gaps in the rare examinations of the phenomenon of trend forecasting.

It is almost as if trend forecasting is an invisible force and an intangible phenomenon. Its directive power remains unrecognized and therefore under-conceptualized in design discourse. The practice is considered as commercial and thus unworthy for academic attention. Therefore this paper illustrates briefly the dissemination of the trend forecasting industry and its trajectory from being merely used for fashion style advice to becoming political and having effect on major operators of society.

The presented theoretical framework is part of the underlying PhD project: Archaeology of the future - Inside the culture of trend forecasting. An ethnographic study has been commenced to explore the phenomenon of trend forecasting and its immanent concepts. This paper advocates that such a detailed analysis can deliver useful insights to design discourse by helping to understand aspects of future making, the development of discursive power and the driving forces behind material culture and change, as well as contributing to the discussion of changing notions of design.

Tool Complexes Of Innovation: Spaces For Explorative Innovation In Four Manufacturing Industrial Companies

Wednesday 18 June
12.30-13.00
Sliperiet Conference Room

Jennie Schaeffer,
Maelardalen University,
Eskilstuna, Sweden
Yvonne Eriksson,
Maelardalen University,
Eskilstuna, Sweden

Providing an environment in which both radical innovation and continuous improvement can exist, i.e. an ambidextrous environment, is one of the biggest challenges management faces. While having an ambidextrous organisation is of central importance to the competitive advantage of a firm, there is limited understanding of how to manage it.

In this article, we are reporting on our research on the design of workspaces and their relations between design and ambidexterity in innovation. We studied the workspaces as artefacts in innovation cultures. We analysed relations between users and spaces that could enable an explorative innovation culture to emerge, and found spaces related to explorative innovation that coexisted with an exploitative innovation culture in production in the manufacturing industry.

The results indicate that to develop ambidexterity on an individual level in a culture dominated by exploitative innovation, one strategy is spatial differentiation. The result shows that artefacts relating to a culture for explorative innovation in the studied manufacturing companies are artefacts in a marginalised culture. We present six spatial characteristics for artefacts in the marginalised culture: undercover spaces, grey zone spaces, satellite spaces, chameleon spaces, temporal spaces and accession spaces.

Privilege And Oppression: Towards An Intersectional Critical Design

Wednesday 18 June
11.30-12.00
Sliperiet Motion Capture Room

Luiza Prado de O. Martins,
Universität der Künste
Berlin

Though critical and speculative design have been increasingly relevant in discussing the social and cultural role of design, there has been a distinct lack of both theory and praxis aimed at questioning gender oppression. Departing from an intersectional feminist analysis of the influences and origins of speculative and critical design, this essay questions the underlying privilege that has been hindering the discussion on gender within the discipline and its role in propagating oppression; it then goes on to propose the concept of a “feminist speculative design” as an approach aimed at questioning the complex relationships between gender, technology and social and cultural oppression.

Agency, Context And Meaning: The Humanities And Design

Wednesday 18 June
12.00-12.30
Sliperiet Motion
Capture Room

Mads Nygaard
Folkmann,
University of Southern
Denmark

The paper is a meta-discursive contribution to the discussion of how design can be understood as a medium of meaning formation and the questioning of meaning. Further, the paper makes a plea for the role of the humanities in formulating relevant questions in design through a conceptualization of the nature and scope of design. Three fundamental approaches to understanding design from the perspective of the humanities will be proposed:

1) The question of agency in design, i.e. what the role and agency of design can be conceived as in human life, which can be addressed in the historical perspective of design history,

2) the question of context in and of design, i.e. which contexts give meaning to design, a question that calls for interpretive models of cultural analysis of the circuit of design that acknowledge the phases and aspects of production, mediation and consumption, and

3) the question of meaning constituents in design, where the paper points to design philosophy as a framework for interests in aesthetic, ontological and phenomenological concerns in design. In the methodology of the paper, approaches from the humanities offer frameworks for understanding the role and nature of design in terms of meaning formulation and cultural contexts and, thus, for contesting the what, how and why of design.

Design And The Projecting Of The New

Wednesday 18 June
12.30-13.00
Sliperiet Motion
Capture Room

Mads Nygaard
Folkmann,
University of Southern
Denmark

The paper is a theoretical contribution to the discussion of projection in design and is, beyond the paper, a part of a larger discussion of meaning creation in design. The paper discusses the paradoxical situation in projecting the new and unknown as all projection necessarily is bound to a starting point in the given. Nevertheless, design offers a series of methods for projecting. The paper proposes five models in design that have attempted at organizing experience in a new way and aimed at offering a projection into a future with a concrete starting point and an abstract intention of carrying out an open exploration of the possible. These are selected due to their potential for evoking something previously unknown:

- (1) an exploration of design with artistic means,
- (2) an investigation of the potential of form,
- (3) the possibilities of experimentation,
- (4) the role of scenarios, and
- (5) the challenge of digital technology.

In the discussion, a series of dichotomies are employed, known versus unknown and closure versus openness, and related to questions of linearity of prediction/anticipation on the one hand and the question of disrupting the linearity on the other hand. In connecting the real and the speculative, design is a central medium for future-oriented projection.

Qualitative Study Of Smartphone Use: Subjective Experience Of Time Through Personal Ubiquitous Technology

Wednesday 18 June
11.30-12.00
UMA Auditorium

Yong-Ki Lee,
KAIST (Korea
Advanced Institute
of Science and
Technology), Daejeon,
Republic of Korea
Kun-Pyo Lee,
KAIST (Korea
Advanced Institute
of Science and
Technology), Daejeon,
Republic of Korea

We explore Smartphone use in Korea to develop a grounded theory on the experience with personal ubiquitous technologies. The preliminary theory that emerged during our data analysis centres on the role of changing time experiences in the use of Smartphones. Within this interpretation, we theorize that the Smartphones are used through tactics of accelerating, broadening and defragmenting time perceptions in order to control the experience of time. These tactics are. Finally, we support this notion of temporal qualities by proposing the three time-related factors for personal ubiquitous technologies of Speed and Acceleration, Incidental Interactions, and Intrinsic Technology Integration.

Wearing Two Hats: Reflecting Alongside Authentic Designing

Wednesday 18 June
12.00-12.30
UMA Auditorium

Simon Bowen,
Digital Interaction at
Culture Lab, School of
Computing Science,
Newcastle University,
UK
Andy Dearden,
Communication &
Computing Research
Centre, Sheffield
Hallam University, UK
Matt Dexter,
Communication &
Computing Research
Centre, Sheffield
Hallam University, UK

To be useful in research enquiry, design practice should be authentic and include reflection on and in practice, creating a tension for those with the dual role of 'designerresearcher'. Designery thinking and human-centred and participatory design characterise authentic practice and reinforce its applicability as research through design or Action Research. To move from contributions of specifically what/how to design to more transferable principles, designer-researchers should: provide accessible accounts of practice; evaluate the relevance or workability of what is designed; in AR, ensure stakeholder collaboration throughout; and, ensure systematic reflection on practice. Schön (1983) and Gedenryd (1998) explain reflection in design practice as an enquiry into problem-settings and solutions, and this involves tacit knowing (Polanyi, 1966). Explicit attendance and reflection on design moves during practice can then break down the process of designing. We propose reflection alongside practice to minimise this, which creates accounts of practice as a resource for practitioners to re-access their reflection in practice and further reflect on practice. In a short case study, an external researcher interviewed designer-researchers throughout a health service co-design project, enabling the research team to develop transferable principles from the design methods used. We discuss the advantages of this approach over self-directed accounting.

Designing Deployment: A Visual Paper Of The Batch Deployment Of Research Prototypes

Wednesday 18 June
12.30-13.00
UMA Auditorium

David Cameron,
Interaction Research
Studio, Goldsmiths,
University of London
Nadine Jarvis,
Interaction Research
Studio, Goldsmiths,
University of London
Andy Boucher,
Interaction Research
Studio, Goldsmiths,
University of London

In this paper we present the detailed design decision-making that went into the deployment phase of a project exploring Third Wave HCI [5] through batch-produced devices. Building on the studio's design-led methodologies, we produced multiple sets of Indoor Weather Stations (IWS), research devices that explore the microclimate of the home, and deployed them to 22 households over the course of a year to gather polyphonic feedback from participants [2]. This project built upon our previous work of gathering polyphonic views of devices deployed to one or few households [6], but in order to scale our practice for multiple deployments, we had to develop new methods.

We have documented the design and rationale of the IWS and the outcome of the field study elsewhere [2]. Here, we focus on the design involved in the recruitment of participants, deployment of devices and the methods of gathering feedback. Designing the supporting artefacts for projects such as this - everything that goes alongside the main research object - demands almost as much attention as designing the object itself.

... Abstract continues, please read full abstract on the website: www.drs2014.org/en/presentations/252/

An Evidence-Based Design Approach For Function, Usability, Emotion, And Pleasure In Studio Redesign

Wednesday 18 June
11.30-12.00
UID Auditorium

Peter Scupelli,
School of Design,
Carnegie Mellon
University.
Bruce Hanington,
School of Design,
Carnegie Mellon
University

Studio-based design education is changing to include multidisciplinary design teams, geographically distributed teams, information technology, and new work styles. In this paper, we present the research findings from a graduate studio redesign using an Evidence-Based Design approach with measures and outcomes for function, pleasure, and the emotional needs of users. Located in a design school at a research university in the United States, we conducted four types of pre- and post-occupancy measures: observations, interviews, surveys, and diary studies. Six issues informed studio redesign: Aesthetics, Acoustics, Collaboration, Faculty Interaction, Sociability, and Stewardship. We transformed a single room design studio into four interconnected spaces: an area with individual workspaces, collaborative spaces, a kitchen and social cafe area, and a classroom with distance learning technology. Student satisfaction significantly improved in the new studio according to survey results. Some participants' open-ended survey comments suggest that functional needs were met, but some pleasure-related and emotional needs linked to habitation were problematic. Claiming of individual workspaces and limited social norms were linked to mixed positive and negative responses on aesthetics and acoustics. Collaborative and social spaces, where there is no expectation of ownership, had uniformly positive results in both closed- and open-ended survey results.

The Learning Needs Of Small And Medium-Sized Enterprises For Design Led Innovation

Wednesday 18 June
12.00-12.30
UID Auditorium

Mieke van der Bijl-Brouwer,
University of
Technology, Sydney
Sam Bucolo,
University of
Technology, Sydney

Many scholars in the design research field are involved in (post)-graduate design education on the one hand, and some type of corporate education on the other. While there is a growing body of knowledge on educating design students, there is a gap in this research field with regard to the education of non-design professionals. This type of education has become more important now it is increasingly recognized that design can support innovation in businesses, so-called design led innovation. In this paper we focus on educating Small and Medium-sized Enterprises (SMEs). We propose a learner-centred approach to the development of education, which means that insights in the learners' needs are used to develop programs on design-led innovation. To illustrate this approach we present how the learning needs of SMEs were investigated through the qualitative evaluation of a 'Building Design Competency' program. From this study can be concluded that SMEs have specific emotional, social and cognitive characteristics that influence their learning needs. These needs include trustworthy course providers and instructors, a learning community of non-competing peers, customized stimulation of a deep learning approach, and adjustment of teaching material to their initial level of customer and business insights.

From BoP To ToP And Vice Versa Daily Practices In Settings With Limited Resources To Inspire Designers

Wednesday 18 June
12.30-13.00
UID Auditorium

Eleonora Ibragimova,
Delft University of
Technology, the
Netherlands
Annemiek van Boeijen,
Delft University of
Technology, the
Netherlands

This paper reviews the methods and practices that reflect subconscious behaviours of people in daily lives. Cases, studied for this paper, show how practices of people living in poor settings, who are members of the base of the economic pyramid, contribute to designers, belonging to the top of the economic pyramid, in designing better products and systems. A new approach to the bottom-up innovation is suggested where the source of inspiration comes from the BoP populations to be implemented by ToP designers to generate ideas for BoP or ToP products.

Reality Check: Notions Of Accessibility In Today's Architectural Design Practice

Wednesday 18 June
11.30-12.00
UID Project Studio

Hannelore Wauters,
KU Leuven, Dept.
of Architecture,
Research[x]Design
*Peter-Willem
Vermeersch,*
KU Leuven, Dept.
of Architecture,
Research[x]Design
Ann Heylighen,
KU Leuven, Dept.
of Architecture,
Research[x]Design

Understandings of accessibility have evolved from focusing on wheelchair accessibility to more integrated notions like inclusive design, according to which everybody should be able to use space in an equitable and independent way. In addition, architectural practice witnessed the arrival of new professional actors in project design and delivery, including accessibility advisors. Given these evolutions, the study presented here examines how accessibility is understood and thought of in architectural practice today, what motivates architects to collaborate with accessibility advisors, and what they expect from this collaboration. Interviews with professional architects and accessibility advisors suggest that, in today's architectural design practice, interpretations of accessibility stretch from strictly following accessibility legislation to a broader interest (displayed by architects) or more integrated forms of advice (offered by advisors). The wish to attend to the diversity of people's abilities and conditions exists, but is not fulfilled by legislation, and the norms and procedures it imposes. The presence of professional accessibility advice holds potential to reconcile both, provided that a synergy with legal procedures is found and that advisors' roles can be developed from checking whether design proposals meet accessibility legislation to informing architects about diverse situations of use and offering them best practice examples.

