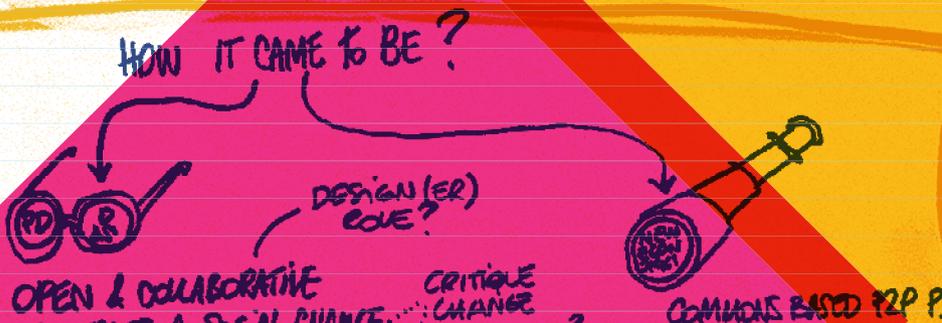


IMPROVING CONSUMPTION
- CHANGING CONSUMPTION
" PRODUCTION
EING
ENVIRONMENTAL
LIMITS

DEVELOPMENT
CONVENTIONS
KNOWLEDGE
TOOLS
SERVICES
INFRASTRUCTURE
SYSTEMS
KNOWLEDGE
DESIGN
SCIENCE
TECHNOLOGY
ETC...

PROTOTYPING FUTURES

by Medea
and co-partners





PUBLISHER

Karin Johansson-Mex
Medea, Malmö University

EDITORS AND CONCEPT DEVELOPERS

Elisabet M. Nilsson
Richard Topgaard

CONTRIBUTORS

Medea and co-partners

GRAPHIC DESIGN

Tapper Geist:
Tomas Dettlaff
Julia Persson

ENGLISH COPY EDITING

Emma Holloway Attaway

MEDEA

Malmö University
205 06 Malmö
Sweden
medea.mah.se

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KUNSTRÅD
DANISH ARTS COUNCIL

Jeannette Ginslov's work within
the AffeXity project is funded by
the Danish Arts Council



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Hello!

This is a travel guide to the hearth and heart of the research centre Medea.

We will take you on a journey across islands, continents and seas of research questions, experiments, tools and methods. We will guide you through an archipelago based on multidisciplinary research and co-production and put a spotlight on how research and collaboration beyond borders can contribute to societal change and more sustainable futures. We present our most poignant research themes and challenges, the questions that drive us forward and how we explore them.

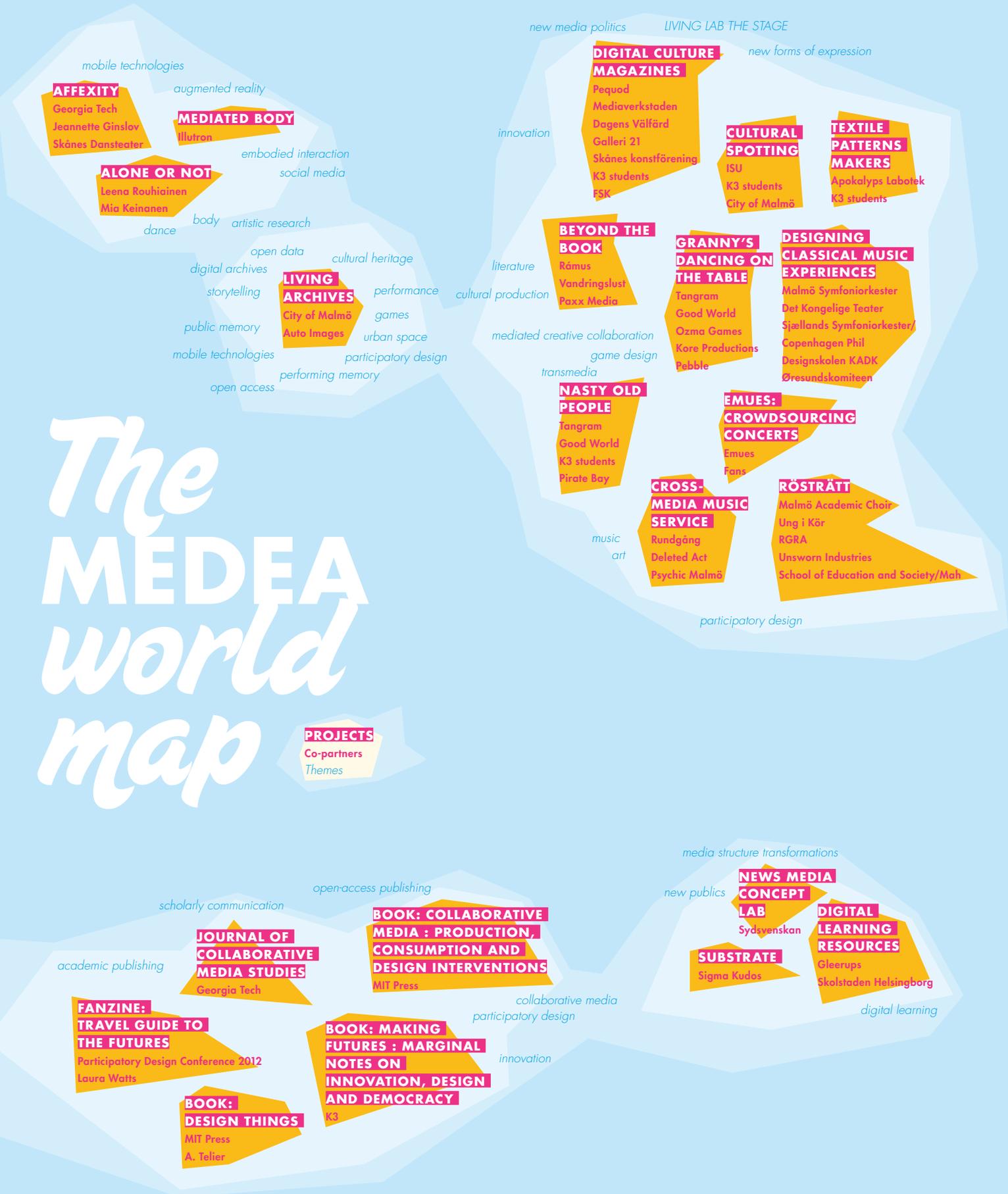
This travel guide builds on the contributions of many. We have also left some space for you. What are you exploring? What are your interests and driving forces? What do you want to change? No answers need to be given – in this publication, questions are more important than answers.

We invite you to join us on this continuously on-going journey of knowledge building and prototyping of futures.

Remember, the future is unwritten.



The MEDEA world map



PROJECTS
Co-partners
Themes

academic publishing

scholarly communication

open-access publishing

JOURNAL OF COLLABORATIVE MEDIA STUDIES
Georgia Tech

BOOK: COLLABORATIVE MEDIA : PRODUCTION, CONSUMPTION AND DESIGN INTERVENTIONS
MIT Press

FANZINE: TRAVEL GUIDE TO THE FUTURES
Participatory Design Conference 2012
Laura Watts

BOOK: DESIGN THINGS
MIT Press
A. Telier

BOOK: MAKING FUTURES : MARGINAL NOTES ON INNOVATION, DESIGN AND DEMOCRACY
K3

collaborative media participatory design

innovation

new publics

media structure transformations

NEWS MEDIA CONCEPT LAB
Sydsvenskan

SUBSTRATE
Sigma Kudos

DIGITAL LEARNING RESOURCES
Gleerups
Skolstaden Helsingborg

digital learning

THE BIRTH OF A *research centre* CALLED MEDEA

A talk with Bo Reimer, Professor of Media and Communication Studies at Malmö University, former director, and co-founder of Medea.

You are part of the group that took the initiative to establish a research centre for co-production and multidisciplinary meetings, which eventually became Medea. Where did it all start?

I actually think you have to see the start as the start of Malmö University and K3 (the School of Arts and Communication) in 1998. While establishing this new faculty, we combined the ideas of interaction design, media and communication studies, art and technology and encouraged students as well as researchers to work across disciplines.

This way of thinking and working across borders was something that we had been doing for more than ten years. When the Knowledge Foundation (a Swedish research fund) put out a big call for a research grant based on multidisciplinary research and co-production, we applied for a long-term grant which we were eventually awarded. By receiving this grant, we could make an old dream come true, and that dream was establishing a research centre for working across borders on a large scale with actors from outside academia. We had been doing that before, but in a smaller scale. Now we were given the chance to establish long-term collaborative projects on a secure basis, financially speaking.

Were you also inspired by other similar research centres around world?

At that time there were some centres – not that many, maybe a handful – that we of course knew about and were in contact with, and that had models that we could follow and be inspired by. We wanted to build a research centre in Malmö in line with places like the MediaLab at MIT and the d.school at Stanford.

One of our benefits when starting was that we had already built a research environment at K3 before Medea,

and had plenty of experience in working across borders and disciplines. It is still not that common to work in the borderlines between media and design, between thinking and doing. We had that experience to build on and with the grant we received funding without having to be dependent on companies, which is normally the case at these kinds of research centres. Look at the MediaLab at MIT, they are dependent on funding from specific companies in order to conduct concrete projects. At Medea we are more independent in that sense, as long as we are collaborating with companies. But they do not need to pay for our work.

Once you had received the grant and the mission to build a research centre, what was the first step?

One of the first steps was to create a good working environment, which is the studio we are sitting in right now. The development of the studio was incredibly important. We wanted it to be a space to work in, but we also wanted it to be a public space.

The idea was to create a multifunctional and dynamic studio space where we could easily switch from using it as a workspace and space for running workshops into a lecture hall or an exhibition space, for instance. The studio works wonderfully well for that. The establishment of the space was really an important first step in order to get the studio going.

What about the artist-in-residence and entrepreneur-in-residence programs at Medea?

We wanted to have two kinds of residency programs to combine academic perspectives with entrepreneurial perspectives, and therefore have two residents here simultaneously. People that have been visiting us are Jon Kolko, designer and creative director at Frog design, Bob Jacobson, entrepreneur and strategist at Atelier Tomorrow, Arlene Birt, visual storyteller, artist and information designer and Jeannette Ginslov, artist and choreographer.

One of your first moves at Medea was to set up a call inviting researchers, companies and public organisations to send proposals for future projects within the realm of collaborative media.

Yes, it was a call directed towards academics as well as non-academics, asking them to come up with ideas and proposals based on co-production. We received around 40 applications. In the end, seven projects were selected and they got a fairly big sum to build prototypes and demos. That whole project ended with a big event here in the studio where all seven projects were exhibited and presented.

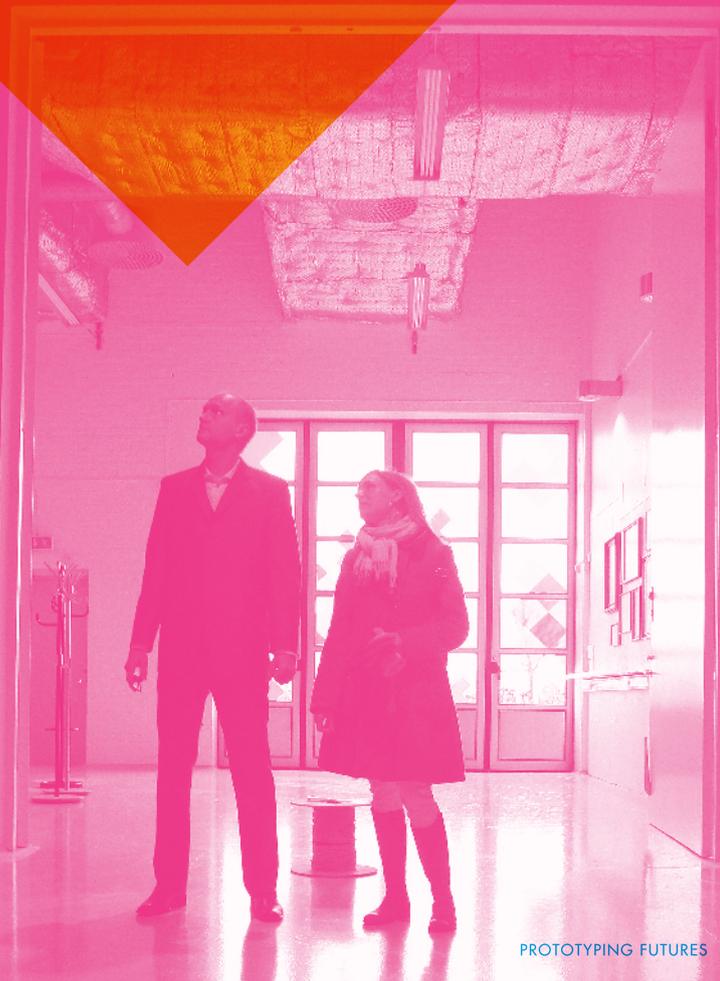
The final projects represented a great mixture of themes and topics, such as tools for urban planning (Parapolis), games for learning and urban exploration (It's my experience, The Magpie Nest, UrbLove), a network concept (DoDream), a concept for a science museum (DinNatur) and mobile technologies used to enhance concert experiences (Liverse!).

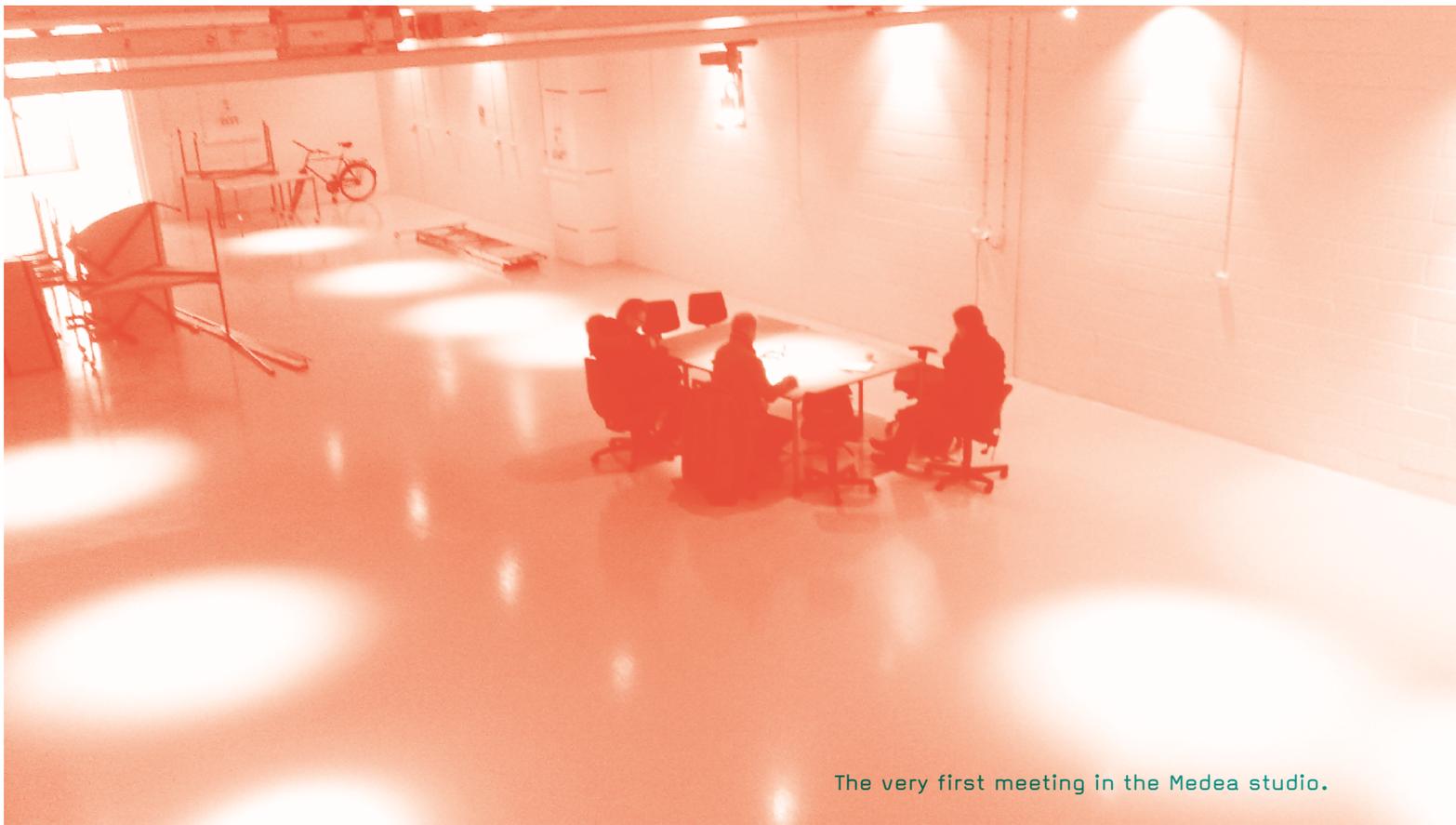
What happened to the concepts after this initial project period?