Service Innovation And Welfare Technology For Sustainable Home Medication: Insights From Social Practice Theory

Wednesday 18 June
12.00-12.30
UID Project Studio

Ida Nilstad Pettersen,
Department of Product
Design, Faculty of
Engineering Science
and Technology,
Norwegian University
of Science and
Technology (NTNU)

Resource limitations and demographic changes constitute challenges to European healthcare services. Service innovation and welfare technologies are expected to help make services more efficient and increase the autonomy and quality of life of citizens. The field of design is expected to help understand how that may happen. Innovation activity in Norwegian municipalities is however limited. A better understanding of how to support public service innovation is needed. To understand what is to be changed and by taking home medication as its case, this paper explores how to theoretically frame the challenge. It does that by first providing an overview of perspectives on the state of service innovation and welfare technology implementation in municipalities. Next, it introduces social practice theory as a way of capturing what goes on. Finally, it discusses the implications of seeing service innovation and production as (complexes of) social practices. It argues that such a perspective nuances the expectations for innovation to be exported into new domains, and for welfare technologies to make services more efficient. Change is seen as co-evolutionary, innovation as collectively accomplished, and what tools and approaches open up for as related to the changing configurations of the practice complexes they are part of.

The Design Of Accessible Self-Service Products, Systems And Services: Teaching Inclusive Design

Wednesday 18 June
12.30-13.00
UID Project Studio

Jenny S. Darzentas,
Department of
Product and Systems
Design Engineering,
University of the
Aegean, Hermoupolis,
Syros, GR84100,
Greece.

John Darzentas,
Department of
Product and Systems
Design Engineering,
University of the
Aegean, Hermoupolis,
Syros, GR84100,
Greece.

This paper offers an account of how various teaching trajectories are being used to help design students combine the knowledge and skills they learn in separate classes into an interdisciplinary approach to contribute to creating solutions to complex real world problem situations. More specifically, it deals with approaches to teaching and learning in the area of designing accessible self-service including services, products and systems.

Self-service is fast becoming more ubiquitous in everyday life. However, many of the self- services available through public use technology located in public spaces are often inaccessible to older and disabled users. Classes in Design for All aim to teach future generations of students not to unwittingly exclude certain classes of users from the products, systems and services that they help to design. If Design for All solutions are to really address the deeper problems inherent in the non-accessibility of services, rather than just redesign certain aspects of self-service terminals, then a more holistic approach is needed.

The richness of the problem area and its meaningfulness to our service based economy offers a contemporary problem space where design students can bring to bear a range of knowledge sets and approach overall service solutions.

Industrial Designers And Engineering Designers; Causes Of Conflicts, Resolving Strategies, And Perceived Image Of Each Other

Wednesday 18 June
11.30-12.00
UID Art Studio

KwanMyung Kim,
School of Design and
Human Engineering,
UNIST
Kun-pyo Lee,
Industrial Design
Department, KAIST

What causes the conflicts between industrial designers and engineering designers? How are these conflicts resolved? Furthermore, what view point does each group form toward the other from their dynamic interaction? This study explores a consumer product company to answer these questions. Three industrial designers and three engineering designers working on the same product development were interviewed.

As a result, this paper presents the causes of conflicts, conflict resolution strategies, and perceived image of each group. Two types of conflict causes, direct causes and basic causes, are reported. The direct causes are related to tasks in the design process, and the basic causes are structural, underlying the direct causes. The strategies to resolve the causes are also identified.

Engineering designers appear to use 'persuading' strategy more. It seems that engineering designers prefer to 'yield' strategy in most cases and industrial designers use 'insisting' strategy more. Each group's perceived image to the other group has also been investigated. Industrial designers view engineering designers as uncreative, conservative and unadventurous. Engineering designers say industrial designers are inflexible, acquisitive, bossy, and dismissive. Finally, a better way of collaborating between the two groups is discussed, and future research directions are proposed.

Political Debate As Design Process: A Frame Analysis

Wednesday 18 June
12.00-12.30
UID Art Studio

Darren Umney,
The Open University,
UK
Peter Lloyd,
University of Brighton,
UK
Stephen Potter,
The Open University,
UK

Using data from the historical record of a major nineteenth century infrastructure project, this paper shows how controversial national debates can be seen as processes of design. Central to the idea of political debate as design is the concept of framing, where different ways of understanding a developing artefact are played out through conflict and resolution. The paper begins by setting the governmental context of infrastructure development before undertaking a detailed textual analysis of a specific meeting to draw out elements of a design-like discourse. The meeting participants construct a sequence of frames through which they explore their problem and with which they refine a strategy for moving forward in the process. The paper concludes that viewing political debate as a process of design can shift emphasis away from it being considered a 'simple' decision-making to more complex ideas about how our common future is shaped.

SOURCE, A Case Study For The Design Of Precious Moments Of Memory

Wednesday 18 June
12.30-13.00
UID Art Studio

Damien Dupré

The increasing number of systems that can collect personal data leads individuals to store these memories uncontrollably and unsustainably over time. For example, the archiving of digital images is a problem not only because of the amount of pictures but also because of the extended life of digital memory such as hard drives or USB memory. The need to return to tangible and sustainable data to store and view these precious moments becomes an issue. The Arnano technology is an answer to these difficulties. Thanks to nano engraving information on sapphire disk, data can be backed up and secured for thousands of years. However, the recurring problem when developing innovative technologies is not to integrate this technology the daily users, but rather to first understand the uses and co-develop innovative solutions with the users. The purpose of this study is to present the process leading from a technology to a user prototype. Following creativity sessions and focus groups, the symbolic meaning and the physical realization of this technology was dissociated to produce different concepts. Finally a ring was chosen as the best compromise even though it fails to resolve all the questions raised by the technology.

Sustainable Strategies Through Design In Communities Of Practice

Wednesday 18 June
14.30-15.00
Sliperiet Conference Room

Luiza Rossetto,
Universidade do Vale do Rio dos Sinos - UNISINOS
Celso Scaletsky,
Universidade do Vale do Rio dos Sinos - UNISINOS

A “Community of Practice” is defined as a spontaneously formed group that has common goals and discusses how to solve them. This paper presents an exploratory research on how to assist these groups through a design method. In this research, we applied a design-synthesized method named KIT DESIGN (ROSSETTO, 2013) to a group of cyclists in Porto Alegre, Southern Brazil. This group was chosen because it is part of a worldwide movement that has been dealing with contemporary mobility culture problems in cities where mobility needs to be rethought in terms of more sustainable practices. During the research some valid aspects as well as some difficulties of the design method application were found. Lastly we suggest the need for future research into ways to promote a better approach for Communities of Practice to help solve everyday problems through a design method.

What Can Urbanism Be? Problematizing The Design Of Cities

Wednesday 18 June
15.00-15.30
Sliperiet Conference Room

Aseem Inam,
Parsons The New School for Design, New York

In this paper, I highlight a number of different ways of defining and describing the field conventionally known as urban design, which I problematize by broadening, deepening, and calling urbanism and which I re-define as city-design-and-building processes and their spatial products.

These ways include morphological definitions, as a default focus, as the keeper of the public realm, through lists of categories, as a map of bodies of knowledge, as a field of research, as different modes of practice, via models for understanding and making cities, and practical “how-to” approaches such as best practices. I describe and critique each of these nine ways briefly by drawing from a wide range of relatively recent literature on urbanism, and conclude with thoughts on the status of the field of urbanism.

I argue that the full potential of the practice of urbanism in fact lies in theory, because the most powerful means we have for the design of cities is our imagination. The potency of theory is further based on the premise is that ideas are powerful agents of change. Furthermore, at its best urbanism can embody a unification of deep theory and design practice in a way that is critical, creative, and ultimately, transformative.

Hacking Delivery Systems: Exploring Design Tools For User-Led Innovation In Urban Infrastructures

Wednesday 18 June
14.30-15.00
Sliperiet Motion
Capture Room

Lorenzo Davoli,
Umeå Institute
of Design, Umeå
University
Johan Redström,
Umeå Institute
of Design, Umeå
University
Ruben van der Vleuten,
Copenhagen Institute
of Interaction Design

There is an emerging set of needs in our post-industrial society that require a contextual sensitivity and local flexibility that traditional industrial infrastructures seem to lack. As a response, distributed small-scale forms of production and collaborative services are being developed, providing the foundations for more resilient and responsive infrastructures. Using urban freight delivery services as a case, this paper presents a possible approach to accessing and expressing the back end functioning of a large formal industrial urban infrastructure in order to make it accessible to bottom-up innovation. The postal service has been used as a test bed for two small hacking experiments using consumer and do-it-yourself (DIY) electronics: a GPS and micro cameras. Data visualization and videos have been produced in order to materialize and share knowledge about the infrastructure and its qualities. By tracing its underlying functionalities, we aim to reveal otherwise hidden opportunities for design intervention that could become the starting point for participatory design processes aimed at bottom-up innovation in the context of industrial infrastructures. As such, this project aims at adding to the tools and materials available for such design practices.

Uncovering Design Competence: An Overview And A Model Of Design Skills

Wednesday 18 June
15.00-15.30
Sliperiet Motion
Capture Room

Ufuk Uluhan,
Department of
Industrial Design,
Mimar Sinan Fine Arts
University

This paper reviews the assumption of design competence passing over a threshold and eventually being equalized to come into being in every soul who gets exposed to education offered by design institutions. Firstly, two distinct ways of viewing design as areas of daily activities and expertise are discussed. Institutions' role in design competence is argued within the context of modern industrial view. Post-positivist paradigm, philosophy of design and phenomenology are explored to lighten the methodology used in this paper. Expertise both in a general way and in design is explained. Finally to put back the skills that are diminished by the assumption stated above, a model of design skills is suggested. Primary skills like systematic and conceptual thinking which seem to occur in abstract mental channels are discussed as design thinking abilities; while secondary skills like exposing, constructing and designating which seem to occur in concrete physical channels are discussed as communicational abilities.

Why Design Research Practice Is Not Design As We Know It

Wednesday 18 June
15.30-16.00
Sliperiet Motion
Capture Room

Tara Mullaney,
Umeå Institute
of Design, Umeå
University, Sweden
Erik Stolterman,
Indiana University, USA

Is there a difference between design practice and design research practice? Building on recent discussions within design research about whether the design practice which occurs within design research is distinct and separate from the design practice which occurs within the design profession, this paper presents a case where constructive design practice was employed within a research project, using this example to study the nature of the design process in research. Through a thorough analysis of the designs generated, the motivations behind their development, their use as research tools, and the knowledge they generated, we identified three ways in which the design process was altered when it was imported into the research. First, the degree of development of the designs shifted from fully functional to functional enough. Second, the designs were developed in order to ask questions rather than trying to solve a problem. And finally, the failure of the design was equally able to contribute to generating knowledge as its success. We argue that these shifts in values clearly distinguish design research practice from professional design practice, but come with very real consequences that challenge the core measures we use to assess design.

Ecotone: Finding Common Ground Across Art, Science And Ranching

Wednesday 18 June
14.30-15.00
UMA Auditorium

Leanne Elias,
University of
Lethbridge,
Lethbridge, Alberta,
Canada
Christine Clark,
University of
Lethbridge,
Lethbridge, Alberta,
Canada

This paper uses the case study of Ecotone, a project that sought to bring disparate groups of people (artists, scientists, ranchers) together for shared discourse and potential action around agricultural environmental stress in southern Alberta, Canada. We explore this project from the perspective of an artist and designer. We examine a framework that values space, time and the pairing of people from different disciplines to encourage meaningful collaboration and interaction. Environmentalism and climate change are divisive topics, particularly in Alberta where the controversial oil and gas industry has made it Canada's wealthiest province, resulting in both environmental indifference as well as extensive protests locally and from abroad. It is well acknowledged there is a need for better communication about the environment for real progress in protecting our resources to begin. Ecotone begins this conversation by inviting artists and designers to respond to the science and pragmatic realities of land stewardship.