As always in processes of concept and idea development, some of the projects were successful and went on, and some of them did not go anywhere after the final event. That is the kind of experiment we do here: some things work and some do not and then you learn from that.

Talking about learning experiences, what have you learned from this whole journey of establishing a research centre such as Medea?

One of the crucial elements of working in multidisciplinary groups and across borders, is to acknowledge the fact that people coming from different areas – the university, a company, the public sector – have very different agendas, interests and goals. You need to establish a trust between people with different backgrounds and explore how you can actually work together without necessarily having the same goal. Basically, acknowledge and accept the fact that you come from different perspectives and are there for different reasons. If you build a relationship based on trust and mutual respect, then you can still work together constructively. Sometimes we tend to forget about that and then misunderstandings and wrong expectations inevitably arise. I think that is one of the main challenges when working in multidisciplinary teams. You need to establish a relationship between all co-partners that builds on trust, and that is something that we need to devote time to.





The very first meeting in the Medea studio.



THE MEDEA STUDIO: - IT WAS *great.* YOU SHOULD HAVE BEEN *there!*

On March 12, 2010 – the university’s centre for digital media – the Medea Studio was inaugurated. **More than 250 people celebrated the event in a completely empty room.** Three months later, the Medea Studio had transformed into its current shape, built on the idea that researchers from different academic disciplines as well as external stakeholders from the business sector, cultural institutions, NGOs and individual citizens should be sitting and producing things together in a creative environment.

Getting there meant breaking new grounds. A studio for co-production of this calibre requires a flexible solution, which can handle everyday work, small and large meetings, exhibitions and events for hundreds of people. And it all needs to be facilitated in the very same room! It is no understatement to say that Medea did not fit into the university’s model of planning, furnishing and managing its facilities. We needed a completely different approach and technical infrastructure than what was available in the regular academic structure. In addition, we wanted to work from a sustainability perspective. Did we really have to buy new furniture? Could we not instead apply for a recycling approach? To help us out, we hired Amanda Wickman, a former student at the university, now working as a scenographer. In collaboration with Medea’s employees, she developed an idea of a studio where most things were on wheels. Together with our priceless janitor Arnar, I went on a tour to the university furniture storage rooms. We found desks, bookcases and chairs that were no longer used. Amanda spent countless visits to second hand stores and

garage sales, which resulted in beautiful rococo sofas, lamps in all forms and colours from the 60s and antique cabinets. Seating surfaces were complemented by ergonomic Pilates balls in different sizes, old cinema seats and a spacious orange couch no longer needed at the company Ericsson. The icing on the cake was a big hand made bar-desk on wheels – constructed so it could be reshaped in a variety of forms depending on needs and preferences. All together at a fraction of the price the university’s original furniture quote landed on.

Medea’s major studio has been a flagship of Malmö University for some years. Besides being a working space for co-production projects, it has also been a public space for talks, events, seminars and conferences – a venue for academics, industry representatives, artists and NGOs. Not to mention, from a media point of view, those more prominent visitors such as the Minister of Education, Jan Björklund, and the Swedish Crown Princess couple Victoria and Daniel. To me the Medea Studio has been a symbol of inclusion and an all-access feeling in the university’s relationship with its surrounding community. My goal is for each individual to leave Medea with a feeling which can best be described by a quote borrowed from Professor Lucy Suchman: “It was great. You should have been there!”



Karolina Rosenqvist,
project manager at Medea

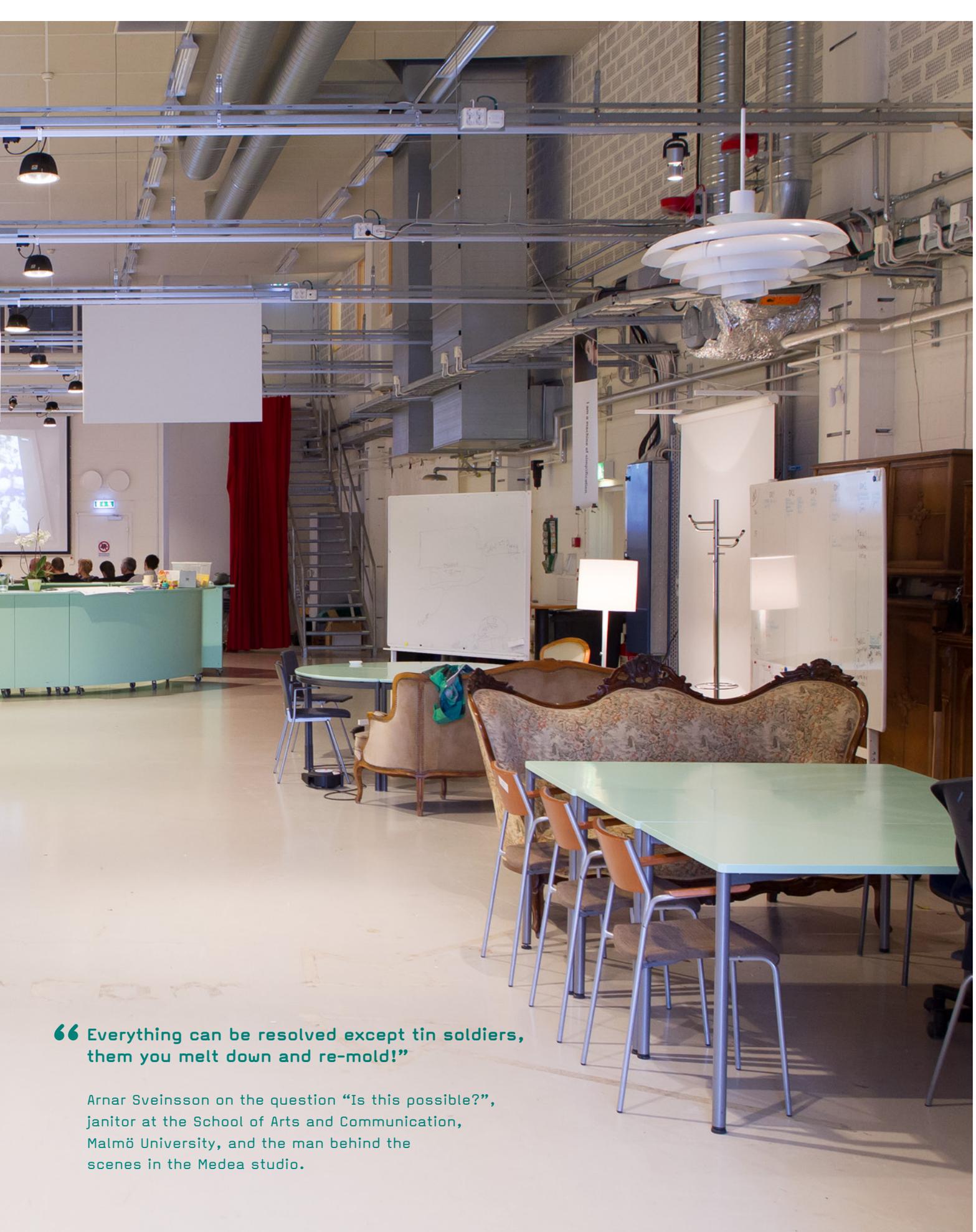


L&O PRODUKT MARKON
 VILLER & DEFINITION
 (Handwritten notes and diagrams on a whiteboard, including a list of items and a flowchart.)

(Handwritten notes on a table, including a list of items and a flowchart.)

K&K
 ESTIMAR...
 DENA LÄDA INNEHÄLLER
 (Text on a cardboard box)

V. V. S... LL LÄDAN
 (Text on a cardboard box)



“ Everything can be resolved except tin soldiers, them you melt down and re-mold!”

Arnar Sveinsson on the question “Is this possible?”, janitor at the School of Arts and Communication, Malmö University, and the man behind the scenes in the Medea studio.

The three Living labs that I have just mentioned are actually closing down, since they were a part of an already completed project called Malmö New Media done in **collaboration with Media Evolution and a range of other partners** here in the region. All the great work conducted in the labs now serves as a basis for the next phase of Medea, and the three themes that we continue to develop: Internet of Things, Sustainability and Culture.

If you look at our projects, there is a very big span and contrast between the partners we are working with. At Medea we have found a method for working collaboratively with big companies and the public sector, in combination with smaller companies, associations and NGOs. In the area of Internet of Things, we are currently working on a project about energy efficiency together with partners from the telecom sector such as Sony, Ericsson, ST Ericsson, IBM, E.ON and Schneider Electric. In the cultural sector, we work with smaller more innovative kinds of companies from the creative industries section or from more alternative underground kind of communities. In the sustainability field, we work a lot with the City of Malmö and the public sector, as well as NGOs. **This makes Medea a very creative and dynamic melting pot** of different

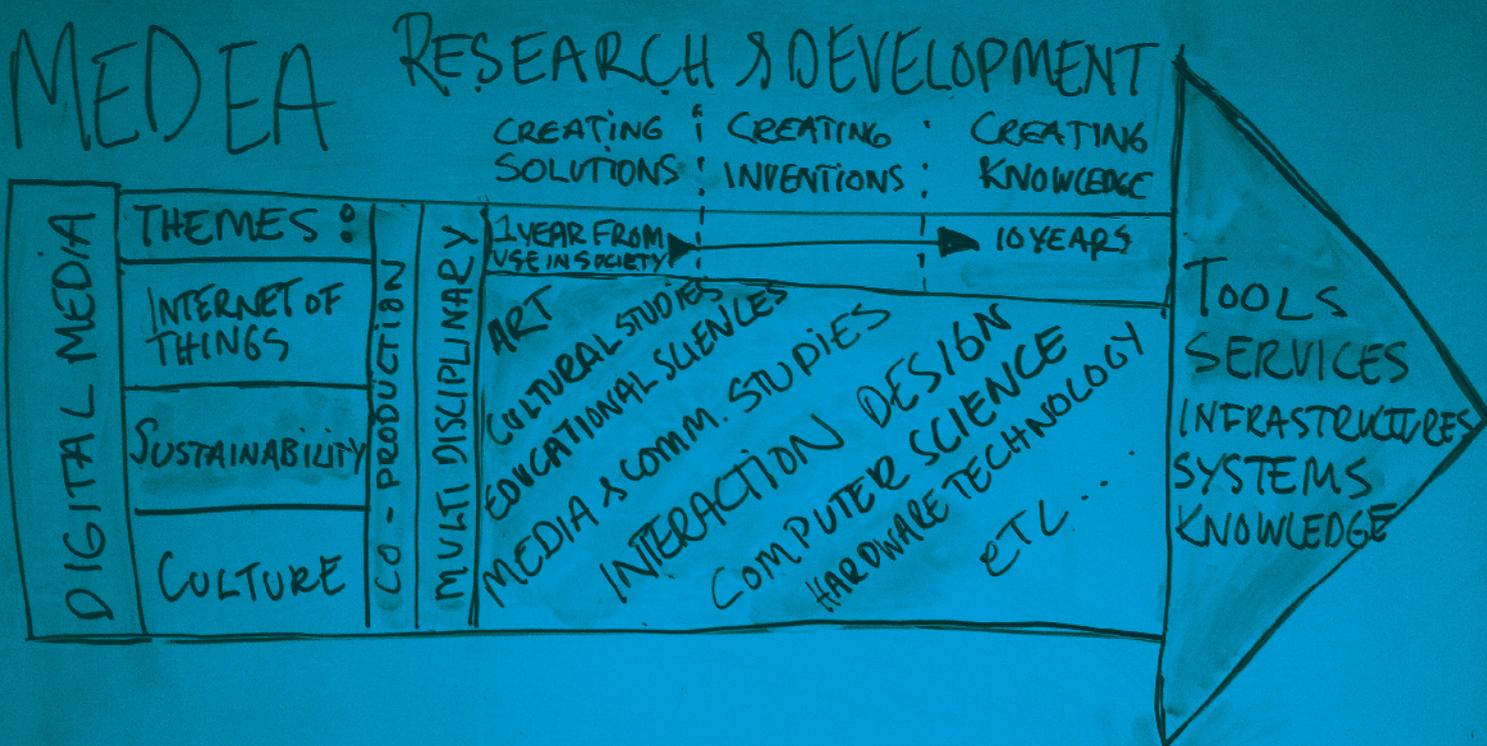
competencies, skills, interests and agendas with a lot of potential for cross-fertilisation between worlds and partners.

Could Medea also be described as a meeting place?

Yes, very much so, that is one of our aims. Therefore I think it is important that Medea continues with all these kinds of matchmaking activities that we have done throughout the years, such as workshops, do-tanks, hackathons and seminars. At our event Connectivity Lab Live, **we hope to attract people from big companies, as well as artists, students and people from the hacker community.**

At this event, we want to bring people together to explore what technology can be all about and encourage people to go beyond their own field of expertise and knowledge. We believe that a lot of creativity comes from such meetings and that cross-fertilisation is an important driver for innovation.

In the future, I envision Medea being a strong catalyst for ground-breaking and important research and at the same time acting as a model for new forms of **innovation based on cross-fertilisation between sectors, disciplines and worlds.**



LIVING LABS AS ENABLING PLATFORMS *for inclusion and serendipity*

Per-Anders Hillgren, Ph.D in Interaction Design and researcher at Medea responsible for running Living Lab the Neighbourhood.

What is a living lab?

The basic principle behind all living labs is to set up and run platforms where universities collaborate with citizens, business partners, NGOs (non-governmental organizations) or other stakeholders on a long-term basis to create new services, products or ideas for alternative futures. There are several hundreds of living labs in Europe, and they are very different in comparison to each other. Most living labs seem to be driven from a business and industry perspective where the ideas start with their needs. The living lab that I'm involved in is more community-driven. According to researchers that have been studying living labs around the world, there are actually rather few living labs that work from a community perspective. From my point of view, I believe that the community perspective is very relevant and interesting, since they of course see both problems and opportunities in a very different way compared to academia, the public sector or the business world.

When you say community perspective, do you mean starting from a grassroots perspective?

Yes, when we set up Living Lab the Neighbourhood some years ago, **we started to explore what kind of ideas, needs, everyday problems** or opportunities could be found among local NGOs in Malmö.

You could also see these NGOs as creative communities. I'm very inspired by the work done by Ezio Manzini and

his colleagues at the Politecnico in Milan. They have been studying and working with creative communities consisting of people that organise themselves in the local neighbourhood to solve a specific problem or deal with everyday issues. I believe that there is a huge creative potential in these creative communities. If you look at the NGOs in Malmö, many are dealing with a lot of interesting issues, and they have a lot of energy and good ideas. If you start to collaborate with them, some of their ideas could be scaled up and spread and both inspire and influence the municipality, the industry and also of course the university.

What kind of societal problems or challenges are you talking about here?

It could be helping to solve social issues, for example. Five years ago, we started to collaborate with the hip hop community RGRA (Rörelsen Gatans Röst och Ansikte). They are, among other things, working with questions around how young immigrant **kids can increase their sense of belonging and feel as though they are a part of society.** For example, how can they be included in the new media industry or in new exciting projects that are happening in the city? RGRA has a lot of interesting ideas for how to work with inclusion. When we started to collaborate with them, the mixture between our competencies and perspectives was very generative and a lot of exciting ideas and projects involving digital media came out of that.

Another example is our collaboration with the NGO Herrgård's Women Association. They constitute quite an extensive network of women and do a lot of important work. For example, they handle things that could have turned out to be honour-related violence, but **through their network they solve many problems for society in secret.** Together with Herrgård's, we have explored a digital mentorship platform and how combinations of on- and offline meetings between the women and orphan refugee children can ease the burden on other societal institutions and make the children feel more at home in Sweden. The same thing goes for the Somali NGO Hidde Iyo Dhaqan. They have this very interesting project going on at the moment about identity called "Egna röster Egna bilder". A lot of young Somalis feel lost between their Somali history and not becoming a real part of a Swedish society reinforced by prejudices (for example, how they are depicted as pirates in the media). Their project constructs and rebuilds a new narrative, rooted both in the Somalian history and in new contemporary perspectives among young Somalis, through which they can feel proud and build an identity.

I believe that the people that have the capacity and skills to see the solutions for these kinds of social and societal problems will be found at NGOs like the three examples I just mentioned. They have the perspective and the knowledge.



If you are a civil servant or a researcher you see it from other perspectives. To get a collaboration going between these different stakeholders and their different perspectives is very generative.

From a researcher's perspective, what is your research approach? Do you start with open-ended questions?

To have some general questions from the start to help steer a project's direction is always of great help: for example, a question like how to deal with social inclusion, which is asked in a very general sense. But I think it is good to have an open-ended approach when you enter a collaboration, because how will you know beforehand what specific questions, fields and stakeholders will be the most relevant? We have also seen that if you enter a situation with an open-ended approach, **you can allow things to really emerge from bottom-up** and see connections between different stakeholders. If you define everything from the beginning, what you should do and how to do it, then a lot of things might get lost. I really believe in **serendipity** and in creating situations where you allow serendipity to happen. Of course, it is very hard to work that way because you will never know how things will end or how to do something and you need to be prepared. It is easier if you have a detailed work plan, you know who you will work with, and from the start have a clear agreement upon how to run the project. That is more comfortable, but I don't think it is as generative as an approach where you try to navigate between different stakeholders and their needs and perspectives on-the-go to see how the matchmaking process between stakeholders could generate future solutions.

One of the concepts that you often mention is "infrastructuring". What does that imply?

That actually implies all this. Don't define everything in advance: instead, you try to build relationships with different stakeholders on a long term basis and experience how one

project could evolve into something else after, for example, a new public experiment or when you set up meetings between stakeholders. It might be that you end up somewhere else than anticipated.

At Medea you have primarily been working with Living Lab the Neighbourhood and issues on social sustainability, social innovation and digital media. There are also two other labs: the Stage and Fabriken. Can you give us a brief description of the different directions of the three labs?

All of the three labs are based upon the basic idea of working with citizens, NGO's and creative communities, trying to make space for different perspectives and the innovative potentials among all involved stakeholders. The three labs have a slightly different focus. The Stage focuses on cultural production and digital media in fields such as art, music, film, literature etc. Fabriken has a focus on new kinds of open and alternative production formats, where you provide tools and knowledge in both physical and digital prototyping for people who want to innovate themselves and go from only being consumers to the realms of production and design. All of the labs work as **ways to enable platforms, facilitate meetings and connect people and competencies.**

In our research, we also aim to explore what kind of enabling platforms our labs could actually be, who could run them, and how and what issues will emerge. Of course we are also interested in seeing what kinds of new services and products might emerge, but maybe even more interested in the meta-level: how to set up enabling platforms for inclusion and meetings between sectors.



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These articles are all Open Access: medea.mah.se/publications

European Network of Living Labs, www.openlivinglabs.eu



The Medea Studio.



splashPaint
collaborative
iPhone
painting

THE

dear archaeologist of the future
and anthropologist of techno-science

this morning
during my daily morning bath
at the periphery of copenhagen
by the sound that
out of denmark, sweden, norway
cut scandinavia
together and apart
your innovative
immutable mobile mailboats
crossed my path

(...)

a collective designer (part of)
that's what i am
an oxymoron of course
but please bear with me
there is more to come

in contemporary
techno-science lingua franca
the collective designer
is not the omnipotent maker
of isolated objects (of desire)
but more a passionate participant
among many
in multiple unfolding
things of design

these socio-material
"collectives of humans
and non humans"
are designarily appropriations
of ancient nordic things
political assemblies
rituals and places
where controversial
"matters of concern"
are dealt with
and futures being made
(maybe like once on orkney islands)

the more contemporary
scandinavian collective designer
norwegian of origin
a techno child of 68
focusing on democracy
and worker participation
searching alternative futures
through collaborative design things
as computers entered the shop floor
threatening to deskill workers
and tighten managerial control

this design was pioneered at
"kongsberg weapon factory"
(not the most likely place
for experiments
in democracy and participation
one would think)

and here is another paradox
at that time
the collective designer
travelled over the seas
actually made it to the valley
but not as a controversial
design thing
foregrounding trade unions,
class struggle and democracy
but as object oriented design
a computer simulation language
with active data objects
that inherit properties
from data classes

rumours have it
that translated into
the programming environment
"small talk"
it became part
of technological futures
being made in the valley

a decade later
the scandinavian collective designer
once again embarked on travels
now to "utopia"
no not another "nowhere"
but most socio-material interventions
in the controversial "now here"
a nordic design thing addressing
the potential technological destruction
of the typographer and his union
by alternative design of
"computer tools for skilled work"
and "collaborative work organisations"

COLLECTIVE

DESIGNER



this was in the wake
of the mac apple revolution

in the valley
and the collective designer
travelled there
for technological inspiration
the outcome of this nordic utopia
resembled the mac as object
with mouse and graphical display
but was a different kind of thing
a participatory design thing
a typographer and designer
collaboration
prototyping and exploring
alternative socio-material futures
through technological
class struggle devices

of this utopia
“where workers craft new technology”
the international technical press
wrote with appreciation
and much exaggeration
“today scandinavia
tomorrow perhaps
the rest of the world”

paradoxically
they were partly right
thirty years later
this political utopian
future making practice
still travels the world
but now politically marginalised
translated into a corner stone
in mainstream neo-liberal
“user driven innovation”

today the collective designer
still concerned with matters of
democracy and participation
have moved beyond the workplace
and into to on-going evolving
controversial design things
centred around innovative actors
from the outskirts of the city
and the margins of society

The collective designer collaboratively “rehearsing futures”, exploring, making, and prototyping together in living labs, and in participatory design actions.

(...)

i get the point from the valley
that demos are
what makes them objects travel
but then again
is not “the mother of all demos”
literally the people
political collective things
and publics in the making

for the scandinavian
collective designer
this public thing by preference
takes the form of prototyping
in “agonistic” “living labs”
as local activities
collaboratively “rehearsing futures”
making and composing
“matters of concern”

maybe these “living labs”
as performed here by the sound
are more like
the “centrifugal infrastructures”
you imagine archaeologist of futures

then central to such “living labs”
as marginalized and designarily
“infrastructuring” intra-actions
are immigrants like jila moradi
and the herrgårds women association
counselling on violence in the home
bitterly struggling
for recognition by the city
of their modest but beautiful design
and social innovation prototype
a collective of
displaced and resourceful women
producing catering service
to unaccompanied refugee children
a great offer
the city wasted as of now

another controversial thing
of social innovation

is the design and recomposing
of the city busses
from private advertisement planks
to public places and hubs
for musical exchange and reproduction
as prototyped and appropriated by
“the voice and face of the street”
a movement of youngsters
from the projects



DEAR

,

YOURS SINCERELY,



North Sea

Kiel

Old
Brew

BIG BOLD RED

HIGHLAND
PARK
HIGHLAND PARK
HIGHLAND PARK

BIG BOLD RED
REVOLUTION
CALIFORNIA



Design mailbox exchange between an anthropologist of techno-science from Silicon Valley, an archaeologist of the future from Orkney Island, and a Scandinavian collective designer. Performance by Lucy Suchman, Laura Watts, and Pelle Ehn at European Association for the Study of Science and Technology conference, 2012



FROM AN ANTHROPOLOGIST OF *techno-science's* POINT OF VIEW

Lucy Suchman is Professor of Anthropology of Science and Technology, and co-director of Lancaster's Centre for Science Studies.

Before this she spent twenty years as a researcher at Xerox's Palo Alto Research Center.

How would you describe Medea's way of working with and within design through our Living Labs?

In spite of the widespread discussion on user-centric design and engagement, it's still very rare to find a design group like yours that has an on-going long-term relationship with participants outside of the university, with participants that are actually located in the local area around the university. In the case of the Malmö Living Lab, these are people who are outside the worlds of research and design, but who have all sorts of relationships with technologies. The projects that you have done with the street journalists and the women's organization really are trying to understand the forms of innovation that are inherent in the activities and aspirations of those groups of people. I think that Medea is quite unique in that commitment, in that long-term engagement.

How is this different from other design groups around the world?

The idea of critical engagement with relevant problems and with people outside of the university – or outside of the worlds of arts and design – still remains kind-of-a concept more than a practice. In a way, it can even be the case that **the worlds of arts and design become the source of a problem**, a problem that designers then look for creative solutions to. Things don't flow or get circulated in a more deeply reciprocal way. The design products then become part of museum installations, thus only circulating in the worlds of arts and design. It's much harder to get those things to circulate, in meaningful ways, within the communities that are their research focus.

Tell us about yourself and the research questions you are exploring.

I've been involved in particular parts of the research and design community for a very long time, in ways that my life trajectory has taken me. I also feel that I have shifted more into communities/networks in Science and Technology Studies and anthropology.

At the moment I'm looking at the creation of immersive virtual environments in the US military which are being created for training, but now also for treatment of post-traumatic stress. You are trained before you go and you are treated when you come back. I've got a

very rich archive of materials from a project called Flat Worlds, which is the idea of digital flats that comes out of the Institute for Creative Technologies which is at the University of Southern California. The thing that I'm really interested in there is what the military calls the "problem of situation awareness", which is basically how you know what's going on around you; the kind of identification that is required to discriminate between friends and enemies, which has become so deeply problematic in contemporary war fighting. In relation to the simulations, I'm really interested in, on the one hand, the premise of realism: what does realism mean in that context? What informs the storylines, the settings of place, and the figurations of relevant others, actors and situations? **What kinds of proximities, distances and relationships are being reproduced** in those simulations? That's what I have gotten very interested in. It's an entanglement of questions of design, politics and of embodied experience.

What questions do you think you will be exploring in five years?

I've just begun this research on military technologies and I suspect I'll continue with that for quite some time, even though it takes me quite far from the worlds of participatory design. However, there are really interesting questions of who does participate in the creation of those systems, which is something I have just begun to investigate. The line of continuity there is very much around the question of who is represented, both in the sense of whose knowledge and experience informs the design and who is figured through the design and in what ways and with what kinds of effects and consequences. Those two questions are absolutely central. You know, I come from the United States, and I feel a very strong sense of responsibility in relation to US foreign policy. There are still quite imperial forms of power and American exceptionalism, which I had always thought of as

a critique, that people in the United States think they are different from everyone else. But American exceptionalism is at the moment being embraced in the current presidential campaign as a kind of badge-of-honour by the Republican party: "Yes, America IS exceptional". All of those things are about questions of representation, they are all about the relationship between the specific location of situated knowledge and your imaginary perception of who you are.

All of the struggles that have gone on around professional design practice that are reflected in the living labs and places like Medea are so much about that question of location, of recognising the extent and limits of your own knowledge practices and trying to understand how you can organize events, relations and working practices to transform those boundaries.

Today you have been participating in a seminar at Medea, what has been the most poignant topic?

At this point, we have largely been collecting topics, but certainly one of the topics that's emerged, and that I've been tracking, has to do with questions of representation.

There's a lovely phrase that came up on one of the discussion cards that just said "who?", and that got expanded to "co-who?", haha. I thought that was really nice. But there's also a set of topics around relations of the physical and the digital, and the real and the virtual.

It sounds like business-as-usual in this setting?

Yeah, exactly. At this point, these are familiar themes.



See Lucy Suchman's Medea Talk Remediations at the human-machine interface: bit.ly/medea-lucysuchman

fieldwork suggests it is due to too little funding; that money and food disappears on the way as it travels from governmental agencies to non-governmental organisations to preschools; because the preschools are understaffed and underpaid; and because the illiterate parents do not know that their children have the right to get one meal per day at the preschools. It is a tricky case. Maraa is considering making the preschools' malnutrition charts public on the Internet. They hope that it might make the problem visible and that this could, in the long run, lead to more effective malnutrition programs if those involved in the program are held accountable. It is important to them that the "solution" is sustainable, which a media activist approach would not be as mass media loses interest after only a few weeks.