An Automatic Open-Source Analysis Method For Video And Audio Recordings Of Co-Design Processes

Wednesday 18 June
15.00-15.30
UMA Auditorium

Miika Toivanen,
Finnish Institute
of Occupational
Health, Brain at Work
Research Center,
Helsinki, Finland
Minna Huottilainen,
Finnish Institute
of Occupational
Health, Brain at Work
Research
Center, Helsinki,
Finland
Huageng Chi,
Finnish Institute
of Occupational
Health, Brain at Work
Research
Center, Helsinki,
Finland
*Pirita Seitamaa-
Hakkarainen*,
Department of Teacher
Education, University
of Helsinki, Finland

In co-design of several persons utilizing different materials together, capturing movement and position information of the hands as well as the speaking patterns of the designers provide answers to research questions related to social aspects of the co-design situation. Special motion-capture devices exist for precise movement tracking. They are, however, typically expensive and may restrict the movement of the designers. Recording the design sessions with a simple web camera offers a low-cost way to obtain the hand locations accurately enough but exploring the videos manually is a time-consuming and error-prone task. In this paper, we propose an inexpensive and automatic method to acquire information on the position of the hands and on the use of voice of the co-designers. We are offering our Matlab code as open source for other researchers and designers to use in their work and to amend.

Trans-Disciplinary Design Education

Wednesday 18 June
15.30-16.00
UMA Auditorium

Over the past 13 years, the authors have established an international network of partner universities who are committed to co-operate in trans-disciplinary and locally distributed ways by using modern information and communication technologies and, hence, crossing cultural and disciplinary boundaries. The projects always originate from industrial tasks, tackle challenges that are complex in nature and that cannot be solved by mono-disciplinary teams alone. The paper describes the pedagogic background of this setting as well as the structure of the course. Due to the fact that the entire design process is based on electronic communication, the decision making process is accessible for subsequent analyses of the digital data bases generated through-out the multi-disciplinary process. This allows to better understand the characteristics and differences of successful and effective processes vs. miscarried and failing ones.

Christoph Holliger,
University of Applied
Sciences and Arts
Northwestern
Switzerland
Roberto Iñiguez Flores,
Tecnológico
de Monterrey,
Guadalajara, Mexico
*Juan Claudio
Monterrubio Soto*,
Tecnológico
de Monterrey,
Guadalajara, Mexico

Design Methods For Social Dreaming: Challenges, Opportunities And Potential Scenarios

Wednesday 18 June
14.30-16.00
UID Auditorium

*Agata Nowotny,
Monika Rosińska,
Katarzyna Jeżowska,
Agata Szydłowska,
Maria Jeglińska,
Matylda Krzykowski*

The traditional foundations for design research derive from the taken-for-granted epistemological traditions, methodological guidelines, practiced within academia “scientific” standards and professional requirements. Recently the popularity of the knowledge production to facilitate design in a form of “practice-led research”, “project-grounded research” and “research through design” changes the standards for doing design research. New approaches refer to a speculative domain of providing knowledge, less established insights, based on experimental methods, which generate the considerable interest within the domain of design research as well as reconsider the relationship between rigor and imagination within it. The topic we address is aimed at reflecting on possibilities to challenge “scientific” design methods and identifying idiosyncrasies of doing design research.

The conversation will be framed with a few opening questions:

- Can design establish its own research paradigm?
- Does interdisciplinarity provide a specific “trans-domain” for doing design research?
- Can designmind be treated as a research tool?
- What is the specificity of the methodologies of curiosity?
- Is it possible to identify promising idiosyncrasies of doing design research?
- What is the role of messiness in design research and subverting the research process?

The Things About Design: Of Ghosts, Spirits And Material Practices

Wednesday 18 June
14.30-16.00
UID Project Studio

*Elisa Giaccardi,
S Chris peed,
Philip van Allen,
Jay F. Grossen*

Living in the connected everyday is a fundamental challenge for interaction designers today. Yet, we do not have appropriate concepts to frame what social and ecological role a connected object can play in a digital network, or to design the qualities of interaction with a physical artefact that links to social data. Even more important: we do not have a vocabulary to design for interaction in a world where digital data, everyday objects, practices and imagination are connected and interdependent.

And so, like ancient explorers, one strategy is to use the familiar to describe the unfamiliar. Data attached to physical surrogates become ghosts waiting to be exorcised; digital objects are imbued with varied, inner personalities; mundane and innocent objects turn into alien artefacts that investigate our world on their own terms; and material objects are instrumented to mingle like mythical creatures and articulate impossible design spaces.

This conversation will be conducted as a performative act. It will stage the references, metaphors and imaginative structures currently used to talk about ‘things’ in the design of the connected everyday, and discuss the critical design approaches that are needed in a space and time that still resist full articulation.

New Perspectives From The DESIS Network: Community Resilience Through Collaborative Services

Wednesday 18 June
14.30-16.00
UID Art Studio

*Mariana Amatullo,
Eduardo Staszowski,
Adam Thorpe,
Virginia Tassinari*

The opportunity to re-imagine collaborative services that can foster resilience within communities where processes of dynamic change are happening despite resource-and-service constrained environments is one that calls for new modes of design research and immersive praxis.

As a basis for this conversation, we propose the following research questions: What is the specific contribution of ideas, competence and tools that design can bring to the creation of a new generation of collaborative services suitable to the context, for example, of informal settlements or other underserved communities around the world (and adaptable to the specifics of each)? How do we best engage in co-design and co-production processes and project interventions that can be sustainable amid the complex socio-economic and cultural environments of these contexts?

This conversation brings together DESIS Lab coordinators from the international network DESIS (Design for Social Innovation and Sustainability) to share insights and reflect with conference participants about the nature and qualities of collaborative services and the agency role of design in different contexts and world regions, and beyond informal settlements (Global South versus Western megacities).

More information about the design research activities underway through DESIS thematic clusters (including the IFC and P&C Cluster) is available at <http://www.desis-network.org/content/thematic-clusters-page>.

Intelligence, Interactivity & Interfaces: Historical Approaches To Contemporary Practice

Wednesday 18 June
14.30-16.00
UID Green Room

*Molly Wright Steenson,
Theodora Vardouli,
MoaKarolina Carlsson*

From the 1940s forward, computational paradigms have exercised an impact on design practice, as designers and architects turned to computers, cybernetics, artificial intelligence (AI) and heuristics to reshape their design processes and the objects that they designed. Across design and architecture, practices emerged that evoked new bridges and overlaps: the beginnings of participatory design, of technology and the environmental movement, of interfaces to new graphical and interactive systems.

In this conversation, three researcher-catalysts examine how intersecting historical practices set contemporary digital foundations. Moa Karolina Carlsson investigates the environmental movement, models of cross-disciplinary collaboration and the development of GIS. Molly Wright Steenson considers the implications of AI and models of intelligence on architecture, and how they intersect with defense funding. And Theodora Vardouli brings to bear the origins of design research, its interests in computation, and the ethical crisis of the designer. The conversation we hope to catalyze will draw connections to contemporary practice, from GIS and mapping to design research, from programming languages to dynamic interfaces, information spaces and beyond.

Design As Rhetoric In The Discourse Of Resonance

Wednesday 18 June
16.30-17.00
Sliperiet Conference Room

Veronika Kelly,
School of Art,
Architecture and Design, Division of Education, Arts and Social Sciences,
University of South Australia, Adelaide, Australia

Design that is effective by way of having an influence and impact on a human subject's belief, behaviour, or action is a key concern of designers in the field of visual communications. Because of these aspects, one discourse that has grown in scholarly circles over recent decades is that design is a form of rhetoric. Nonetheless, the way that rhetoric has been applied to design practice itself - as a means of analysing the communicative function of designed artefacts and to posit propositions for practice - has remained largely theoretical. The purpose of this paper is to extend an understanding of design practice's rhetorical dimensions. Rather than start with rhetoric however, the paper reframes the discussion by looking through the discourse of "resonance" in design practice. The paper discusses the results from a series of interviews with internationally recognised designers on the topic of resonance. The significance of these results is that although designers didn't use the term rhetoric, they described resonant design as both effective and affective - it makes an impact, "touches", "cuts-through", and evokes an awareness of self as a human subject. This paper elaborates on the way that the discourse of resonance in design practice is chiefly propelled by deliberative rhetoric: that the purpose of design is to exhort or dissuade through the use of modes of appeal intended to effect responses from users/readers. In conclusion, the author argues that the study of a relationship between design and deliberative rhetoric must also critique this relationship, in order to address the positions that designers themselves take up in a practice that advocates courses of action for human subjects.

Making The Case: Collaborative Concept Development Of Products And Services For A New Design Museum

Wednesday 18 June
17.00-17.30
Sliperiet Conference Room

Louise Valentine,
Duncan of Jordanstone College of Art and Design, University of Dundee
Joanna Bletcher,
Duncan of Jordanstone College of Art and Design, University of Dundee
Saskia Coulson,
Duncan of Jordanstone College of Art and Design, University of Dundee

This paper describes the role practice-led research has played in identifying an opportunity for innovative organizational progress (for a globally recognized museum), and discusses one role of practice-led research in product and service development for the new business. It looks at why collaborative research is employed to explore concept development, how this is being investigated and what the insights thus far indicate. Two projects are discussed, one in the area of curatorial practice for communicating design and craft innovation and, the other in the design of residency programmes in terms of nurturing innovation in design and craft practices.

The design of knowledge exchange is presented as a context for concept development and why collaborative research is used as a means of exploring design as a core business competency; a visioning tool shaping company developments for achieving sustained growth. Case Study as a methodology is applied to investigate the concept development phase of innovation especially in terms of researching the actors within the design activity and the context within which the activity takes place. The paper closes by sharing the insights gained from the collaborative research and presents six values emerging from the collaborative research thus far.

The Impact Of Cultural Differences In Design Thinking Education

Wednesday 18 June
17.30-18.00
Sliperiet Conference Room

Katja Thoring,
Anhalt University of Applied Sciences, Dessau, Germany, and Delft University of Technology, the Netherlands

Carmen Luippold,
Anhalt University of Applied Sciences, Dessau, Germany, and Bauhaus University, Weimar, Germany
Roland M. Mueller,
Berlin School of Economics and Law, Berlin, Germany

Design thinking is a specific method to develop innovative solutions to wicked problems in multidisciplinary teams. The fact that people with different disciplinary and often also cultural backgrounds work together, makes it quite a challenge to compensate for deficits in common understanding of terminologies or mind-sets. Furthermore, team members from specific cultures and nationalities might have difficulties to cope with specific mindsets of design thinking.

This paper analyses the impact of culture on the design thinking process in an educational context. How do people from different cultural backgrounds cope with the requirements of the design thinking mind-set? We suggest a list of criteria that are crucial for creative work in a design thinking context, based on a literature review and observations in an educational institution for design thinking. These criteria are then compared with Hofstede's Cultural Dimensions.

The results are summarized in a framework that outlines the criteria and the respective cultural dimensions. This framework might help educators and also practitioners, who want to implement design thinking in their universities or companies, to understand cultural differences and to identify and anticipate possible complications in design thinking projects.

The Rhetoric Of Design For Debate: Triggering Conversation With An “Uncanny Enough” Artefact

Wednesday 18 June
16.30-17.00
Sliperiet Motion Capture Room

M. Mollon,
EnsadLab (France), Telecom ParisTech (France)
A. Gentes,
Telecom ParisTech (France), Mines, Chair Design Theory and Methods for Innovation

Design exploration research refers to various interaction design research practices that explore tensions issued from the interplay of science, technology, culture and society. Most of them explicitly trigger discussions and debates in the audience, for instance “critical design”, which raised the interest of members of design research communities. However its generalization suffers from a lack of shareable methodology. This paper aims at clarifying it practically and theoretically. We claim that these practices trigger people's reactions using a specific narrative strategy which provoke an “uncanny feeling”. By producing “uncanny enough” artefacts that embed a subtle entanglement of familiarity and unfamiliarity, designers can elicit responses from viewers. First, a review of literature on critical design texts presents the “uncanny balance” as being a recurrent design principle for the creation of these artefacts. We then present an exemplary case study produced by one of the authors, exploring communication technology-called Dog&Bone. Using classical rhetoric, we present a theoretical overview of the project. The outcome consists of a conceptual framework based on the narrative dimension of the uncanny plus the rhetorical dimension (composed of three elements: legitimacy, emotions, argumentation). We conclude that Design is a form of communication between designers and their audience.

Teaching A User-Centred Approach To Exploring Product Personalities And Sensory Attributes

Wednesday 18 June
17.00-17.30
Sliperiet Motion
Capture Room

Lois Frankel,
School of Industrial
Design,
Carleton University,
Ottawa, Canada.

While basic design principles tend to be visually oriented, a user-centred design perspective focuses on the product experience and hence is multi-sensory. Moreover, the sensory qualities of products can relate to perceived product personalities. This paper describes a pilot investigation in a design principles course. We used an existing product personality tool for evaluating perceptions associated with a number of small mechanical everyday products. Initially students explored links between visual qualities of products and meanings and emotional responses derived from them. Subsequently, they observed participants' multi-sensory experiences with the same products with the objective of understanding the differences in perception between purely visual experiences and other sensory layers of human-object interactions. The paper concludes that tactile and auditory sensory design attributes contribute additional and sometimes different meanings, emotional responses, and interactions to everyday products, and possibly into whole product categories. Product design educators can benefit from expanding their introduction to form-giving from a strongly visually-oriented approach to a multi-layered approach for detailing sensory characteristics of products, especially auditory and tactile features.

Designing Boundary Objects: Investigating The Affiliations Of Medical Identification Jewellery

Wednesday 18 June
17.30-18.00
Sliperiet Motion
Capture Room

Alex Haagaard

This paper reports on design work-in-progress that, to date, has focused on the affiliation of medical identification jewellery with paramedics as the central user group. In doing so, we use Suchman's notion of the affiliative object to reframe medical identification jewellery as a compound epistemic object with affiliations to paramedics in the province of Ontario, Canada. The paper begins by providing background including the methods used to assess the use of medical identification jewellery. There follows a section on how the findings from fieldwork were used to develop a first iteration of design recommendations. A compliancy table then appends discussion of key findings and design recommendations. Three design concepts were found to be particularly successful in focus groups of participant paramedics. These were modified and evaluated in response to the feedback obtained. One concept was ultimately rejected, while the other two underwent redesign. The two successful concepts were developed into high-fidelity prototypes. The design concepts presented here are observably original and not copies of previous designs. As affiliative objects, they aim to facilitate diagnostic work in emergency response. In doing so, they follow Lucy Suchman's (2005: 381) injunction that "the constitution of objects is a strategic resource in the alignment of professional identities and organizational positionings."

Investigating The Changing Relation Between Consumer And Designer In Post-Industrial Design

Wednesday 18 June
16.30-17.00
UMA Auditorium

Guido Hermans,
Umeå Institute
of Design, Umeå
University
Anna Valtonen,
School of Arts, Design
and Architecture, Aalto
University

This paper focuses on the post-industrial society and the changing object of design. Postindustrial design will be realized through the digitalization of the physical world and the advent of digital fabrication tools such as 3D printing that bridge the gap between digital design and physical goods. In post-industrial design professional designers will be concerned with designing toolkits and incomplete designs rather than fully determined products. The consumer will be adapting the incomplete design to his or her needs and desires in some way or another. This adaptation could be done with minimal involvement as well as by intensive participation. The aim of this paper is to investigate the changing relation between consumer and designer in a post-industrial society by examining the object of design. We exemplify the new object of design by examining several consumer products that possess some property of post-industrial design. Based on our research we propose four ways, or tactics, for designers to deal with heterogeneous consumer needs and preferences, two of which are unique to post-industrial design. We end this paper by briefly discussing the implications to design practice and design education.

Co-Created Facilitation And Perspective Plurality To Foster Mutual Understandings Of Risk

Wednesday 18 June
17.00-17.30
UMA Auditorium

Robb Mitchell,
University of Southern
Denmark

This paper identifies a key mechanism and its constituent qualities, for facilitating mutual understandings of risk. The focus of participatory workshops has expanded towards addressing broader questions of strategy, business models and other organizational and inter-organisational issues. To develop effective partnerships across the boundaries separating companies, it is necessary for those involved to gain mutual understandings despite the challenging paradoxical, abstract and sensitive aspects of discussing risks. A richer understanding of design facilitation practice is offered through drawing together the following experimentation with industrialists in innovation workshops and interactive interventions in artistic cultural venues:

- 1) a large revolving door sculpture – Blender.
- 2) a series of interventions utilising audiovisual transmissions to enable one person to act as a proxy for absent others,
- 3) a table top tool kits for discussing business relationship issues and
- 4) a number of bespoke interactive sculpture-like artifacts for provoking insights concerning business dilemmas.

Analysis of the cases reveals an underlying theme of breakdowns or ruptures as central to facilitating mutual understandings of risk. Such breakdowns are shown to be made of, and valuable due to two main qualities: co-created facilitation and perspective plurality.

Beyond Methods: Co-Creation From A Practice-Oriented Perspective

Wednesday 18 June
17.30-18.00
UMA Auditorium

Elisa Ruhl,
Christoph Richter,
Julia Lembke,
Heidrun Allert,
Christian-Albrechts-
Universität,
Department of
Media Education /
Educational Computer
Sciences, Kiel

The “co-experiences” are booming. The trend of complex interdisciplinary projects makes co-creation a more and more common way of working, but also changes the conditions for co-creation. How these co-creation processes are structured and conceived is a longstanding debate in the field of design with a main focus on the chosen methods or the underlying mind-set. However, co-creation could also be approached from a practice-oriented perspective, a view already hinted for in the existing literature.

To motivate a practice-oriented perspective on co-creation and to spot the added value of it, critical-incidents of an on-going R&D-project are described and discussed against the conceptual framework of practice theory. The analysis results in an understanding of cocreation as a texture of local and dynamic practices, which evolve independently from methods, but depend on shared interpretative schemes and constant negotiations. A practice-oriented perspective opens up a useful view for the analysis of the new cocreation processes and its problems. The results provide practitioners with good starting points for the understanding and support of co-creation beyond defined methods, roles and sessions.

Changing Paradigms Of Practice And Designerly Knowledge

Wednesday 18 June
16.30-18.00
UID Auditorium

Susan Yelavich,
Barbara Adams,
Sean Donahue,
Clive Dilnot

The paradigms of design practice are changing as designers situate themselves in the social, take active political roles, and reassess their roles in producing things with an eye to the environment subsequent generations will inherit. In this new landscape of practice, terms like social design, service design, participatory design, co-design abound, and are just beginning to be rigorously examined in light of design’s potential and limitations. This conversation asks: What is designerly knowledge in an increasingly dematerialized context where systems seem to loom larger than the nodes (objects/messages/places) within them? What distinguishes designers from other socially engaged professionals? This conversation will also consider the implications for design education, based on the kinds of knowledge and experience being accrued today as the boundaries of design become more porous. We ask those who join us to share their thoughts on the following questions: Where are the opportunities for design practice to grow and mature in the future? In practices framed as social and democratic, what kinds of knowledge do designers contribute that others may not? How is your practice changing?

Note: This conversation is an outgrowth of the forthcoming Design as Future-Making (Bloomsbury, 2014) to which all of the participants are contributors.

The Space Of Appearance: The Relationship Between Making & Public Space

Wednesday 18 June
16.30-18.00
UID Project Studio

*Kelley Beaverford,
Karl Burkheimer,
Kurt Espersen-Peters,
Jean Trottier*

For the ancient Greek, the public sphere was a space of appearance for human interaction and artifacts. Space, in this sense, was a relationship of meaningful social, mental and physical interactions and a forum where things were said, done, and presented. Artifacts, or the “work of the hands” as Hannah Arendt would say, contributed to the collective value of the public sphere as objects of significance, engagement, and remembrance. Their inclusion also permitted the maker to participate in the public sphere indirectly through the things they made: in this sense, the artifact was the reified words and deeds of its maker. This ancient notion will frame a discussion on the relationships between craftspeople, architects, and artists and the context of how and where they work today. Using the space of appearance as a starting point, the makers will reflect on the relationships between interaction and artifacts, rather than the finished objects we are inclined to think of as design.

Designing Out Waste

Wednesday 18 June
16.30-18.00
UID Art Studio

*Britt-Marie Steenari,
Isabel Ordoñez,
Marcus Bjelkemyr*

The growing amounts of municipal solid waste are one of the major challenges our society has to face. It is a major source of air, land and water pollution, contributing significantly to green house gas emissions and sanitary problems all around the world. On top of this, society is faced with the challenge of providing material resources to a growing global population. Considering these two problems, it would be desirable to change the current take-make-waste production system to a closed loop material one. A system where today's discards provide the materials for tomorrow's production.

But, how is this done in practice? During this conversation session we will invite participants to expose their ideas and concrete examples about the role of design in this paradigm shift from linear to circular production systems. This will be supported by the short presentations (Pecha Kucha format) of the five catalysts, that will address slightly different perspectives to the topic:

- What are the current challenges in the recycling industry? (Steenari)
- How can design create value from waste, turning rubbish to resource? (Ordoñez)
- How is waste generation in industries addressed? (Bjelkemyr)

Designing With Environmental Data

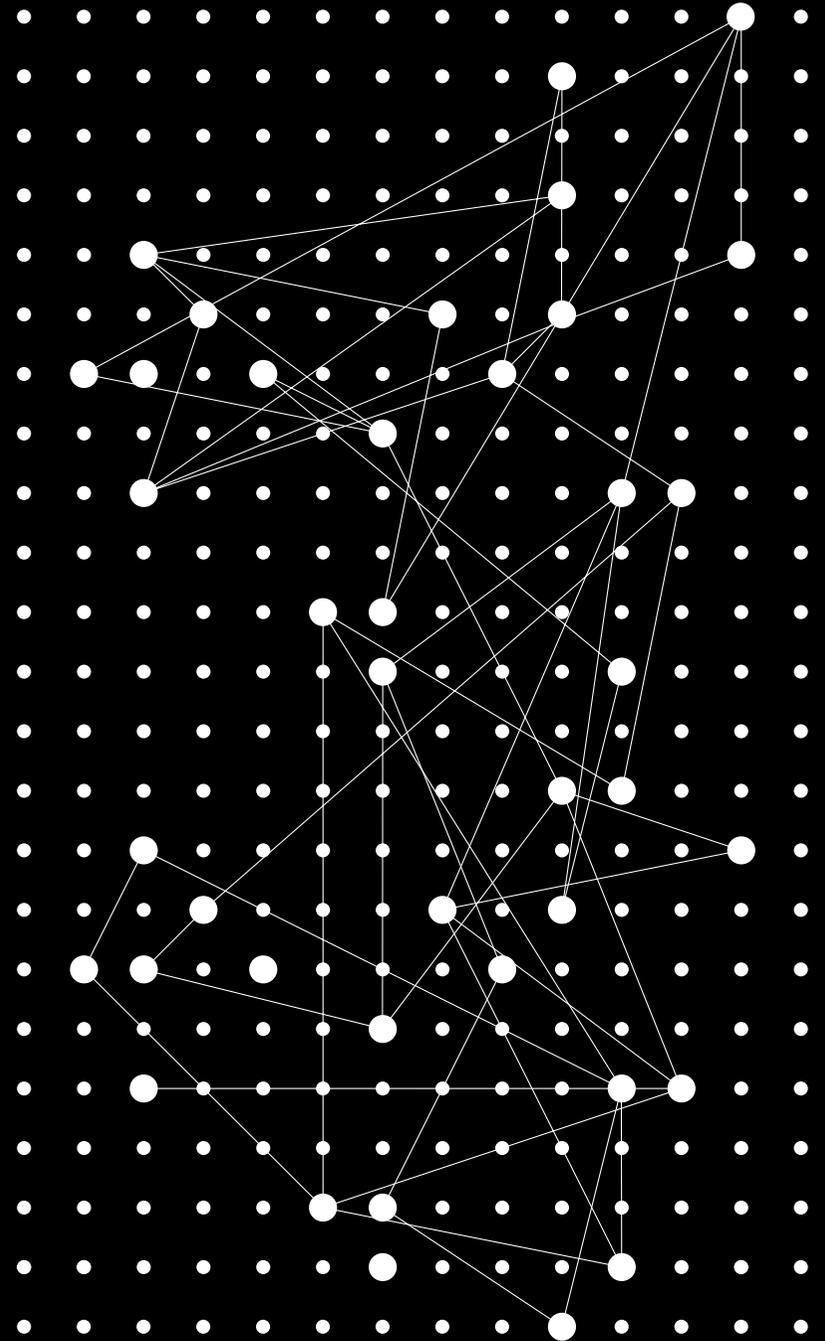
Wednesday 18 June
16.30-18.00
UID Green Room

Tobie Kerridge, Sarah Pennington, Dave Cameron, John Bowers, Nadine Jarvis, Andy Boucher, William Gaver

This conversation takes the form of a 'design crit' featuring three practice-based design research projects that take environmental data as a shared concern. It is a facilitated discussion between attendees and three researchers, each presenting material from different projects, from in-process designs to finished outcomes.

Citizen climate data, energy demand reduction, and urban air quality were start points for these three projects. However, rather than prototyping and testing technology platforms that present environmental data in order to illicit behaviour change, these projects have taken speculative approaches to design research. Overlapping project themes include the interpretation of environmental data, data as a design material, and making and using data as a practice.