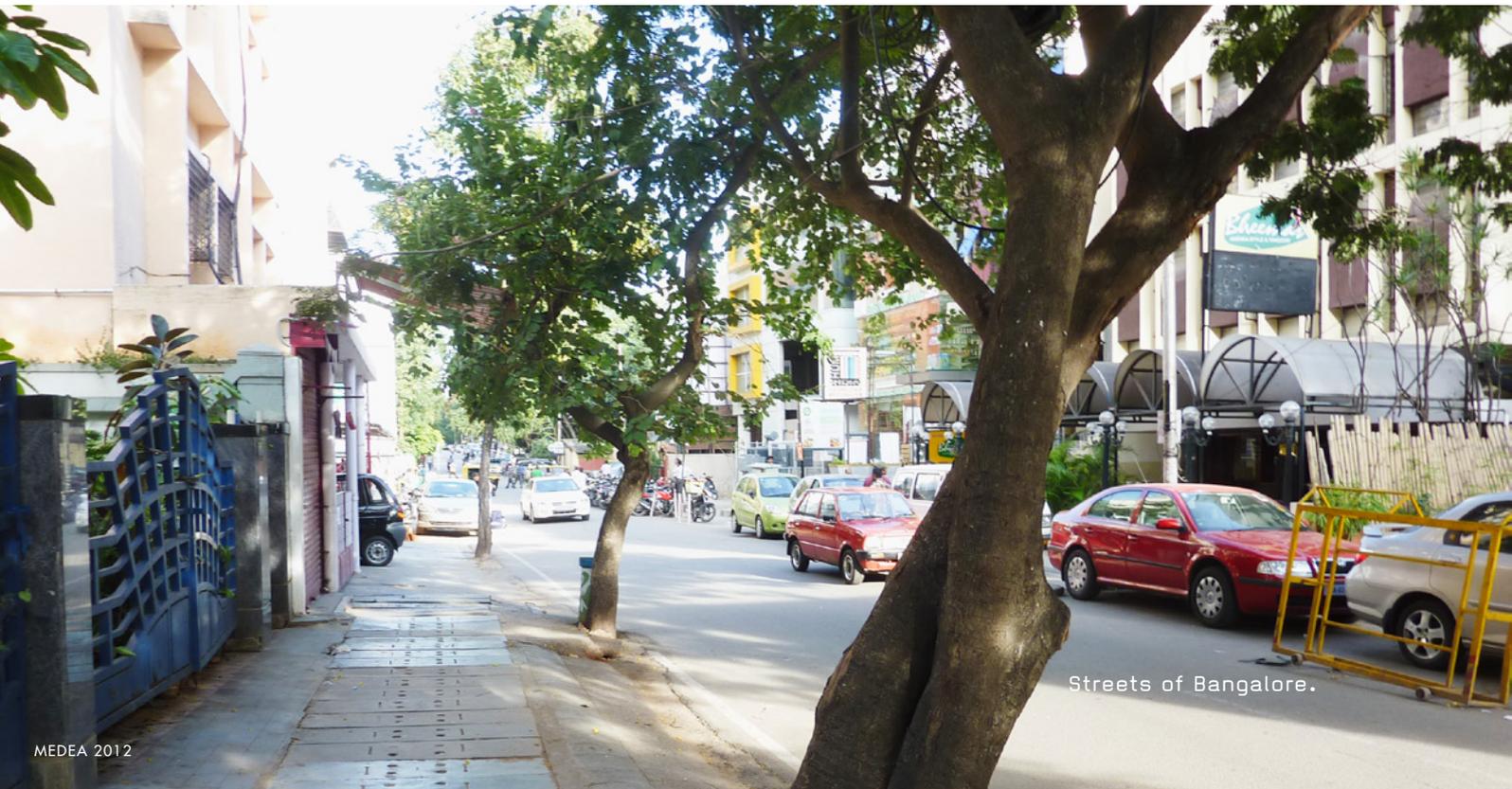
The other project, Aiding Community Knowledge, which both IIIT-B and Srishti work with Maraa, is looking into creating a portal for small art and media groups, such as Maraa, Jaaga, The Peaking Duck Network and many more. The portal is geared toward up-and-coming and as well as more established art groups and space owners, as well as the Bangalorean audience or visitors looking for art and media events. The hope is that such a portal will make it easier for artists to find spaces for rehearsal, performance and collaborators and share equipment through a bulletin board function. Furthermore, the platform is also making it easier for audiences to know about and locate artistic activities happening in Bangalore. Maraa would also like the platform to be used to foster critical discussions on the arts in Bangalore, as critical reflections on the arts are to a large degree absent; although the Peaking Duck Network has recently started to host meeting where artists can critically discuss each others' work.

IIIT-B is engaged in the project as they are developing the back-end for a community knowledge database. Their solution, called RootSet, explores how databases can work with open world datasets. The reason for this is that databases are too predefined and therefore cannot manage knowledge in communities, as their needs constantly change. RootSet focuses thus on managing operational knowledge that is neither as ephemeral as situated knowledge shared through face-to-face meeting or through social media nor as stable as encyclopaedic knowledge. Srishti's role is developing an interface that is flexible enough to elegantly handle the addition or deletion of datasets and how the interface handles content over time.

It is difficult to be wise and contribute, given that the cultural preconditions are so different. Every day I gain new insights into how societal issues are tackled and how political and governmental and non-governmental organisations work. It is late in the afternoon and I am starting to get hungry, so I will see if I can find something to eat nearby. It gets dark around six, so I will have to navigate the uneven, narrow, dusty and dim pavements that suddenly dwindle. Back at the hotel after a lovely Karnataka or Kerala meal, I will end the day by reading a few stories by Saadat Hasan Manto, the Indian master of short stories.

With Regards,
 Erling
 Droog House, No 8, Nandidurg Road
 - -
 Erling Björgvinsson
 Senior Researcher
 MEDEA Collaborative Media Initiative
 Malmö University





Streets of Bangalore.



At Maraa, an art and media collective in Bangalore.



DESIGN FOR SUSTAINABLE DESIGN

Interview with Anders Emilson, Ph.D. candidate in Interaction Design with a focus on social innovation. At Medea he has, among other things, organised a series of workshops dealing with the establishment of a social incubator in Malmö, and been involved in a pre-study about innovation forums for the City of Malmö. He has also collaborated with the Herrgård's Women Association.

Nowadays we hear a lot about design for social change, and the potentials of design actions to contribute to sustainable development. But what does that actually imply? How can designers contribute to sustainable development and positive social impact?

I think designers can contribute in many different ways, and I will give you three examples of possible ways to go. The first way, which I guess is the more mainstream kind of approach, is what we call *eco-design*. Designers look at the stuff that they design, and **try to make it more sustainable**, for example, more energy and resource efficient.

You mean to look at product life cycles, apply the cradle-to-cradle principles, and change to way we handle and make use of resources and material.

Right, and this is hopefully what most designers already are aware of and trying to achieve. The only thing is that 10-15 years ago this approach was declared insufficient by people like Ezio Manzini (a ground-breaking Italian designer, and co-founder of the *DESIS* network). They suggest that another way for designers to contribute to a more sustainable development is to aim at shifting from product-centric design to more *service-centric design*. For example, this can be achieved by designing systems for sharing resources: carpools, shared housing and things like that. By **focusing on services and functions instead of products**, companies can

start to look at business from a new angle. It will be in their best interest to produce sustainable products that have *long life cycles*, products that last for a longer period of time and can be used by many. This switch to product-service systems is something that is happening right now. We see initiatives coming from traditional companies, but also from new entrepreneurs that see business opportunities in developing product-service systems. The mainstream label for this shift is collaborative consumption.

The third way for designers to contribute to sustainable development is a very tricky one, but something that we really, really need to address. We need to acknowledge that **the whole system that we have created for the last hundred and fifty years is outdated** and needs to be re-designed.

The whole system in terms of the economic system, or what kind of system are you talking about?

The economic system, the industrial system and maybe the political and democratic system. What we need to put a special emphasis on when discussing sustainability is the fact that all things in a system are interconnected. For instance, if we take away oil, then we are going to have massive problems with food production. If we have problems with food, then people will start revolting and we will see social crises and so on. If you change one thing, or get in trouble with one thing, then the whole system will be affected. In that sense, our dependency on fossil energy makes us very vulnerable. I believe that designers have to start looking at the big picture and how systems are interdependent of each other. **We need to re-design our systems**, but what does this mean for everyday life in regards to work, how we get food on the table and how we transport ourselves.

One of the systems that face complex challenges today is the welfare system. It was designed for a totally different age and a context that no longer exists. A group of British designers that have already realised the need to start looking at the bigger picture have put a manifesto together titled *Beveridge 4.0*. They present five design principles for how to

DEVELOPMENT

design a completely new welfare system. They do not only focus on theory, but have tried to implement their ideas in practice, and have started to design services for a new kind of welfare system based on these principles. It may not be the answer to all challenges, but I think the interesting approach is to rethink the bigger system at the same time as you design new services as a way of trying out these new ideas.

Today we live in a society based on the idea of economic growth, mass production and mass consumption. But if that does not work anymore, what is the alternative? We ought to begin thinking beyond the current system, and start to **design new economical models that support us** with products, services, jobs and other things we need in a sustainable way. What would that look like? Do we start with the big system, or do we start with creating small services that could support us? I think the interaction between the big picture and doing small stuff is absolutely crucial.

If a designer wants to go in this direction, where to start?

I think we need to change our mind-set. The systems we have at the moment no longer work. We need to start imagining something else, a new context. That is the work of the designer: to start to imagine something else. **What could this new society or new way of life be like?** We need to start thinking about the alternatives, and create images and scenarios and prototypes of that: **prototyping the future.** But this is not the work of the lone genius designer; designers have to do this imagining and prototyping of the future together with other people with new ideas, and there are plenty of them out there. The thing is that designers imagine new futures all day, but they work very close to the current system and many of us do not really dare to leave the existing system.

Why is that?

Because that is where you get your job. If you want to earn money, then you do business as usual and stay very close to

the system and what is already out there. There is too much at stake for the individual designer. There are of course commercial companies that are working according to this new mind-set and also managing to make a living of it. Service design companies in the U.K. have, for example, realised that service design is a field with great potential, and have started to develop competencies in that field. They also see that social issues and sustainability are really important to address. They see this as a potential market for them, since very few are working with these issues yet. You have these huge challenges, but few are working with them; of course, if you do your job well and show that you have something to offer society, then you have your business. Some of these initiatives in the U.K. have also been run as research projects, which has probably paved the way for some of their success.

This is also where we can start to discuss the role of design research. Instead of looking at what designers do today, **an important part of design research is about imagining new systems** and contexts and how to explore them.



Beveridge 4.0 (Participle Limited, 2008)

Download at www.participle.net/images/uploads/Bev_4_final.pdf

Botsman, Rachel, and Rogers, Roo (2010). *What's mine is yours: The rise of collaborative consumption*. New York, HarperCollins.

DESIS Network (Design for Social Innovation towards Sustainability): www.desis-network.org

See Anna Meroni's lecture A Human Centered Approach for Design for Services: bit.ly/medea-annameroni



Each passing cyclist is counted in terms of individual financial savings, and savings to society – based on clean air and healthcare savings.



An animated infographic displays real-time results of financial savings to both the individual and society, and gallons of gasoline saved.



The installation moved throughout the city during the city's annual 'Bike-Walk Week'.

PROTOTYPING *fabriken* AND THE FUTURE OF PRODUCTION

Interview with Anna Seravalli, Ph.D. candidate in Interaction Design, with a focus on social innovation. At Medea she is, among other things, working with Living Lab Fabriken exploring alternative and open production models.

What is the concept of prototyping all about?

Prototyping is one of the most central approaches of working in a “designerly” way. When you design a chair, to take a traditional design object as an example, you start sketching your ideas, then build small models and eventually 1:1 scale models to test your ideas. Is the chair stable enough, do you like the proportions, can you sit on it, is it comfortable? To come up with the most brilliant idea in the first try is almost impossible. It is for this reason that you prototype, experiment and try out your ideas.

What we are trying to do in our research is to extend this kind of prototyping approach into other areas, beyond the realm of traditional design, to more complex issues, such as social issues, and different kinds of problems that our society is facing. We live in a complex society and the problems we have to deal with have multiple causes.

You mean that prototyping can be used as an approach for finding solutions to some of the major challenges that we are facing today?

Yes, such as environmental issues, problems with unemployment or social inequalities. How can we tackle our environmental challenges and stop damaging nature? Can we keep on living the way we live, and if not, what could then be the next level? Where to start?

These are really big issues to tackle, and nobody has the right answer for how to deal with them because they are so complex and interconnected. What we can do is to try out different alternatives. **Start on a small scale, prototype it, and see if it works** – is our chair stable enough?

Are failures and mistakes of equal value in such a process?

That is one of the most important things in prototyping. Instead of trying to understand complex issues by studying them, by losing yourself in the extreme complexities, you start by experimenting with a few elements on a small scale. You learn by doing things, not by just analysing and talking.





Activities at Living Lab *Fabriken* at STPLN.

Is that what you refer to when you say that you are prototyping the future?

Yes, that is one aspect of it. Another important aspect when we talk about prototyping is how it allows you to bring knowledge together and to collaborate. If we go back to our chair example, let us say that you are a designer and want to create a chair out of metal, which is a material that you have not worked with previously. What you do is that you get in contact with someone that has knowledge about that material, and initiate a collaboration with that person by starting out from very concrete problems: in which ways is it possible to bend a metal tube or what kind of welding finishes are possible?

In that same way we can start working with our big issues and complex social problems.

When you start prototyping, experimenting and trying things out, then you realise what kind of external knowledge you need to bring in and who to establish a collaboration with. Instead of approaching people from a more analytical point of view, you involve them in doing something practical: **prototyping for collaboration.**

So could prototyping together be a way to overcome some of the difficulties of working across borders and disciplines?

A really good example when talking about prototyping for collaboration is the set up of Living Lab *Fabriken*, which is one of the projects that I'm involved in. In the beginning, we were three stakeholders developing the lab together: the NGO STPLN, the interaction design company 1scale1 and us, Medea. We shared a common interest in building up the lab space, but had very different understandings of what it would be all about. To figure that out, **we organised a series of workshops discussing how the space should work** and so forth. However, in order to reach a common agreement on what the lab should be all about would have meant that people would have had to leave part of their agendas behind, which generated tensions and conflicts between us. This was quite a difficult moment, but it helped us to somehow develop a new strategy to work together based on making things together. One could say that we, in some sense, started to prototype the lab by organising events and workshops.

Since then we have been running different kinds of activities on various themes, such as electronics, sustainability, urban gardening, re-use/re-cycle/re-claim and handicraft to mention a few examples. By organising events, workshops and long-term initiatives, we have experimented

with diverse ways of working together. Through this process, we found out was that it was not necessary to come up with a common agreement about the direction of the lab.

We realised that it was possible to have different meanings. For the people working with electronics or digital media, *Fabriken* is a space for that. If you ask someone who is working with textiles, then it is a space for textiles. If you talk to someone involved in the projects that we incubated there, then it is an incubator for incubating entrepreneurial ideas. The interesting thing is that all these things can operate together in the same space. This is why *Fabriken* is such an interesting and rich place.

The space has been open for a year and a half, and now we are seeing some very interesting patterns emerging. In the beginning, we were the ones driving the activities. When I say "we", I mean the NGO, the company and people from Medea. Slowly more and more participants have come to the space and started to initiate and run their own activities, creating the opportunity of **prototyping diverse forms of organising and performing production.** How can people establish a textile community based on mutual learning? How can people test activities and possibilities of a material bank and atelier using cast-over materials?

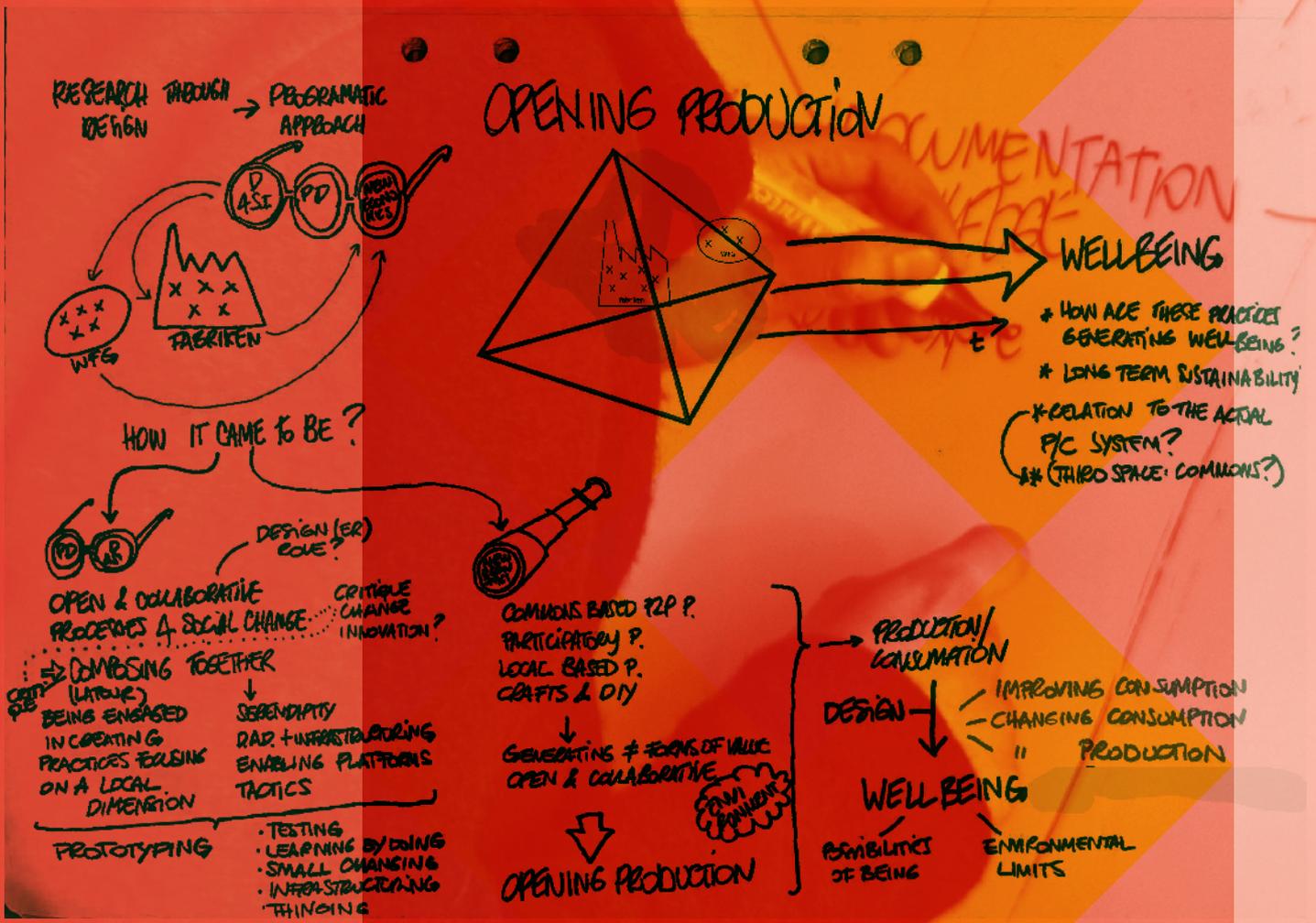
What is interesting about *Fabriken* is how it has become a hub in the city providing possibilities to experiment with diverse kinds of production, both in the physical and digital realms: from building robots to music instruments, from testing how to create a community around crafts to trying out new educative formats for sustainability. This has become possible because the space is a facility, which gives access not only to technologies and production tools, but also to **networks of people with skills and competences relevant for your project.** *Fabriken* is becoming a space that empowers its participants to explore and get a little bit closer to the production system by, for example, taking care of your bike, by laser-cutting a lamp, or by learning about programming. This gives us the possibility as citizens to going beyond being just consumers back to upper stages in the chain of production, that is, becoming a producer.



Special thanks to all the people participating and engaging in various ways in *Fabriken* and STPLN, Återskapa, Tantverket/ Textildepartementet, Cykelköket.

PROTOTYPING (TOWARDS) *opening* PRODUCTION

Map of Anna Seravalli's research presented at her 50%-seminar, halfway through her doctoral studies.



MAKE *a toy* WORKSHOP

At the Make a Toy workshop kids were invited to **build new toys by using old pieces**. The workshop was run by students at Malmö University, and part of the maker-weekend Vårstädning – Repair, Recycle, Reclaim organised by Living Lab *Fabriken* and STPLN.





Hack



athon



Hackathon organised by Living Lab *Fabriken* at STPLN – 48 h non-stop hacking of code, machines, robots, digital and analog systems.

The Connectivity Lab - AN ARENA FOR PRO

Asta Wellejus, developer, interactive producer and director of Connectivity Lab, and Karin Johansson-Mex, director of Medea, tell the story of the Connectivity Lab.

What is the vision behind the Lab?

KARIN: The basic idea is to create a space where researchers can develop and build prototypes together with our co-partners. It could be a co-partner from the business world, the art world, maybe someone from a public institution or an NGO who has a concrete need to solve a specific problem where digital tools can be applied to solve the issue.

In many cases, our researchers at the university are in particular rewarded for the more theoretical parts of their work and for writing papers targeting the research community, which is sometimes a bit limiting. **We saw a need to strengthen our research by adding a more concrete applied aspect to it.** In parallel with this, we realised that our co-partners also had a need for an arena where the knowledge of the researchers can be combined with their desires and visions to join in efforts to create more relevant products, solutions or tools. **We saw the urge for a physical arena,** a space, a platform for creative development with a focus on the theme of *prototyping*. This is the short version of the story behind the rise of the Connectivity Lab at Medea.

ASTA: Many of the activities in the Lab are actually about connecting the right people and the right idea to the right technology. We bring everything together, the skilled people, the tech and the developing processes for prototyping, and through that actually make research become an active part of society faster. By bringing scientific knowledge and innovators that yearn for their task together, we can actually get things happening more quickly in comparison to today. It is about moving all these areas – universities, companies, organisations, developers – closer **together to create a faster road to change the world.**

At Connectivity Lab, we want to involve students at the university, teachers, professors and experts from outside academia. For example, that might be a person specialising in 3D modelling or maybe a company trying to figure out how social engagement can be facilitated by playing games in public space. It could also be a huge company scoping for new technical platforms or regions that need to solve issues regarding citizens' empowerment and digital engagement.

Right now we are involved in a project on how **open governments can be empowered through digital media.** Another example is a project that we are planning to do with three symphonic orchestras from Denmark and Sweden, where we want to explore how to create new kinds of audience experiences through digital tools.

You could say that Connectivity Lab is a boost and inspiration on what is the latest in research, in business, in the art world. But it is also a concrete place where you can test and prototype new ideas and projects. It could be ideas that come from the researchers, but it can also be companies that want us to help them to prototype a product for the future.

Concretely speaking – how will it actually work? If someone wants to run a project or do an experiment in the Lab, where do they start, where do they go?

ASTA: We have different levels of prototyping. If you are a public organisation or an NGO or a company and just might be looking for inspiration, then we can give a lecture about our latest cases and research and **give you a briefing about what is going on out there.**

The next level is that you have an actual need for a solution or a concrete project you need developed and tested. Let's say, for example, you are a young entrepreneur and you have an idea within the field of connected devices. You come to us and we help you actually develop, build and program that project and make into a testable prototype.

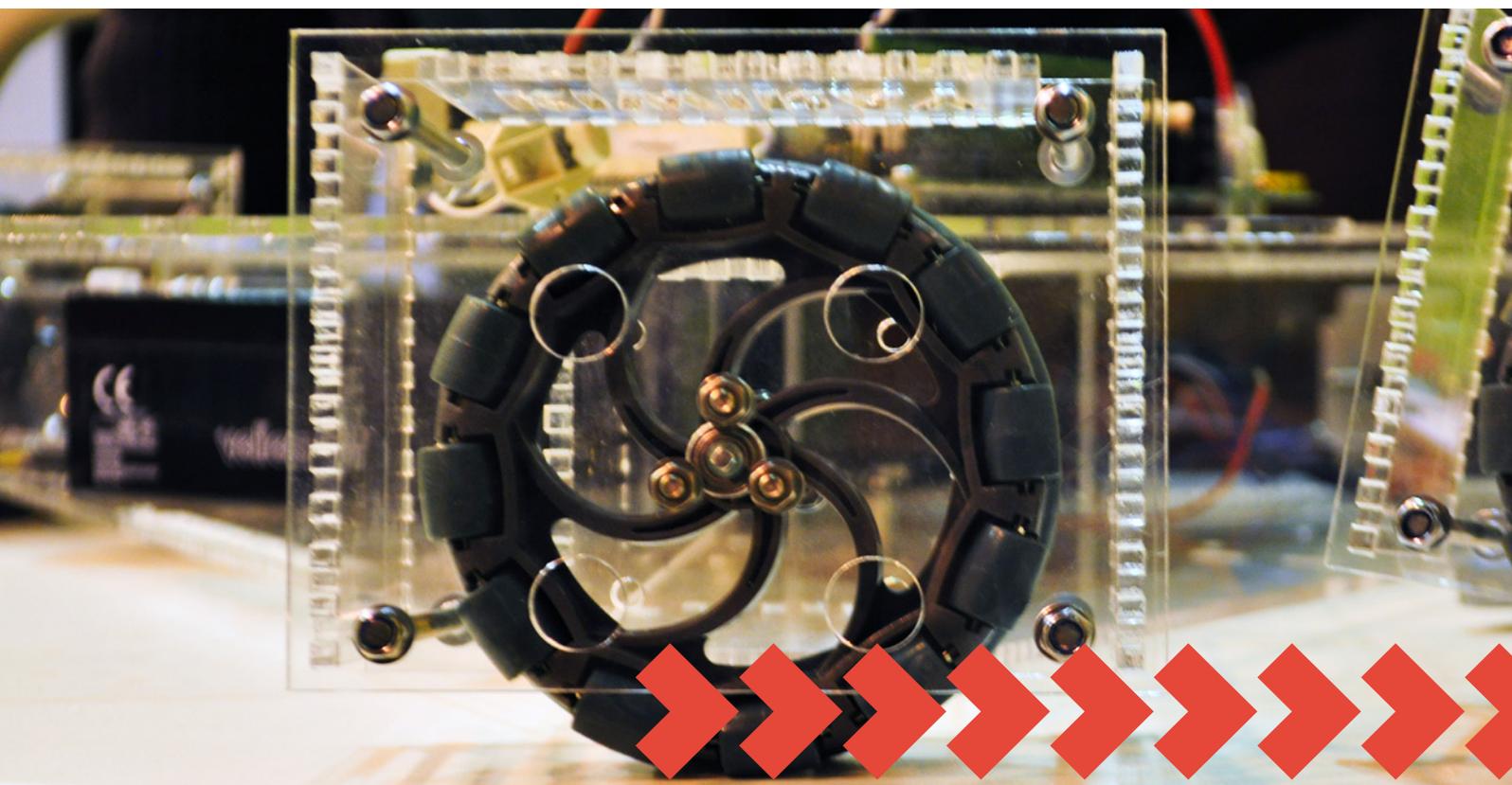
The third way is to establish long-term research and development projects, such as the Vinnova project Elis

PROTOTYPING TOGETHER

which will run for two years and the Living Archives, which we just got 18 million Swedish crowns in funding for. The project's aim is to find out how archives can be activated through digital tools and be an active part of social change and empowerment.

However, it is important to also point out that we do not produce end-products. We create the framework and the arena for creating change and support researchers, students, companies and organisations with developing and prototyping their needs, ideas, products and services. So we take it to the level where it can be proven it works and has potential as a product/solution/concept. Then we can help show the way to incubators if it is a student's or entrepreneur's project. If it's a NGO or organisation, we can help find reliable partners for the production, for example, help with the tender process. If it is a company they can produce it internally or find help finding compatible partners through us.

KARIN: Basically, the prototyping model that we will follow consists of three parts. First, we have the inspirational stage that Asta was mentioning, where we combine different



competencies and skill sets for joint exploration of a certain topic or issue. The second stage is to dive into looking at and **prototyping different types of solutions**, such as models for operating in relation to different target groups. The third level would be to actually build the thing, to program it in order to create a testable prototype for different contexts and with different user groups.

What kind of objects are you referring to when you say “connected devices”? I assume that it has more to do with physical objects like robots, sensor or different kinds of electronics? Or can it also be about interface design and digital systems?

ASTA: Well, yes and no. You cannot really separate the physical from the digital. For example, a project could be a sensor connected to a platform that is providing data to the city council about the traffic situation or movements in the city. It is about the digital platforms that help you convey the data, but also about the physical platforms that collect the data or create responses based on the input.

KARIN: We are targeting the realm of digital/physical objects, which means that all our projects are based on digital communication in one way or another. We will not work with plain product design. However, it can be a physical object that is connected to digital data, or a completely virtual product that also needs to be prototyped. It can be anything from a social game or a transmedia project to a tool for measuring the water level or temperature, to be used in agriculture.

The central words for all our activities are *digital* and *connected*, which also include connected physical objects.

ASTA: We want to create solutions that change the world and the way we live. We believe that interesting things happen if you combine and connect not only different kinds of competencies and knowledge, but also data, as well as the physical and the digital.

We are connecting technology, people and ideas to create bigger changes.



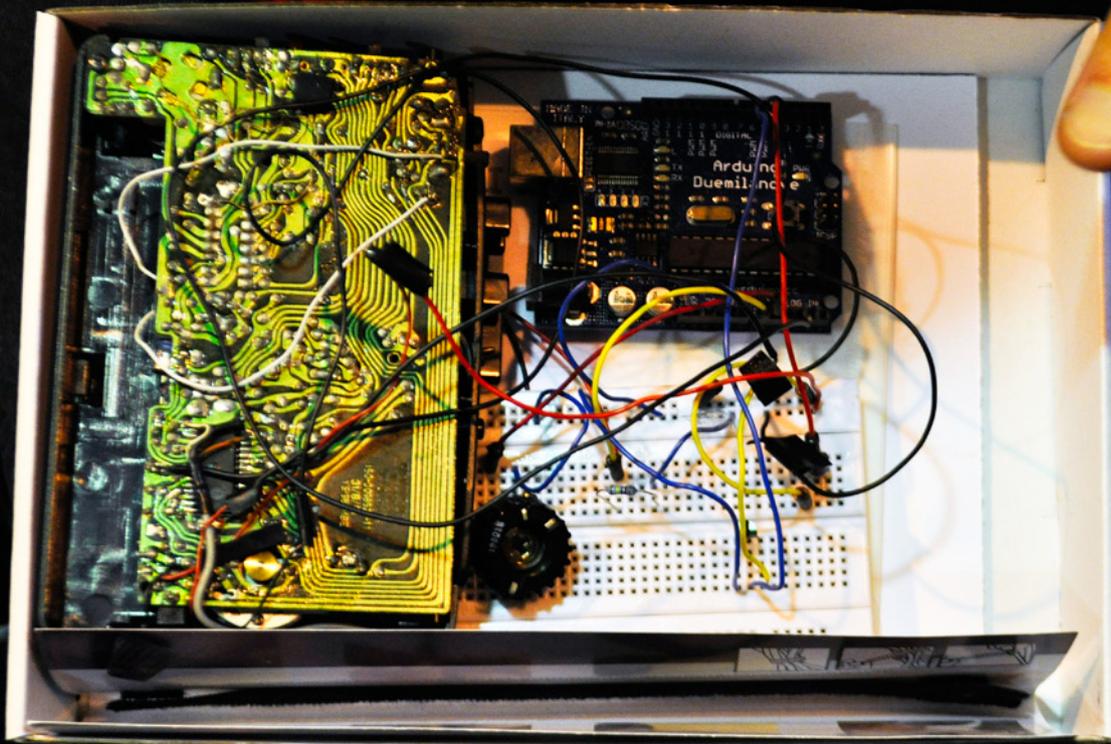
Prototyping together with Arduino.
“Nätverk by doing” a meet-up at *Fabriken*.