In adopting the design crit as a format, the presentation of design processes and design decision-making provide the impetus for an open and participatory exchange about environmental data as a research topic. We aim to give focus to intentions, themes and decisions not served well by papers. Additionally we seek to experiment with modes of documentation that capture emergent forms of knowledge associated with live critique. There is also an ambition for this conversation to be documented and published as part of the conference proceedings.



Transforming User Information Into User Knowledge: A Multiple Case Study

Thursday 19 June

9.30-10.00

Sliperiet Conference Room / **Skype**

Isil Oygur,
Bahcesehir University,
Turkey

This paper reports a multiple case study conducted at six design consultancies from the fields of architecture, industrial design, and interior design. The data was collected through short-term field studies at each consultancy. The focus was on exploring how designers know about users while designing. According to the constructivist learning theory, the learner is not a passive receiver of information. Instead, learning requires construction of knowledge from information. In line with this theory, it was observed that in their design process, designers at studied consultancies did not always utilize the user information available to them as it is. Instead, designers' references to users were more abstract and interpreted in character. Thus, user is a constructed phenomenon in the design process. There are multiple personal and organizational mediators that play a role in the construction of designers' user knowledge. Through these mediators, designers transform the user information into user knowledge and utilize this user knowledge, which is in the form of tacit user model, within their design process.

Adaptable Interface Model For Intuitively Learnable Interfaces: An Approach To Address Diversity In Older Users Capabilities

This study started with the aim to develop an approach that will help designers create interfaces that are more intuitive for older adults to use. Two objectives were set for this study: 1) to investigate one of the possible strategies for developing intuitive interfaces for older people; and 2) to investigate factors that could interfere with intuitive use. This paper briefly presents the outcome of the two experiments and how it has led to the development of an adaptable interface design model that will help designers develop interfaces that are intuitive to learn and, over time, intuitive to use for users with diverse technology prior experience and cognitive abilities.

Thursday 19 June

10.00-10.30

Sliperiet Conference Room

Gudur Raghavendra Reddy,
Queensland University of Technology
Thea Blackler,
Queensland University of Technology
Vesna Popovic,
Queensland University of Technology
Doug Mahar,
University of Sunshine Coast

Research-Based Design And Research Through Design:

Thursday 19 June

10.30-11.00

Sliperiet Conference Room

Chun-Meng Cheng,
Hsien-Hui Tang,
Dept. Of Commercial and Industrial Design, National Taiwan University of Science and Technology.
Miao-En Chien,
Ni-Miao Lin,
Mike Y. Chen,
Institute of Networking and Multimedia, National Taiwan University

A Case Study Of The Improvement In The User Experience Of An Autism Caregiver Using ICT

There is a long history in design study of focusing on designers, but this does not connect well with industry and the end products of design. With the emerging importance of user experience (UX), we argue that what is needed is a new kind of design study that focuses on users, relates to the end products, and results in mutual benefits for research and practice. It is both “research-based design” and “research through design”. The design process of iCAN was used to demonstrate a new kind of design study that combines both design research and design practice. iCAN is an app used in the place of traditional tools to assist caregivers in developing the cognitive and communication skills of children with autism. The three phases of the process were UX Research, UX Design, and UX Testing. They demonstrate the inter-connection between design research and design practice, and also demonstrate the features of the new kind of design study. We believe that this is the future direction of design studies, and has benefits for both design researchers and practitioners.

Designers In Complex Problem Solving: The Contribution Of Systems Thinking

Thursday 19 June

9.30-10.00

Sliperiet Motion Capture Room

John Darzentas,
Jenny Darzentas,
Department of Product and Systems Design Engineering, University of the Aegean, Greece

This paper, attempts to provide a useful perspective of Systems Thinking’s contribution to Design’s theoretical grounding for both research and education. ‘Useful’ in the sense that it will equip design students and graduate professionals with a supportive and productive way of thinking about Design. This is viewed against the trend of more and more multidisciplinary design problems emerging where designers are asked to deal with the complexity which is inherent in such problems. Thus this discourse is also framed in understandings of interdisciplinarity and further, transdisciplinarity, to attempt to gain some traction on these heterogeneous domains.

Such domains are subject to many attempts to provide them with a theoretical framework. In this paper, it is suggested that Systems Thinking can contribute considerably to such a framework. The world of Systems Thinking is not new to Design, but against the new scenarios of increasing complexity, it is in a stronger position to demonstrate its potential for Design. This paper will posit the enhancements to both the designer’s way of thinking as well as the ‘design tools’ that Systems Thinking could provide.

Hence, the paper’s main emphasis is on how and why the designer profile could be positively influenced by Systems Thinking.

Staging The Interaction? Explorative Interventions For Engaging Citizens In The Development Of Public Knowledge Institutions

Thursday 19 June
10.00-10.30
Sliperiet Motion
Capture Room

Eva Eriksson,
Josef Wideström,
Department of Applied
IT, Chalmers University
of Technology

In this paper, six different classes of methods of exploratory interventions for engaging citizens in the development process of public knowledge institutions will be presented. The classification is based on twelve implemented and tested exploratory installations, and can be used as inspiration for stakeholders in order to work systematically with the stakeholder-citizens' interaction. The discussion is centered on intertwining the physical and the digital, and exemplified through the development process of a new culture house. The contribution of this paper is the classification of methods that a) address the unification of physical and digital spaces and b) stage the interaction between different actors relevant for the development of the design process, through interactive tools that can be a complement to using the traditional virtual 3D-models, physical architectural models, or public hearings.

Design Approaches For A Rct Complex Intervention: A Stroke Rehabilitation Case Study

Thursday 19 June
9.30-10.00
UMA Auditorium

Alastair S Macdonald,
The Glasgow School
of Art
David Loudon,
The Glasgow School
of Art
Anne Taylor,
University of Stirling

This paper discusses findings from the introduction and integration of qualitative design research methods into the overall methodology for the design and evaluation of a 'complex intervention' through a set of pilot random control trials. A visualisation tool was co-designed and developed with stakeholders to enhance patient-therapist interaction in the context of stroke rehabilitation. The participative approach recognised the importance of mobilising lay knowledge and experience to drive innovation in the tool whose use helped reduce the 'social distance' between therapist, patient and clinical biomechanist to:

- i) aid understanding for patients;
- ii) enhance communication between patient and therapist; and
- iii) provide an objective tool for therapists to monitor progress and communicate it to patients. The implications for the use of design methods in rehabilitation service design innovation is also discussed.

How To Interest People For The Hare Instead Of The Chase, An Exploration Of Open Script Design To Change Consumer Behaviour.

Thursday 19 June
10.00-10.30
UMA Auditorium

Liesbeth Stam,
Industrial Design
Engineering, University
of Twente
Wouter Eggink,
Faculty of Engineering
Technology, University
of Twente

In this paper we raise the question: does our consumer behaviour make us happy? The infinite source of consumer desires seems to be the justification of an ever increasing amount of products that inundate our lives. Consumption itself is set free from any functional bond, bringing our current consumption levels to the point that it is ecologically destructive and unsustainable. By examining philosophical theories of well-being we argue that consumer satisfaction does not of necessity lead to happiness, and we reach the conclusion that it is in the act of appropriation -fitting the acquired artefacts into our lives- that consumption of goods renders a meaningful attribution to our well-being. Building on theories of Science and Technology Studies, we propose the design of objects with open scripts, as a means to facilitate and encourage this act of appropriation as a conscious process. This design perspective is made more tangible by the examination of several examples from fashion design and investigated further in a short design exploration. Five design professionals were asked to apply the open script design perspective in the design of new garment concepts. The results of both activities show that it is possible to design products that encourage the process of appropriation by demanding a certain dedication of the user in accomplishing her use-goal. We expect that this encourages product bonding and render our possessions less replaceable. Although the few products that employ an open script will not overcome consumerism and transform society at large, we do believe they can help bring about an attitude change and help to establish well-being as the purpose of consumption.

A Framework Of Ethical Nudges In The Design Of Consumer Goods

Thursday 19 June
10.30-11.00
UMA Auditorium

Anders Haug,
University of Denmark
Jacob Busch,
Aarhus University,
Denmark

This paper focuses on the use of nudging in the design of consumer goods. This perspective is different from most existing nudging literature, which tends to focus on nudging as a tool for policy makers. The change of focus to consumer goods has some implications in relation to existing classifications of nudging, namely that the nontransparent aspect of some types of nudges becomes less relevant. Instead this paper introduces a distinction of the nudging ability of a product as decisive or non-decisive for a purchase decision. This dimension is combined with a dimension from an existing framework to produce four distinct types of nudges in relation to the design of consumer goods. Through 12 examples, the paper demonstrates the relevancy of these four types of nudges. Finally, with a basis in the proposed framework, the paper discusses how designers/producers of consumer goods should proceed from here, and possible ethical ramifications of using nudges in design are highlighted.

Less Is Too Little, More Is Needed - Body-Motion Experience As A Skill In Design Education

Thursday 19 June
9.30-10.00
UID Auditorium

Helena Tobiasson
Anders Hedman
Jan Gulliksen
School of Computer
Science and
Communication
Media Technology and
Interaction Design,
Kungliga Tekniska
Högskolan KTH
Stockholm, Sweden

Research shows that lack of physical activity in westernized societies has serious negative health consequences. We explore a physically sustainable design approach centered around joyful physical activity in an effort to remedy this situation in some way. Much technology development has been blind for our basic human need for healthy, joyful physical activity. This paper presents our approach as used in an explorative case study. During a college course, thirty students explored how physical movement of their bodies could be used as creative components in the design process. They engaged in what we introduce in this paper as “physical movement sketching” – a method for experiencing, sharing and reflecting on designs through body movement. The students used this approach to generate, test and discuss new design concepts for outdoor gyms. Engaging in physical movement sketching allowed the students to both enjoy and trust their bodies as design tools. We discuss how our students used physical movement in design and what we learned from the case study.

Learning From Students: Reflections From Personal Magazines In Basic Design Course

Thursday 19 June
10.00-10.30
UID Auditorium

Koray Gelmez,
Istanbul Technical
University, Turkey
Humanur Bagli,
Istanbul Technical
University, Turkey

Reflective writing is an efficient way of getting feedback from students. Paper-based or web-based course evaluation questionnaires alone may lack of collecting specific and detailed information, especially for the fields like design education. This study focuses on reflections captured from students via two different media -personal magazine and online questionnaire- in 2012 Spring Semester conducted in Basic Design II in the Department of Industrial Product Design at Istanbul Technical University (ITU), Turkey. Throughout the semester, each student was encouraged to write a diary weekly and expected to submit a photocopied page of it to reflect freely their impressions about the course and their experiences, written or visual, or both. At the end of the semester, students were expected to submit their diaries as personal magazines. This data is valuable to see the development of the student in terms of design awareness and perceptions about the course specifically. Moreover, a specific web-based questionnaire is prepared and delivered to students in order to see the general tendencies about the course. Based on this data, we explore how we can learn and benefit from students' reflections for Basic Design course mechanism and design education.

Adapting Data Collection Methods For Different Participants Of The User Study:

Thursday 19 June
10.30-11.00
UID Project Studio

Shu Yuan,
Tongji University
Hua Dong,
Tongji University

to Improve the Empathic Understanding between Designers and Users

Design probes were developed to help collect user data before a co-design workshop, with the aim to create an effective dialogue between the users and the designers, and to help designers quickly build empathic understanding. The trial probes were developed and handed out to four users: a chef with poliomyelitis, a 74-year-old university lecturer, and two much younger ladies who had hearing impairments. Early feedback was received from the users and used to adapt the data collection methods for each user. The rich data collected from the diverse means proved effective in facilitating the subsequent co-design workshop. Based on the reflections of the study, suggestions were proposed for adapting data collection methods for different participants of the study.

Supporting The Designers To Build Empathy With People With Parkinson's Disease:

the role of a hand tremor simulating device and of user research with end-users

In this paper we describe a research study aiming to support designers in building empathy with Parkinson end-users through the introduction in the design process of a hand shaking wearable device with simulates Parkinson hand tremor. We describe the experience that designers gained by wearing the hand shaking device and the insights that they expressed towards the improvement of a specific product they tested the shaking device with, such as the gas hob. We then focus on a parallel user research with people with Parkinson's disease that was conducted in the same period in order to observe how actual users suffering from hand tremor interact with the gas hobs and the kitchen environment; which constrains they experience; which concerns they express, and eventually which design opportunities raise from the learnings gained by meeting the users. Our conclusion is that the hand tremor simulating device represents an innovative tool which temporarily can convey designers some physical effects caused by Parkinson's disease where no other ways are possible nowadays, but the greater understanding of the end-users, and hopefully an empathic connection, can be reached when the simulated physical impairment is informed by close observation and active engagement with actual users.