KARIN: To sum up, the Connectivity Lab will be used on different layers. We will use the Lab for traditional research projects where we need to build prototypes. **We will also use the lab in projects where we need to build full-scale test arenas**, such as in the case of the Elis project. To be able to achieve this, we need staff that can actually build and program these systems. The researchers do usually not possess this kind of programming skill. Therefore we have hired programmers that are connected to the Lab to build these full-scale prototypes, among other things. Other kinds of processes that we are working with in the Lab are collaborations with companies, which might have a need to prototype or develop an idea or concept.

ASTA: Another project we do in collaboration with Media Evolution is where the Connectivity Lab is facilitating the development of business plans, the conceptual design, mock-ups and **prototypes for digital projects run by three different companies**. In these cases, we use our skills to help them develop their projects.

KARIN: The Connectivity Lab is an arena, a tool that can be used for more traditional kind of research, all the way down to commissioned prototyping assignments and workshops.

ASTA: You could say that you either get inspiration from what is happening in research, or in the forefront of the digital and connected scene. You could access our processes, tools and methods for prototyping. **We can facilitate or create the projects together with you**. It basically depends on the need of the people, our partners. We want to help change the world in a positive direction.



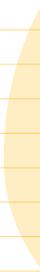
CONNECT RESEARCH WITH INNOVATION FOR FASTER RESULTS THAT CAN CHANGE THE FUTURE.

Connectivity Lab is an experimental prototype arena, where skills, tech and researchers meet with entrepreneurs and companies to help create new and better services, experiences and products in the field of digital media and connected devices.

The lab uses virtual/physical prototyping as a method to test and develop new formats, services and products, thereby creating a more efficient and productive collaboration between research resources and the professional and creative industries, start-ups, experts, companies and organisations.

Learn more about the Connectivity Lab:

connectivitylab.mah.se



“You actually need to sketch in materials that are typically considered to be more hi-fi — materials such as software and electronics. You need to prototype, but you do it with a sketching mindset, which means ‘This is just something I threw together. Here’s another one. And here’s a third one. And I can toss them all out the window.’ That’s how you need to feel about sketches in order to get this exploration, this divergent frame of mind, to happen, and in my experience it seems possible to do that, at least to some extent, also with software and hardware.

[...]

I think that is an intrinsic fact, based on... the nature of interaction design’s materials: to capture interactivity, to capture temporal aspects, to capture specifically non-idiomatic interaction, and to capture experience that does not have strong precedent, we need to be sketching in hi-fi materials.”

Quote from Jonas Löwgren’s keynote “Exploring, sketching and other designerly ways of working” at Interaction ‘12 in Dublin, Ireland in February, 2012.

See Jonas Löwgren’s lecture Exploring, sketching and other designerly ways of working:
bit.ly/medea-jonaslowgren

TRAVEL GUIDE TO *the future* WORKSHOP

A workshop at the Participatory Design Conference 2012 on the topic “Making Futures – Challenging Innovation”. During the workshop the logic of innovation was challenged by exploring the potential of participatory design cases that demonstrate a repertoire of differently situated **practices of future-making; futures made locally, in heterogeneous communities, and with marginalised publics.**

The participants engaged in producing a Travel Guide to the Futures, a publication documenting an archipelago of futures:

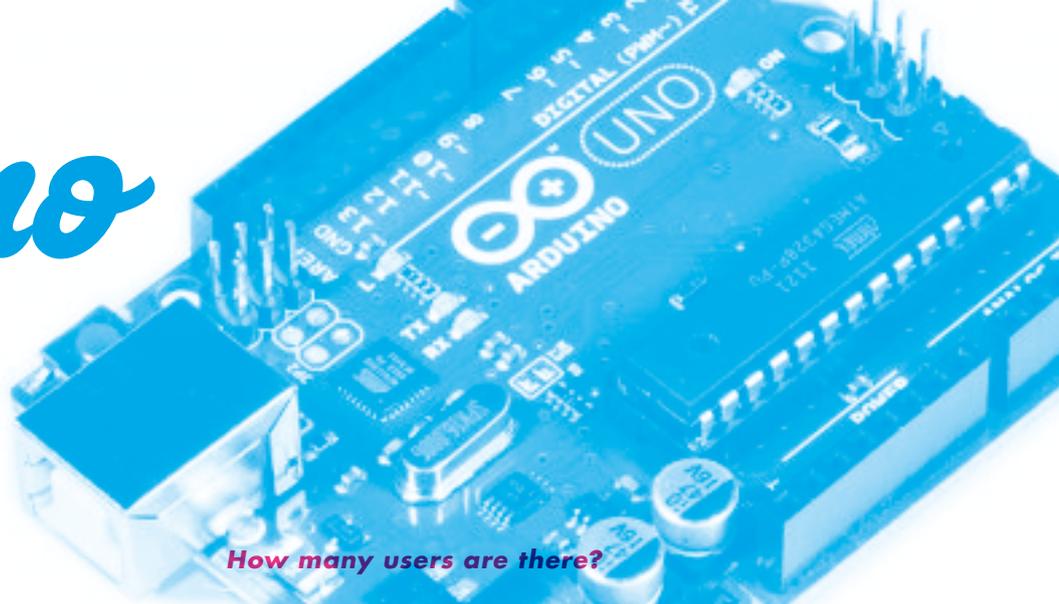
bit.ly/medea-travelguide





Arduino

FAQ



What is Arduino?

Arduino is an electronics prototyping platform. It is used by many as a way to learn about digital electronics. It offers easy access to a whole body of knowledge. One of the key aspects of this technology is that from the beginning, it was designed having the users in mind. It was made thinking that students would either buy a board or build their own and that the system would offer a software abstraction good enough to enable them to quickly learn about embedded programming.

Arduino includes the hardware and the software to get that to work and the documentation to learn how to make it. The whole technology is open source. As a matter of fact, the Arduino project has become a reference project when talking about making open hardware available for others to use.

When was it created?

It was created in 2005. At the time, I was a visiting researcher at Interaction Design Institute Ivrea, where I met with Massimo Banzi and Dave Mellis. The three of us designed the first system with the help of some others. Gianluca Martino and his partner Daniela Antonietti joined us immediately after, and Tom Igoe joined just before the summer that same year.

Who are using Arduino?

Arduino is used by students coming from almost every discipline at university level. Art and design students were our user group from the beginning, but by making the system easy to use for them, we made it easy for everybody.

Many design studios, but also research groups, started using Arduino technology for its ease of use, as it makes things that should be easy to solve easy to solve.

Since the Christmas season 2011, Arduino is sold also at retail stores. Who knows how many electronics aficionados there are making projects in their spare time.

How many users are there?

Arduino has registered over 700,000 official boards, but we have estimated that there is at least one derivative or clone board per every official one. Our server statistics seem to indicate so.

What will the future bring for Arduino?

Since we started, we can proudly say that we have helped in transforming education at many universities and schools around the world. We are now analysing how to approach education at high schools, but also how to manufacture locally to have the largest possible reach. Nowadays 80% of the Arduino branded devices are manufactured in Italy, but the import taxes in countries all along Latin America, or other places like India or China, makes it hard for the official boards to make it to those countries.

We are very engaged in the design of artefacts that will make the Internet of Things possible, but also thinking about new educational tools like robots or boards oriented towards 5-and-6-year-old kids.

Any interesting projects on your desk?

I prefer talking about projects that I have made that have inspired others. I made a robot called Oh_Oh [<http://david.cuartielles.com/w/Maquila2/Ohoh>] to teach kids in a poor neighbourhood in Mexico City. Together with Xun Yang, a graduate from K3, we created a robot and a whole series of exercises around it in about 1 month. The CCEMX (Spanish cultural center in Mexico) financed part of the development, but we still went for local manufacturing and minimising the budget as much as possible.

Just a year ago, a student called Matteo, from an MA in Lugano, Italy, asked me for the parts for building one robot himself. He made a prototype of a robot—Primo [<http://matlo.me/primo.html>]*—that can be programmed with physical tiles. His project has been nominated for the 2012 IxD award, who knows if he will get the prize!*

ARDUINO DISTRIBUTION BY CONTINENT

During a research stay at IIT-Bangalore in 2011 as part of the education exchange programs from K3 (the School of Arts and Communication), I was confronted with the question of what was the real distribution of Arduino users by continent. It was clear to me that the US had been attracting the biggest amount of traffic to the Arduino website, which I was taking care of from 2006-2012. What wasn't clear is how much Europe represented as a whole.

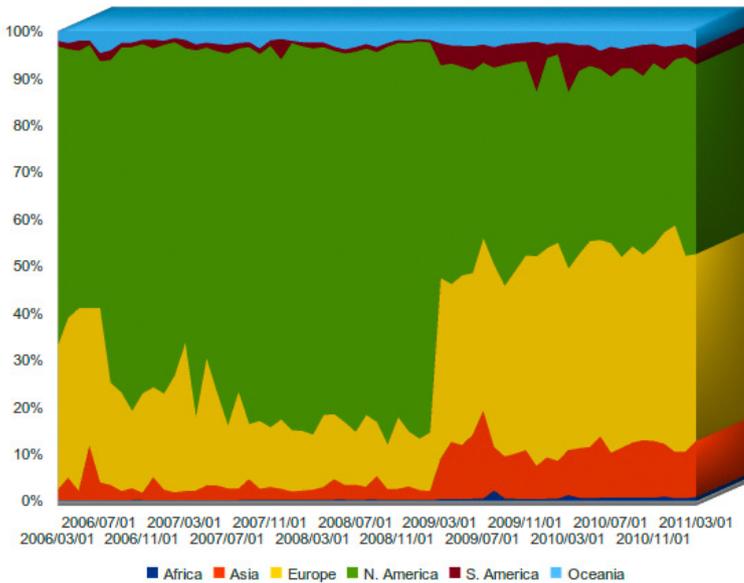
At the time Arduino.cc came online, there was a software package called AWSTATS to monitor the traffic arriving to a server. We installed it in 2005 and used it **to keep a record of how our server was used.** However, we were too busy building our community and spent little time trying to understand what was going on in our servers besides making sure they were online 99% of the time.

When I finally got to India, I scheduled my time to assist our exchange students, attend some meetings, prepare a keynote for a conference at the HCI India conference 2011 and, why not, to write some code to analyse the data coming from the Arduino servers. I generated this graph:

people accessing our online documentation from Europe. The most plausible theory around this topic is that, **in October 2008, Wired Magazine published an article** in its US edition about the topic of digital fabrication where Arduino was featured in a report. The month after, all the European press, the blogosphere, etc. echoed Wired Magazine and we got a lot of attention from our European customer base. From that moment on, the EU represented about 37% of the traffic coming to our servers, while North America was responsible for 36% of it.

David Cuartielles, Ph.D. candidate in Interaction Design, co-founder of Arduino.

Percentage distribution users by month
arduino.cc 2006/03 - 2011/03



The different colours represent different continents. There is a clear discontinuity on that graph showing that something happened in 2008. At some point in time, we were getting most of our users from North America (the US represents most of our North American traffic). But in November 2008, something happened that provoked a change in the amount of

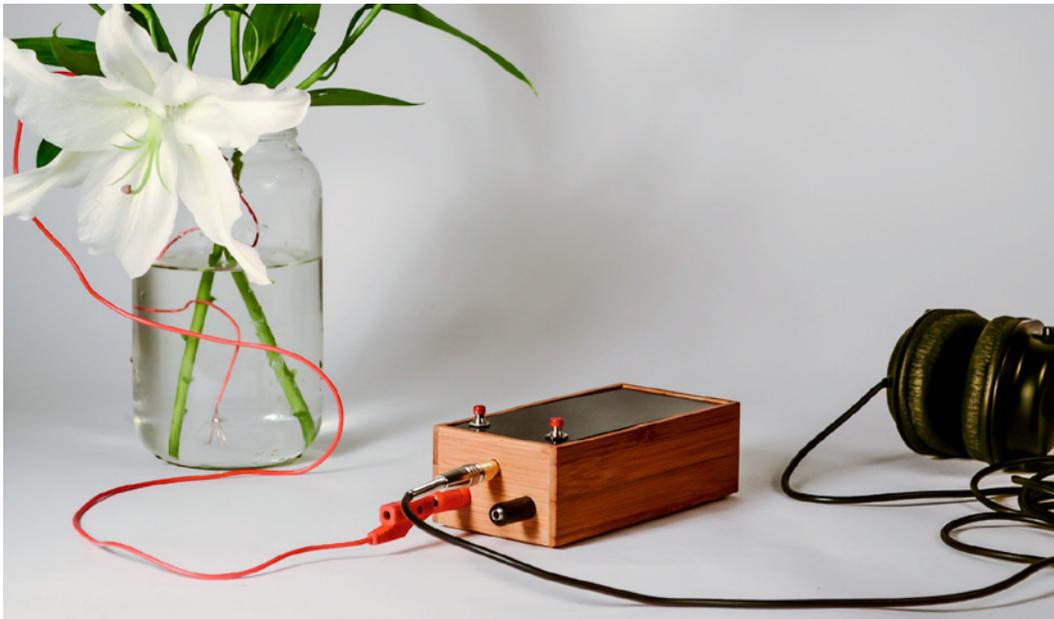


MAKING NOISE MACHINES AS FACILITATORS FOR CURIOSITY

Mads Høbye is a Ph.D. candidate in Interaction Design at Medea and co-founder of the Illutron collaborative interactive art studio. He focuses on how digital material can be used for exploring social transformative play situated in the context of everyday life. He has done several large-scale installations and working prototypes, which he is using as a basis for his Ph.D. research. More information about Mads Høbye's work: www.hoby.dk.

“As part of being an artist-in-residence at Instructables, I took it upon myself to build a couple of noise machines/music boxes. My intention was to design different machines that would spark the user's curiosity. Simply put, here curiosity lies between the extremes of chaos and predictability; chaos becomes uninteresting (from an interaction design point of view) because of its uncontrollable nature, and order becomes so predictable that the interaction itself slides into the background of the end product of the interaction itself. One such example is the light switch. As an adult, you usually do not notice your interaction with it.”

Read Mads Høbye's write-up from his residency at Instructables: bit.ly/medea-madshoby



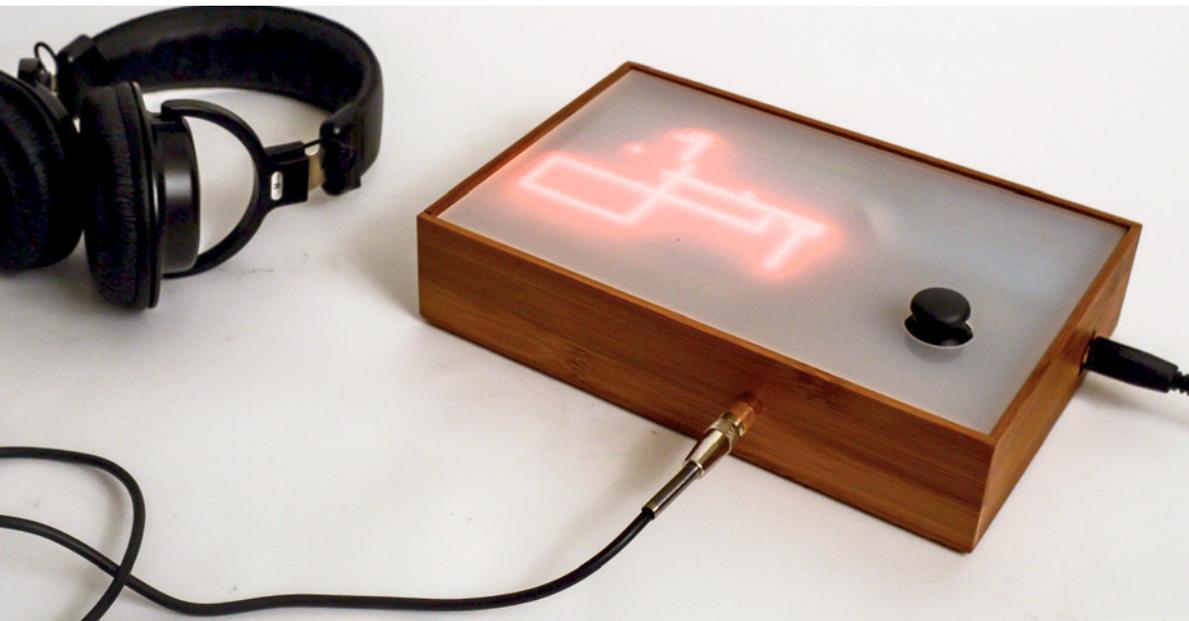
The singing plant plays with a classic method of sparking people's curiosity by adding unconventional interaction qualities to a familiar object. Here, touch is turned into sound.



The Kaosduino serves as a platform to explore the complexity of touch on x-y surfaces.



The Matrix machine serves as a platform to explore the potential of emergent sound patterns converted from particle systems.



The algorithmic noise machine explores the boundaries between chaos and order through complex bit-shifting algorithms.



HACKING REMEDIATION

The job of QR codes is to cross the bridge that spans from digital back to digital via the error-prone and imperfect domain of visual/optical.

When the QR code is out on the bridge, it is protected only by its error-correcting Reed-Solomon codes against interventions by visual/optical/physical adversaries. It turns out to be surprisingly resilient to this hostile and threatening environment.

CREDITS (CLOCKWISE)

PhotoShop adjustments; pencil redrawing; embedding a 40x20 image using lossless mathematical tricks (qrpixel.com).

HACKING

remediation



is a QR code experiment conducted
by Jonas Löwgren and partners.

LÖWGREN
in design
Sweden
9 17854
@mah.se



THE INTERNET OF THINGS - *and people*

Helena Holmström Olsson, Gion Koch Svedberg, Carl Magnus Olsson and Daniel Spikol, researchers at Malmö University, and participants in the Vinnova project Elis, talk about the Internet of Things.

One of the key concepts you are exploring in your project Elis is the “Internet of Things”. What are your perceptions of this concept? Can you give us a brief description from your points of view?

CARL MAGNUS: “Internet of Things” was probably officially first mentioned in an article by Kevin Ashton in the RFID Journal (2009), where he claims that he was the first one using the phrase as the title of a presentation that he did for Procter & Gamble back in 1999. And what is it? It can be a bunch of different things, anything from a smart fire alarm (editor’s note: which accidentally went off in Carl Magnus’ backpack during the interview), to more or less intelligent devices that you could combine and connect in various ways. Lately there has been an increasing interest in connecting many different things to actually see what we can do with them. In certain cases, there are very specific benefits, but for many people it is still just a matter of playing around and seeing what we can do with technology.

HELENA: The basis for going in this direction and exploring the potentials of Internet of Things is to get the chance to do some great research and start experimenting with all new opportunities that these technologies provide us with. **There are all these possibilities that we do not really know of yet, but that we need to discover and start exploring,** and through that potentially introduce new kinds of services that could have an influence on our lifestyles and behavioural patterns. We need to pay attention to all these new openings and explore them in collaboration with the users. From a research and development perspective, I think we are the right people to do that since our job is also to be critical, reflective and open to both good and bad things.

DANIEL: This whole field comes from some sort of innovation chain. Before Internet of Things we had smart house, and different kinds of connected devices, but they were kind of localised and limited to one specific area like a factory or a home. With the pervasiveness of the Internet, people started to assign IP addresses to everything. Then suddenly that shifts it from a closed environment to a potentially open environment. Now that the Internet is everywhere, many different things can start talking to each other, which means your phone

can talk to your car, which can talk to your computer, which can talk to your refrigerator, which can talk to a chip implanted in your pet.

What does all this mean on a societal level, on a technological level, on a research level or on a privacy level? What does it mean on an architectural and design level? This is what people really want to know, and also how it can benefit us. It could certainly benefit logistics and factories, but the question is, how does it benefit us as humans?

CARL MAGNUS: In the Elis project, we are exploring Internet of Things from various angles. One of our areas of exploration is apartments, focusing on people, families and households. We are specifically trying to improve energy efficiency, which is the actual goal and the purpose of the whole project. Of course, we would also like to address quality of life in relation to Internet of Things, but in this project we are trying to specifically target energy efficiency and possibly establish some kind of award system for actually caring about energy consumption. That means a slightly different array of devices, compared to what we are normally faced with as consumers. A radiator thermostat is normally just something that is plugged into a radiator and you turn it on or off if it is warm or cold. We do not really care about interacting with it otherwise. **Our project actually means a pretty big shift in terms of what kinds of devices we are really trying to make come to life to the users.** These devices are stuff that are normally just peripheral to them.

GION: A lot of this is about measurement actually. The built-in sensors in our mobile devices, such as cameras, microphones, accelerometers, gyros, temperature and humidity sensors allow for setting up large-scale, highly dynamic mobile sensor networks that can measure at places and times of special interest. This means that with Internet of Things we can start measuring things which we could not before. For example, the monitoring of “crowd” movement in a town prior to and after a football game, the most accurate weather information and dangerous traffic situations, such

as slippery roads or approaching drunken drivers. **We can start measuring our own behaviour and compare it with everyone else’s,** for example, with regards to energy consumption, environmental pollution, physical training and much, much more.

CARL MAGNUS: The question is, what are we going to use this data for? Data is obviously useful, that is kind of why Google exists. Data has value, but what is the value of this kind of data? What kinds of services are relevant? That is what we are trying to figure out.

Concretely speaking, how do you actually conduct this kind of research? What are your methods? Do you use, for example, the Connectivity Lab at Medea?

CARL MAGNUS: The Connectivity Lab is one part of it. That is where the initial development is being done. But it is in the living lab approach that we take our point of departure. The Connectivity Lab is one part, while another step in the actual employment of the technology is in real world settings. The actual user data or interview data is gathered elsewhere and then fed back into the Connectivity Lab.

I want to add one last thing. To be honest, I think that many of the devices that we have seen produced up to now by commercial actors within the field of Internet of Things are pretty useless. A lot of companies are fighting for market shares by just putting Internet into everything and hoping that something will come out of it. There is stuff bubbling up everywhere, but we do not really know what to use it for. This connects well to what Helena was saying earlier. We do not know what to make of all this. We just do not want to be overrun by it, so we better start exploring the opportunities out there and make something out of it.

DANIEL: One more thing from the perspective of computer science at Malmö University: **we always think about the Internet of Things, and people.** There are just not things, we are also interested in the *people* part of it, the Internet of Things – *and People*.

BUILDING

By David Cuartielles

We are standing by the computer and in the room there are about 16 other kids, most of them making computer games using Scratch, the software from MIT to create small games and animations.

B looks at me, I can see the excitement in her eyes, she is always happy to join me at CoderDojo to build things together. I am not sure what will come from this experiment. While still on the bus on our way here, B insisted that she wanted to have a yellow house with a staircase and a red rooftop. She is almost five, doesn't know how to read more than a few letters, and she can barely write her mum's name or her own.

Taking B to a programming activity might seem as if I was pushing too hard, but she wants to come. To me it is enough to have her interacting with the other computer-interested kids and see what they are doing in order to imagine the possibilities. B is not only an average of 6 years younger than any of the other kids, but also a little shy, therefore my role in this event is dual: first, I am B's connection to the abstract world of computing, second, I am the ice-breaker. I don't speak Swedish, but I am responsible for somehow establishing a communication link with the teens in the room to discuss programming and bring together their interests and the ones from my daughter.

I open up the computer and while the processing boots, I bring out from my backpack the box where we carry our Arduino board, a shield to easily connect sensors to it, some wires, LEDs, a USB cable and the most precious jewel in B's eyes: the slider.

She simply loves the slider. You can use this sensor to dim a lamp or to change the speed of a motor. B loves to hold it in one hand and to move it back and forth along its axis. She's learned how to plug the slider into the shield and the shield to the Arduino board and explain to me how she does it. I keep an eye on her as I start typing:

```
void setup() {
}

void draw() {
}
```

That is the scaffolding of our interactive animation. I prepared the Arduino board before leaving my studio today. A small program in it will read the slider and send the information to the computer. That way I only need to focus on writing the code for the animation. By default those are very small 100x100 pixels, so I make the window a little bigger.

```
void setup() {
  size(800, 600);
}
```

Yeah, 800x600 pixels is pretty decent, B will see a big grey window, and her house will pop up in the centre of that. I start a conversation with her:

– You said you wanted a house?
 – Yes, she answers, it has to be yellow . . .
 – Ok, I will start by drawing a square, is that ok with you?
 Shall we start that way?

She doesn't even look at me, she takes it for granted that I will get it to work, what else am I there for?

```
void draw() {
  fill(255,255,0);
  rect(width/2-100,height/2-100,100,100);
}
```

–But daddy, that is not the yellow that I want.

She happens to be pretty specific about the colour she wants for the house.

I change the square's background colour, and she nods, confirming that I got it right this time. I realise the square is too little and it is then when I get the idea that the size of the house has to be controlled using the slider, that will be optimal. I need to introduce the concept of scale to my code and I need to test it, but B is still plugging things into the Arduino board, therefore I cannot use the slider, but I can use the mouse. I also notice that the square is not really centred ...

```
float s = 1; // scale

void setup() {
  size(800,600);
}

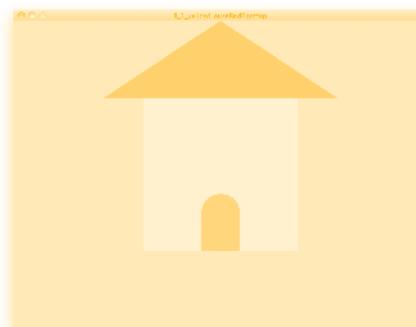
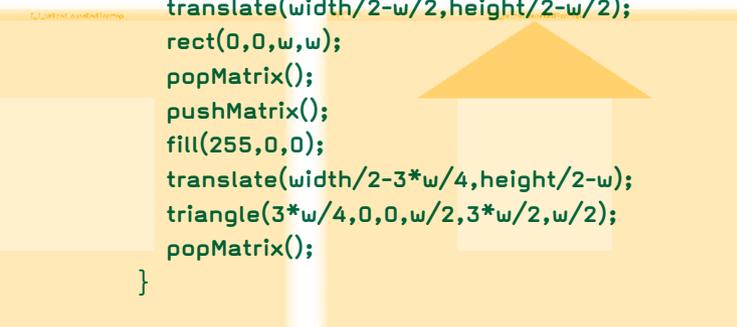
void draw() {
  background(200);
  fill(255,215,0);
  s = (width - mouseX)/100;
  float w = 200*s/2; // w - house's Width
  translate(width/2-w/2,height/2-w/2);
  rect(0,0,w,w);
}
```

I also realize that the background needs to be repainted, otherwise the screen will never be refreshed the right way. B looks at me and comments on the house, and says it is lacking a roof.

- Shall we make it red?
- Of course, and she looks to the ceiling, making that expression where she asks herself if I am crazy for not getting it right at first.

Mmm, this requires a slight change in the strategy, I need to rethink how I am going to draw the basic figures:

```
void draw() {
  background(200);
  s = (width - mouseX)/100;
  float w = 200*s/2; // w - house's Width
  pushMatrix();
  fill(255,215,0);
  translate(width/2-w/2,height/2-w/2);
  rect(0,0,w,w);
  popMatrix();
  pushMatrix();
  fill(255,0,0);
  translate(width/2-w/2,height/2-w/2);
  rect(0,0,w,w);
  popMatrix();
  fill(255,0,0);
  translate(width/2-3*w/4,height/2-w);
  triangle(3*w/4,0,0,w/2,3*w/2,w/2);
  popMatrix();
}
```



I needed to reassign things here and there, but I think it will turn out nice. B looks satisfied at the screen and requests a door in the house, she helps me in finding the right shade of brown for it, as well as the windows, those have to be white – here I managed to skip designing pink curtains somehow, it was pretty difficult –

```
// the door
pushMatrix();
fill(184,134,11);
translate(width/2-w/8,height/2+w/8);
ellipse(w/8,w/8,w/4,w/4);
rect(0,w/8,w/4,w/4);
popMatrix();

// the windows
pushMatrix();
fill(255,255,255);
stroke(0);
strokeWeight(s);
translate(width/2-3*w/8,height/2-3*w/8);
```

```
rect(0,w/8,w/4,w/4);
rect(w/2,w/8,w/4,w/4);
popMatrix();
```

- I want the slider, how can I connect it?
- Let me see, we need to use the code to connect the Serial port where the Arduino board is plugged in to use the slider, I talk to her as if she understands, and she seems to follow, it is not the first time we have done this.
- Papi!, she screams ...