Thursday 19 June
11.00-11.30
UID Project Studio /
skype

Laura Boffi,
Interaction Designer
and Researcher, Italy
Marco Fontana,
Percro Lab, TeCIP
Institute, Scuola
Superiore Sant'Anna,
Italy
Gastone Pietro Papini
Rosati,
Percro Lab, TeCIP
Institute, Scuola
Superiore Sant'Anna,
Italy
Monica Milani,
Dyson, UK

Tools for Effective Communication about Technologies of Domestic Ubiquitous Computing Systems in User-Centered Design

Thursday 19 June
9.30-10.00
UID Art Studio

Wonjun Lee,
Yeoreum Lee,
Jong-bum Woo,
Jinmin Seok,
Ingeon Shin,
Youn-kyung Lim,
Department of
Industrial Design,
KAIST

In the early stages of designing domestic, ubiquitous computing applications, gaining users' descriptions of how new technologies can shape their futures can be an effective way to collect credible design ideas and to understand users' personal values and social settings. We present two kinds of tools for empowering users to verbalize their own needs with metaphoric expressions of technologies, 5Senses Cards and Technology Type cards. Those tools are suggested as aids for the user inquiries in the field aimed at needs identification. We tested those tools in 6 homes and found empirical evidences which suggest that 5Senses Cards could encourage users to explore ubiquitous computing application ideas in two different perspectives, augmenting the environment and extending their bodies to the environment. We also found that Technology Type Cards could help the users focus on the experience of technology that they would find desirable rather than on the technical mechanisms. The potential of our tools as icebreakers and the pitfalls in using metaphorical expressions of technologies are discussed.

Enhancing Collective Creativity via Enactment: A Comparative Study of Design Research Methods

Thursday 19 June
10.00-10.30
UID Art Studio

Emily E. Strouse,
The Ohio State
University, Department
of Design

This research explores how dynamically moving one's body as a means of creating meaning and imaging the new can impact one's creative abilities and expression. The behavior and creative output of small groups of people engaged in creative sessions were investigated. They explored the question "What's next?" using one of four methods:

- Traditional focus group
- Image collaging1
- Sandquery2
- Enactavision3

People's use of the three participatory methods (image collaging, Sandquery and Enactavision) was compared to the control condition (traditional focus group). Each method followed a similar script and used the same activities and post-session questionnaire. Triangulation of data using several measurement techniques was performed because of the exploratory nature of the research. Analysis focused on where similarities and differences occurred when comparing dynamic body movement and collectively creative (Sanders, 2012) expression.

This research shows that small groups of people who make meaningful movements, play pretend, or enact while thinking and generating creative possibilities produce more creative output than do people who brainstorm together with minimal body movement.

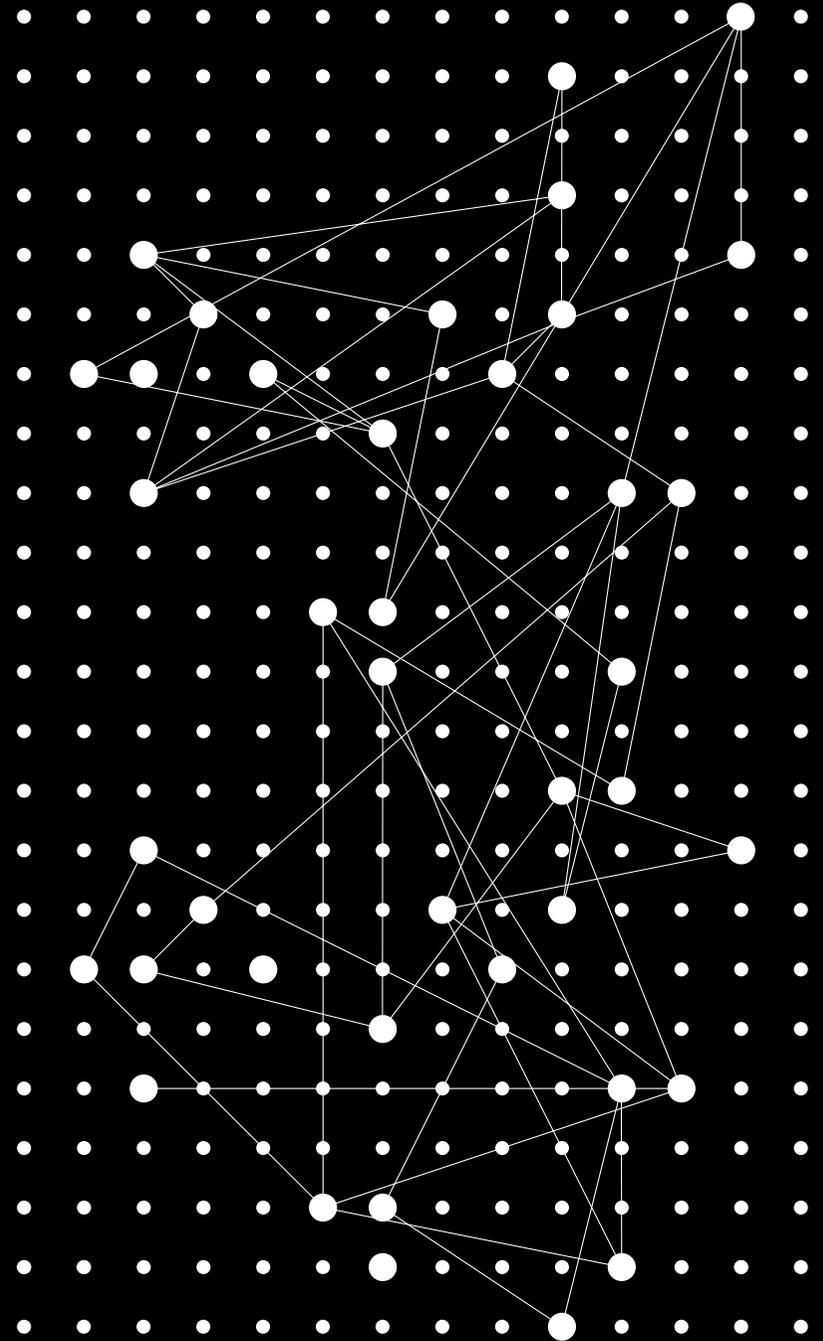
Enhancing Visual Meaning: Measuring Visual Communication Design Effectiveness

Thursday 19 June
10.30-11.00
UID Art Studio

David Craib,
AOCA, Carleton
University, Ottawa
Lorenzo Imbesi,
Sapienza University of
Rome

Visual messages are pervasive throughout modern societies, being continually disseminated and consumed through various channels, such as portable communication technologies, computers, television and print. Visual communication designers are tasked to create and produce highly perceivable and meaningful visual messages that populate these visual channels, but lack the science-based tools to ensure their designs are effective before they are disseminated. A set of visual communication design criteria and tools, aimed to increase design research effectiveness, will be derived through research focusing on three communication-related disciplines, including perception psychology, data visualization, and semiotics.

These criteria and tools will then be applied to case studies of web- and print-based visual presentations to study their viability as research tools. This paper asserts that various disciplines outside visual communication design can contribute to the development of useful design tools, that, through further research, could potentially offer visual communication designers and researchers a comprehensive design research, and design practice, toolkit.



Concluding Panel

In this final debate of the 2014 Design Research Society conference we'll ask four participants to reflect upon the state of design research as a whole and to offer provocations for the future of design research. What will we be, what should we be, and what shouldn't we be doing in design research in the coming years? Drawing upon their own experience of the 2014 DRS conference, each participant will give us a reflection back of what she or he perceived to be the most penetrating, promising, and provocative ideas that they picked up during the event.



Bruce Nussbaum

Bruce Nussbaum is the author of *Creative Intelligence* (Harper Collins, March 2013), based on new research as well as decades of writing and lecturing about creativity, innovation and entrepreneurialism. Nussbaum is a Professor of Innovation and Design at Parsons New School of Design and the former assistant managing editor of *BusinessWeek* where he founded the Innovation and Design channel, *IN: Inside Innovation*, a quarterly innovation magazine, *The Most Innovative Companies* annual survey with BCG, and *The S&P/Bloomberg BusinessWeek Innovation Index*. He blogs about innovation and creativity for *Fast Company*.



Lin-Lin Chen

Lin-Lin Chen is professor in the department of industrial and commercial design at National Taiwan University of Science and Technology (NTUST) and chair of design and realization of intelligent systems at the faculty of industrial design at Eindhoven University of Technology (TU/e) in the Netherlands. She received B.S. degree from National Cheng Kung University in Taiwan and Ph.D. from the University of Michigan at Ann Arbor. She was dean of the college of design at NTUST from 2004 to 2010, president of the Chinese Institute of Design from 2007 to 2008, and convener for the arts (and design) area committee of Taiwan's National Science Council from 2009 to 2011. She is the founding editor-in-chief of the *International Journal of Design (SCI, SSCI, AHCI)*, vice president of the International Association of Societies of Design Research (IASDR), and fellow of the Design Research Society. Her research focuses on product aesthetics, design innovation, interactive interface design, and geometric algorithms.



Tara Mullaney

Tara Mullaney is a PhD candidate in Industrial Design at the Umeå Institute of Design, Umeå University, Sweden. Employing a research-through-design approach within her research, Mullaney investigates cancer patient experiences of radiotherapy treatment within Sweden, and the role that design construction can play in understanding and critiquing existing social, technological, and institutional boundaries within healthcare.



Peter Lloyd

Peter Lloyd is Professor of Design at the University of Brighton, and formerly Professor of Design Studies at The Open University. He is the current Membership Secretary for the Design Research Society and Associate Editor for the *Journal Design Studies*. He teaches in the areas of design methods, design thinking, and design ethics and his research looks at all aspects of the design process. He blogs at <http://iprofessdesign.wordpress.com/>.

Thursday 19 June
11.30-13.00
Sliperiet Conference
Room

Finding Your Way

The conference takes place across Umeå Arts Campus. We have created a colour-coded signage system to help you find your way around. Use this conference companion to work out where you want to go, check the colour reference and/or the map and follow the coloured lines to your destination.

Sliperiet

- × Conference Room
- × Motion Capture Room

Umeå School of Architecture (UMA)

- × Auditorium
- × Posters
- × Pub

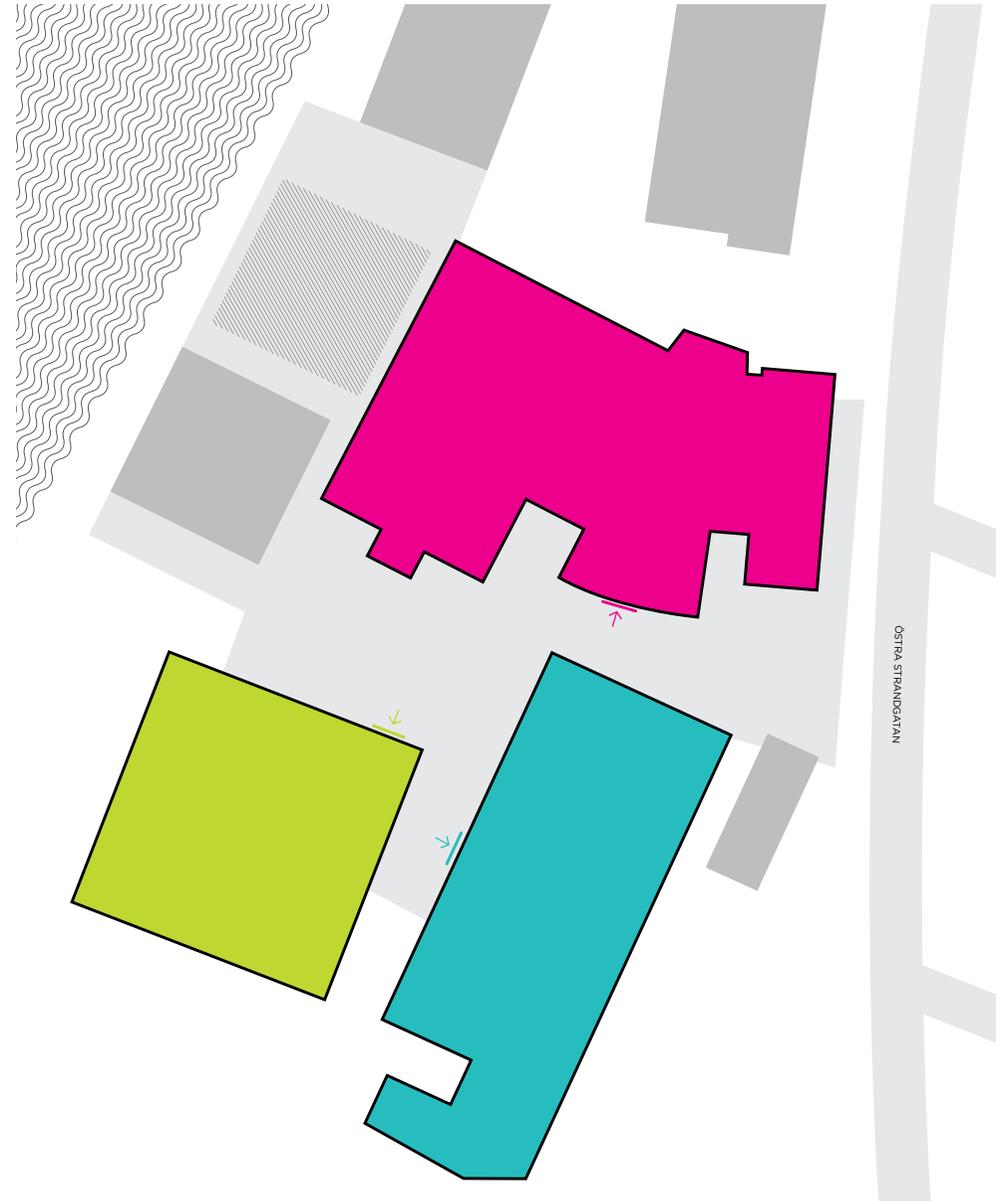
Umeå Institute of Design (UID)

- × Auditorium
- × Project Studio
- × Art Studio
- × Green Room
- × Red Room
- × White Room

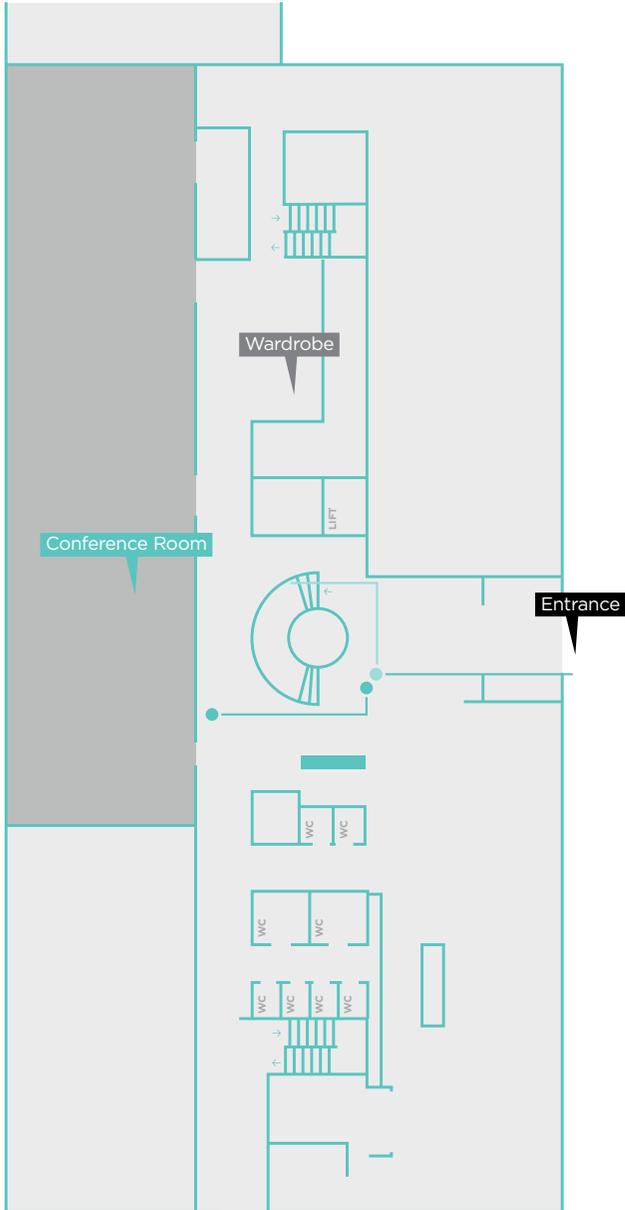
Other destinations

- × Hansson & Hammar (lunch)
- × Open Meeting Rooms

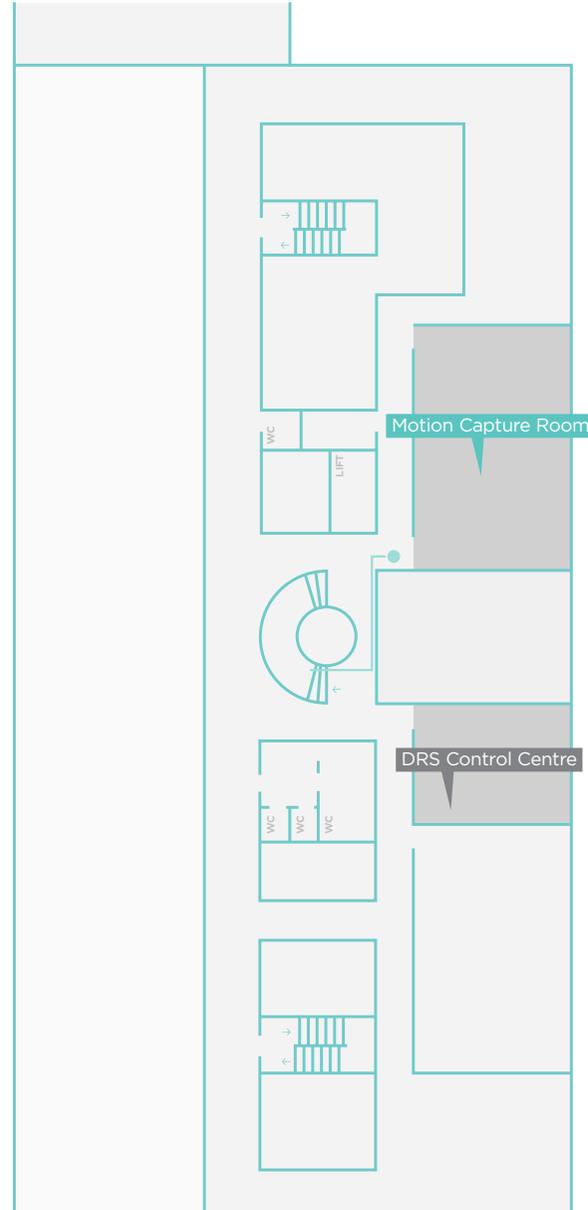
Umeå Art Campus



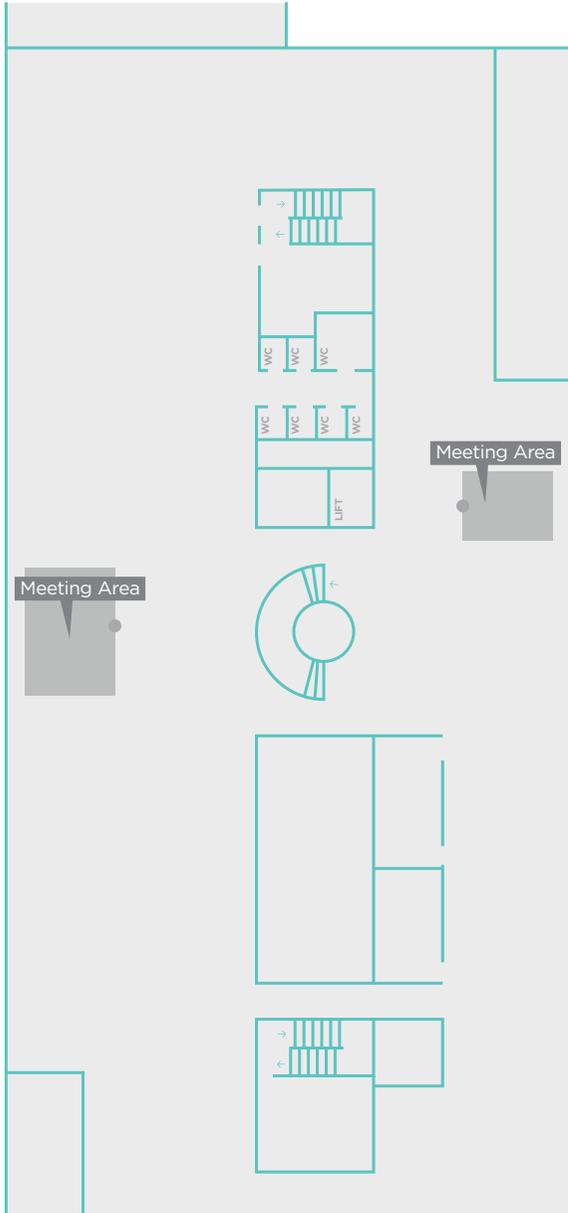
Sliperiet Ground Floor



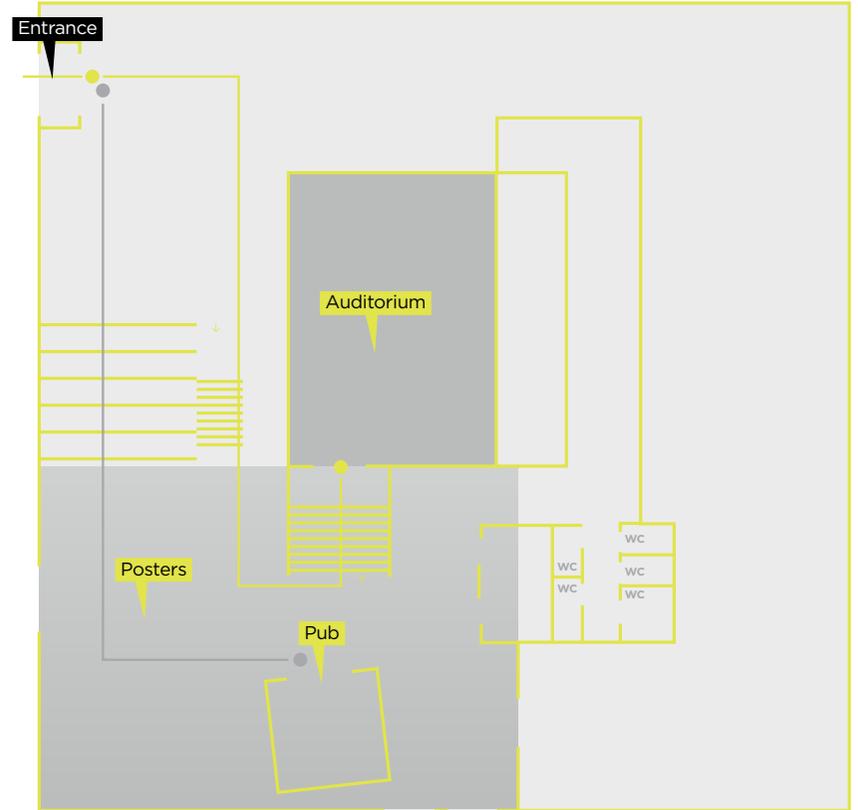
Sliperiet First Floor



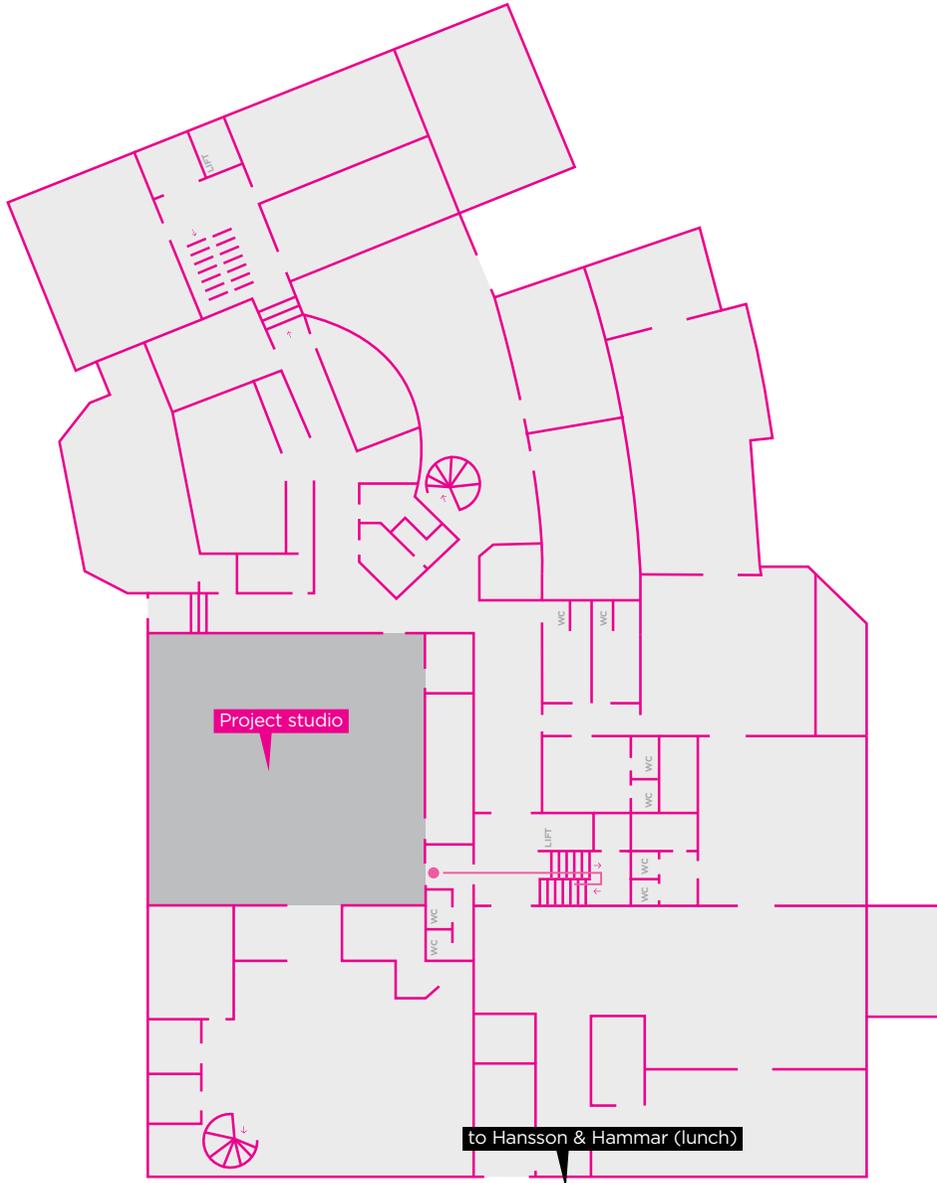
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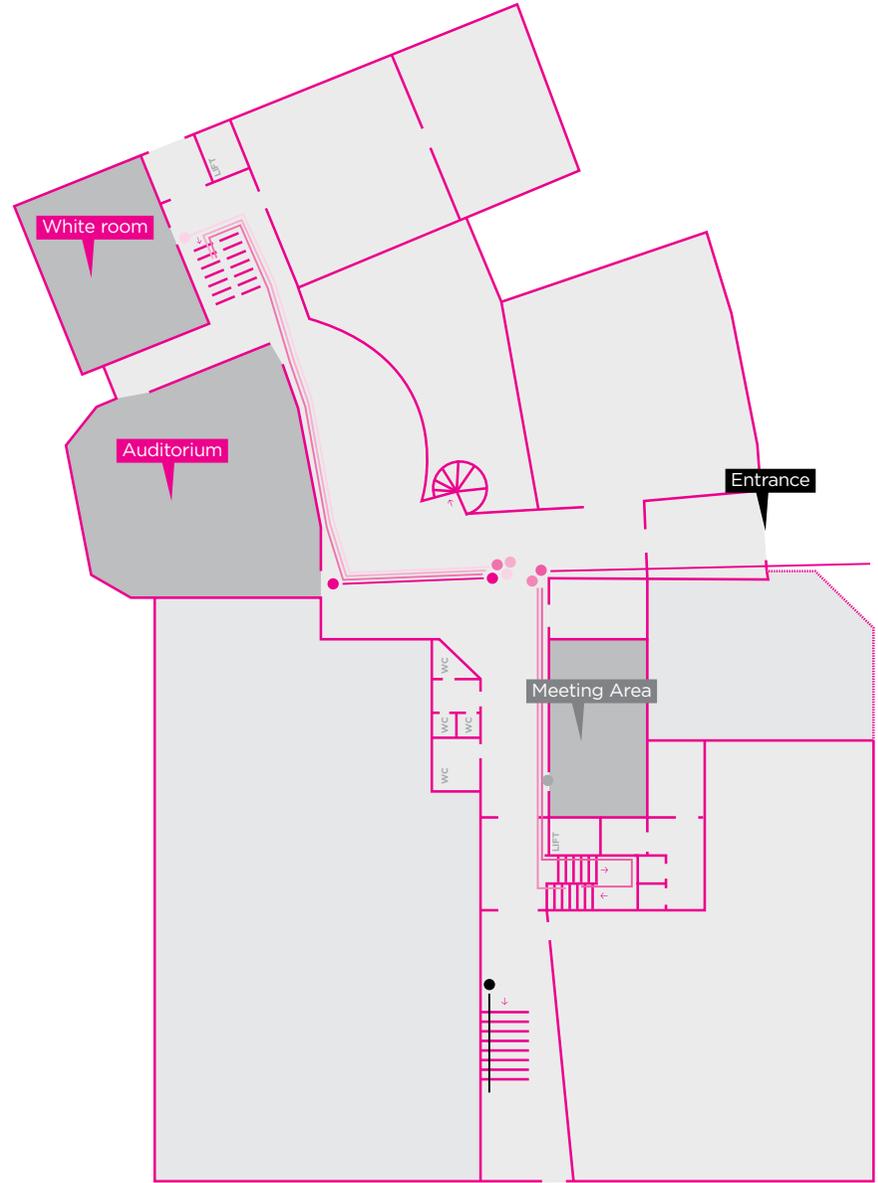
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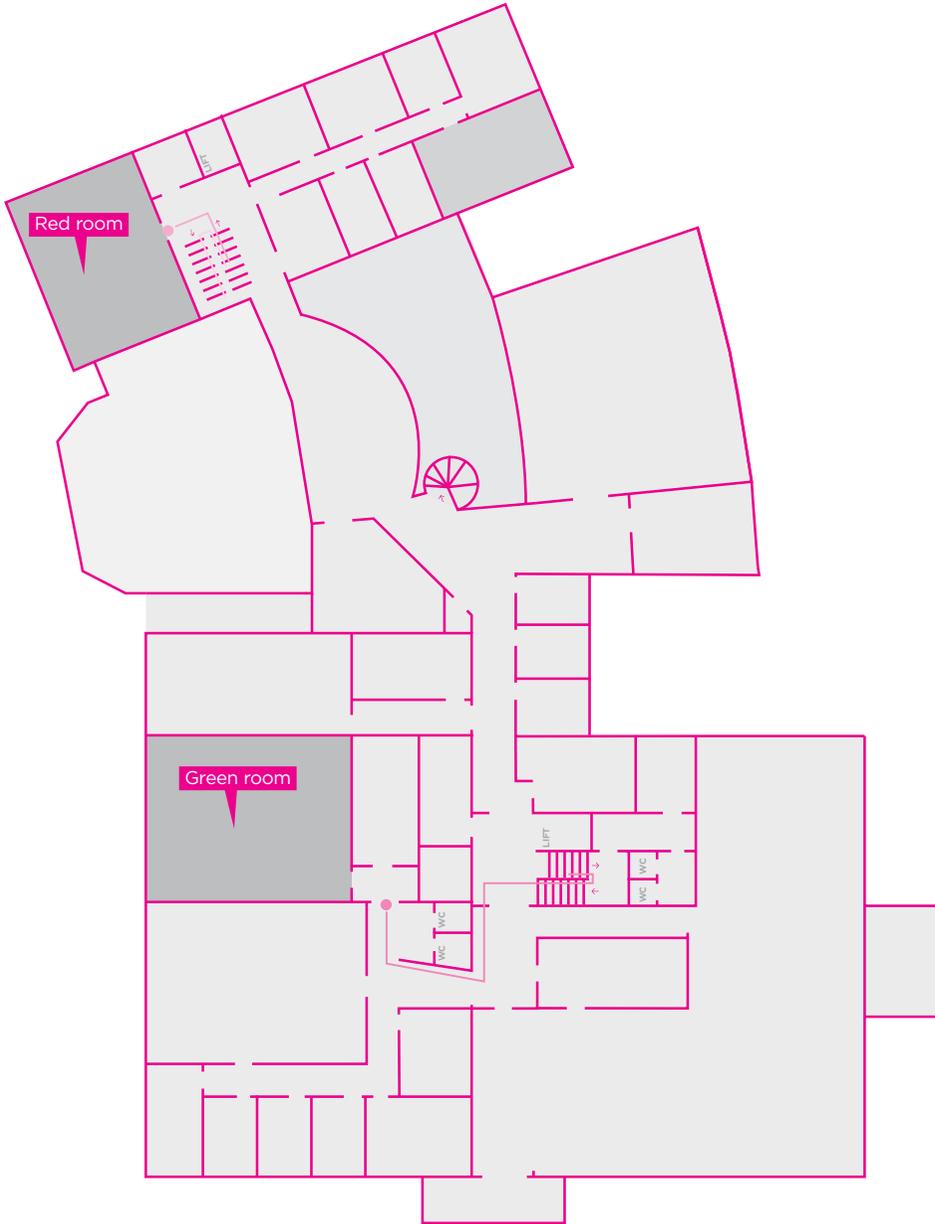
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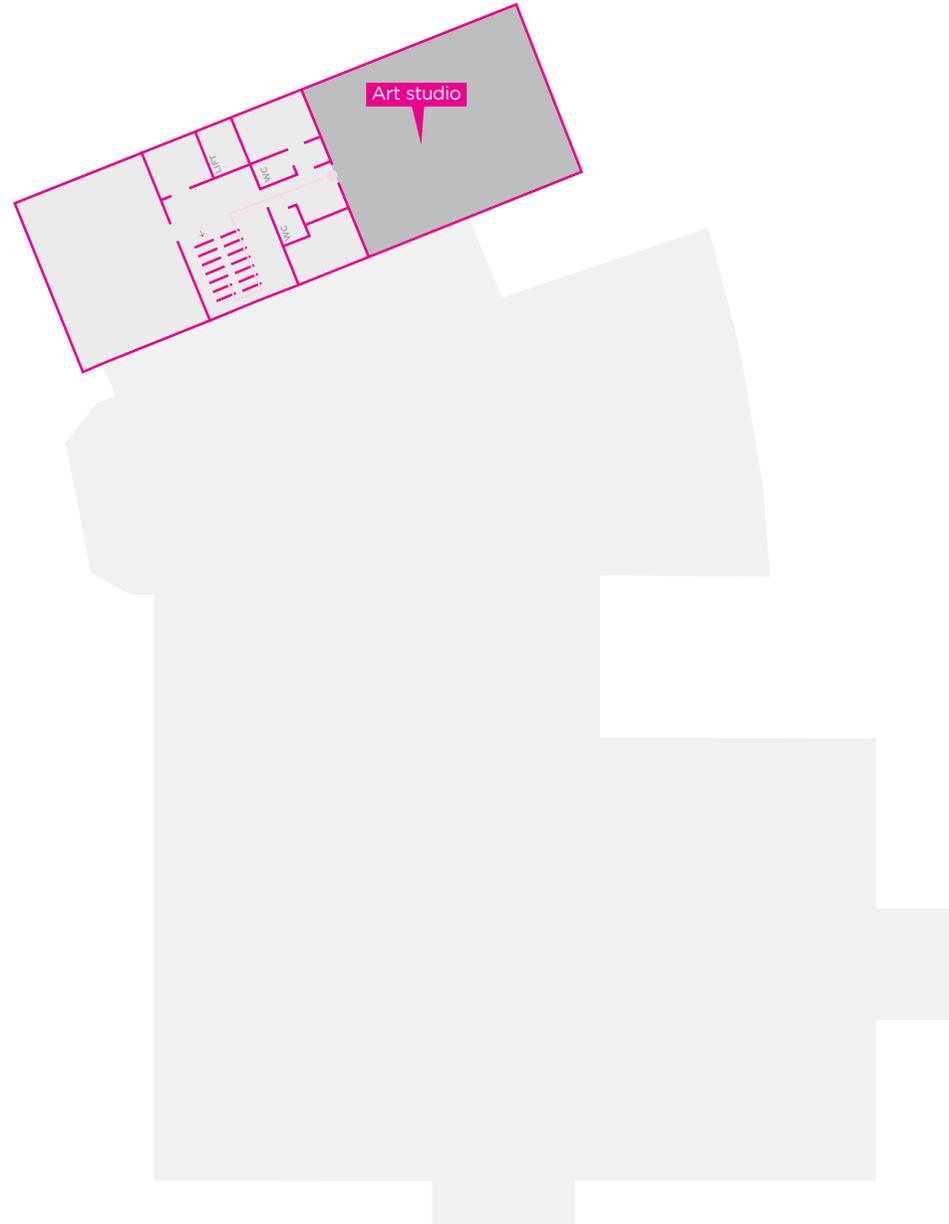
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Umeå Institute of Design (UID) First Floor



Umeå Institute of Design (UID) Top Floor



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