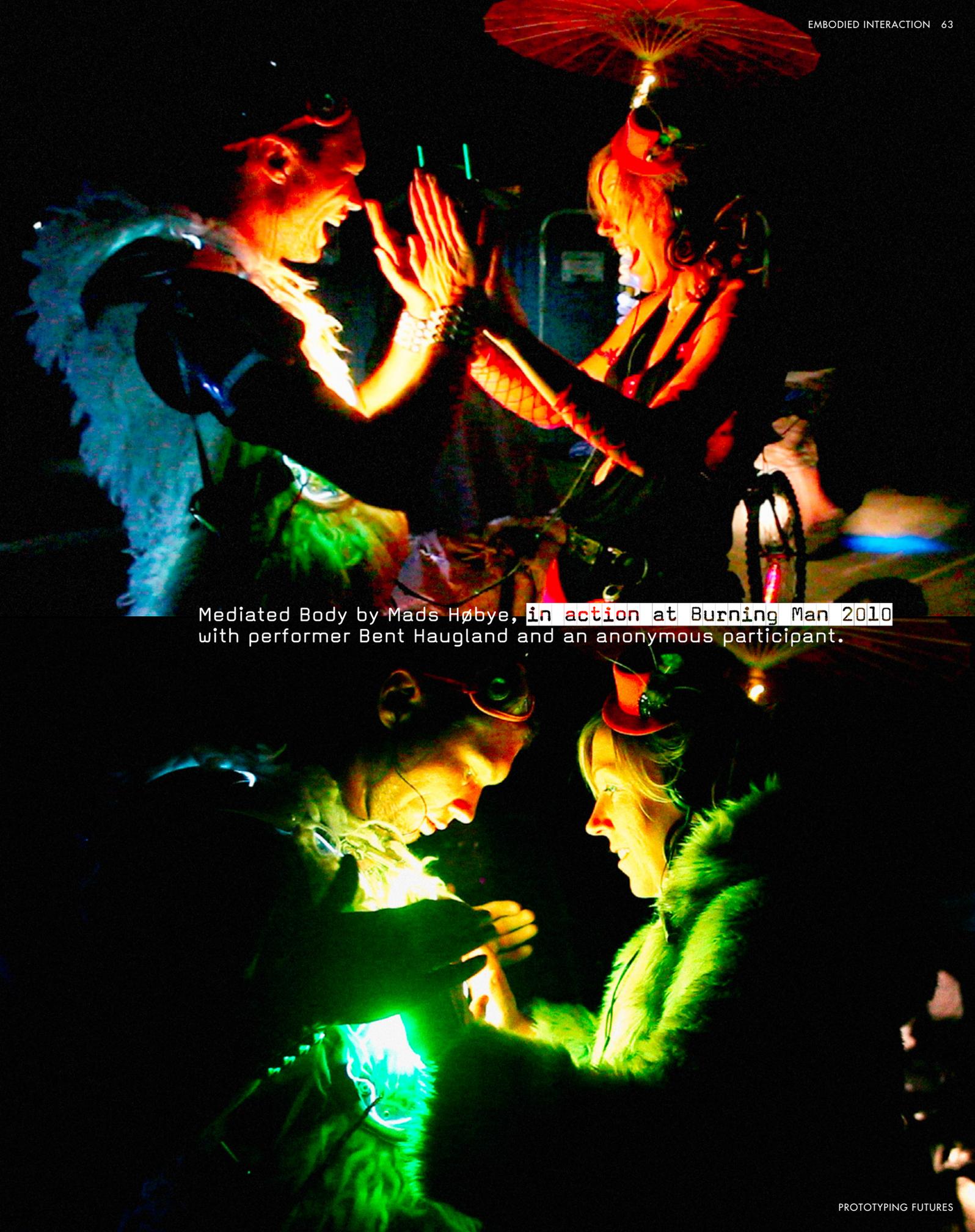
She pulls my arm hinting she likes what we are doing ... but also makes it impossible for me to keep on typing. We hug and we plug our Arduino into the computer and I import the serial library in the program and run it again. B plays with the slider, looking at the Yellow House with the Red Roof on the screen changing size. She is in control, but most importantly, she designed that house, she programmed it and she's ready to play with it.



Find the full Processing code to the house at: https://github.com/dcuartielles/code4B/tree/master/B_1_yellowHouseRedRoofTop



Touchbox by Mads Høbye, in action with two anonymous participants **exploring the haptic soundscape** forming between them.



Mediated Body by Mads Høbye, **in action** at Burning Man 2010 with performer Bent Haugland and an anonymous participant.



SECURITY IN DIGITAL ECOSYSTEMS

Andreas Jacobsson, Ph.D. in Computer Science, is the Head of the Department of Media Technology and Product Design at Malmö University. Jacobsson is the co-author of the book *On Security in Digital Ecosystems*, a book about the people, technologies and businesses that shape the dynamic and complex, but sometimes hostile, ecosystems that today's Internet constitutes.

What is your book "On Security In Digital Ecosystems" about?

We try to picture the Internet as a digital ecosystem, being inspired by evolutionary views on biological ecosystems where there are dynamic and complex surroundings, and where the inhabitants are sometimes collaborating with each other, but sometimes are fierce rivals and competitors over resources. Sometimes species eat other species. We try to capture the dark side of the digital ecosystem by problematising the malicious activities that go on in this environment. We do this with a set of tools that consist of the academic subjects of business administration, computer science, evolutionary biology, cognitive science and management science. We try to observe the digital surroundings – in particular malicious behaviours – and we try to capture and discuss these in terms of ideas that have been brought up in various academic disciplines. We also try to capture the more or less constant factors that exist within the changeable surroundings of the Internet.

Our point of view is that malicious behaviour isn't something you can solve or get rid of. Malicious behaviours include, for instance, spyware programmes that spy on users and report back to an often unknown service on the Internet. This happens in online social networks, but most often you encounter these kinds of programmes when you download free software like screensavers, games or file-sharing applications. This software does not always have a malicious intent, it can be motivated by commercial interests. It collects information, and that information can be packaged and sold. The way the Internet is constituted, there is no ownership, nor are there unanimous rules that everyone must obey. We need to learn how to live in symbiosis, where both good and bad behaviour co-exist.

HOW INTELLIGENT *do we want our things to be,* AND WHEN?

Paul Davidsson is Professor of Computer Science and is currently involved in research projects concerning energy efficiency of transport and energy systems, as well as for supporting decision-making and collaboration.

The progress made during the last decade in the areas of artificial intelligence (AI) and agent technology makes it possible to embed sophisticated data processing and decision-making capabilities in things. While this certainly opens up incredible opportunities, there are some reasons to reflect upon this before one starts implementing such capabilities.

A software agent can be viewed as an entity that acts on the behalf of its “owner” (typically an end-user of a software product or service), and is often built using AI techniques. When embodied in a “thing”, the software agent thus turns the thing into something that acts on the behalf of its owner. However, do we really want our things to always make such decisions (and possibly perform actions) in an autonomous manner without consulting us? In some situations, this is certainly the case, such as when the owner is not able to react to a dangerous situation (e.g., a car about to crash into something) or isn’t sufficiently informed what the best reaction is to a certain situation (e.g., whether it’s cheapest to charge an electric car right now or in two hours). However, in other situations, the user probably wants to decide by herself, e.g., when she has the time, knowledge etc. to make an informed decision. We believe that a promising approach is to adapt the degree of autonomy to the user’s current situation (sometimes referred to as “adjustable autonomy”) by including context awareness in the agent.

Another important issue concerns where to place the intelligence. Should it be embedded in the thing, or should it rely on a cloud service or perhaps a combination? A cloud-based solution can be much more advanced due to larger processing power. On the other hand, there are situations where local intelligence is desirable, e.g., when decisions are based on large data sets that need to be transmitted, when disconnected from the Internet (or when connection is poor), when fast reaction is necessary, when personal integrity is crucial etc. If intelligence is embedded in the thing, a certain level of performance can be guaranteed even if the connection is bad, which is required in some applications, such as traffic. Also with respect to the placement of intelligence, adapting to the situation may be a useful approach, sometimes relying on local intelligence and sometimes making use of cloud services.





WHAT ARE YOU EXPLORING?

MOBILE SERVICES FOR ENERGY EFFICIENCY IN EXISTING BUILDINGS



Using personal mobile devices as catalysts and user interfaces for energy efficiency in existing buildings is the basic idea behind the project Elis, funded by Vinnova. The project focuses on the service level and already existing infrastructure and hardware will be used to the greatest possible extent. The arena is Hyllie in Malmö, which is part of the program Green Digital City run by the City of Malmö. The goal is to become Sweden's most environmentally friendly city, and Hyllie is selected as the pilot area for the development of Green IT in Malmö.

During the project period, a number of *basic mobile services* will be developed. The aim of these services is to make relevant information on energy use easy accessible for citizens, as well as allowing for remote control of devices. These basic services will be a part of a larger ecosystem of services, including more *advanced services*. Such services can range from decision support for the user to automatic control and monitoring of systems. Throughout the project, prototypes will be developed based on sophisticated features such as context-awareness. The methods applied are based on Living Labs practices, where user-centric development and open innovation are key. In addition, all protocols and APIs will be open to the public.

A key research concern is the question of *context-awareness* and the ability to identify the user situation and act appropriately in relation to this. Another key concern is related to the topic of *service discovery*, where new equipment and services are made available to end users without the need for advanced installation.

Partners include Medea Malmö University, Media Evolution, MKB, Mobile Heights, BTH, the City of Malmö, Ericsson, IBM, Schneider Electric, Eon, Sony, TeliaSonera, LTH, Region Skåne and ST Ericsson. Medea's main contribution in the project is the development of service prototypes, apps and simulation testing and to set up development, test and demonstration environments. The work is led by Carl Magnus Olsson.



Helena Holmström Olsson, Daniel Spikol and Gion Koch Svedberg, researchers at Malmö University and participants in the Vinnova project Elis, talk about what it's like to work across academic disciplines, to work with the business industry and discuss innovation versus research.

What is it like to do research in collaboration with the business industry?

HELENA: It depends on what parties you have involved, because all companies have different styles, everyday practices and are already engaged in other projects. You have to adapt. Trying to get the companies to collaborate isn't trivial either.

Have you reached that stage in this project, being able to get the companies to collaborate across borders?

HELENA: I think working with the industry takes a while. The companies I have been working with prior to this have been very different, even competitors. But they appreciate us getting them together, because they wouldn't otherwise. Just meeting in an arena that is on neutral ground usually brings out the best.

GION: Companies have their own agendas, and we don't always know why they are involved in certain research projects.

DANIEL: It also depends on the company, because someone who has more authority might be interested in the research project, but someone else from the company might be the person involved in the project. It's different in academia where, generally, the driving forces are a combination of project coordinator and research. It's a way for us to integrate research back to our teaching.

Our expectations are thus sometimes different than the companies' expectations.

HELENA: The industry sometimes wishes to solve practical everyday things while we try to do research, which should be above practical everyday things. I don't think this is a problem, but it's an issue that will always need to be brought up. Those smaller, more everyday things makes us wonder sometimes, "What does this have to do with anything related to innovation?"

What are your experiences working in working academic cross-disciplinary teams?

HELENA: Traditions look different and researchers have different venues, outlets, expectations and wishes. I don't find this problematic, but you need to discuss it since it may impact the outcome of the project.

GION: There are different academic cultures and epistemological views: what is knowledge, what is science and what is research? A challenge is to bridge the groups of professors. Ph.D. students are good "bridge-builders" since they often know each other from Ph.D. courses dealing with research and methodology, and thus not based on academic disciplines. Professors are usually very uptight. To them it's publish or perish; they have to publish in the fields they are already at home in. Publishing is a way of setting up a barrier. You have to become known for this or that, and that means that you are actually quite narrow in the research you do.



How do you manage to collaborate for real when you have those barriers?

GION: You always have overlapping interests, and that makes it possible to set up joint projects. **Then one group can publish on one perspective and another group on another perspective of the same problem.** You can also publish together and show that you are an interdisciplinary team, which also has academic value you can draw benefits from.

HELENA: The beauty of interdisciplinary teams is that you can get published in many different areas. One publishes from the perspective of testing, another from architecture, both on the same case. You could never do that on your own.

What is your take on research and innovation, or research versus innovation?

DANIEL: Academia does a bad job at managing innovation. The way academia works in Europe, the intellectual property rights (IPR) generally rests on the researcher, but there are no incentives to commercialize them. **When you compare European universities with Asian or American, it's flipped over:** the university owns the IPR. Then innovation happens much faster. There are examples though – the Fraunhofer Institute in Germany, the Interactive Institute or SICS in Sweden – of those who would aspire to commercialize research results.

GION: I think it's important to make a distinction between research and innovation: innovation has to have a practical implication; **in the academic world, you don't have to care that much about practical implications.** To me it's clear that we should do research,

and if someone wants to use research to do innovation, that's another thing. You can't do both. Innovation has to be rooted in practical problems, but most of the people at research institutes have no practical experience. You can not expect them to do innovation, nor expect them to think innovatively.

DANIEL: This is why LTH in Lund has an innovation centre. It's a job for someone else. Even though I think the intentions of putting business and research together are good, there is unfortunately no expert on innovation in that picture. **The research and innovation are not in harmony.**

HELENA: At Chalmers, we had all of that, but they always had to chase us, because to the researcher it's the scientific article that matters.

DANIEL: At MIT you do some research and then you push it together with those you've worked with in a joint partnership. When I was at MIT, Pattie Maes was there and she sold her firefly company to Microsoft for an undisclosed amount. I'm not saying this is the case all the time, but if the university is interested in the intellectual property rights of the researchers, then that is an incentive to monetize that. Innovation is not altruistic like research. Innovation is about companies and return on investment. This a whole different world than research. Especially in Sweden, where there's no incentive for us to do it because we still work one-hundred per cent.

Magnus Lindström, Technology Manager of Smart Home at E.ON Sverige AB and participant in the Vinnova project Elis.

What is your role in the Elis project?

I am responsible for the sub-project AP1, "Definition of services to apartments". E.ON provides the platform, hardware and software upon which the project develops its new services. I am responsible for managing this platform.

Can you mention some of the benefits and challenges of collaborating with academic partners?

Benefits:

- Qualified resources from academia working on the project ensures high quality based on the latest research.
- A different view from commercial businesses, providing new insights and broader perspectives.

Challenges:

- The differences between the processes in the academic world and those of the business world are a challenge when collaborating and communicating with each other. Each party needs to understand and to respect each other's different ways of working.

Is there a problem being in a joint project with partners that could be considered your competitors?

In this project, we are not seeing this problem. The other parties come from different segments of business and are not our direct competitors.

What are your overall expectations on the project?

We have high positive expectations on the project. We expect new services and products in the Smart Home segment to come out of the project, and as a result, new possible products that we can commercialise, either individually or together with partners from the project.

MY PROTOTYPE OF THE FUTURE:

HOW TO BUILD A CLUSTER

A conversation between Pernilla Severson, researcher at Malmö University, and Christer Månsson, director at Media Evolution, about building clusters and collaborations between academia and industry.

To start from the very beginning, what is a cluster in this context? Can you give us a brief description?

CHRISTER: A cluster is based on the triple helix model. If you can identify the strengths of a region when it comes to education, research, political incentives and also find the companies, then you have a good base for establishing a certain cluster. You have to dig where you stand, and see what is specific for that particular region. To put it short, a cluster is a gathering of actors from the industry, the university, and the public sector that work together in a certain area. It could be within transportation, or mining, or like in our case in Region Skåne, about media development.

PERNILLA: From my point of view, a cluster is based on a theory of growth where you start with the importance of location. You try to identify what kinds of collaborations that could create economic growth in that particular place. As mentioned, the ideas behind clusters are also tightly connected to the triple helix theory. The earlier understanding of that theory was that academia should produce knowledge that the industry could create business from, and the public sector should facilitate this by building structures to support this transfer. When Region Skåne took the initiative to form a cluster around the area of media development, this was the first understanding of a cluster and its potentials.

Today we have other cluster theories which are more in line with innovation theories. We can see a shift from the initial cluster formation in our region, first called Moving Media Southern Sweden that was based on a more traditional understanding of clusters. One example of such early cluster was the telecom city in Blekinge, which was also used as a source of inspiration and model when forming the Malmö cluster. However, what we have found out since then is that it is not possible to transfer a framework developed for one place to another. It is more complicated than that. Malmö as a city is characterised by grassroots innovations, alternative cultural activities and new media, a large immigrant population, a lot of creativity and social challenges, to mention a few examples. In comparison to Blekinge, we don't have two or three huge companies to rely on anymore. Again, when forming a cluster you have to take your point of departure from the specificness of that place.

These insights have resulted in a definite shift in our original expectations of what a cluster could look like, what it could be and who it could be for. The development from Moving Media Southern Sweden to the Media Evolution cluster has, from a research perspective, been a very interesting journey to follow.

CHRISTER: Another thing to add to all this that it is important to stress that a cluster formation should have an idea of growth, it does not necessarily have to be the kind of growth as we traditionally have seen it, but has to be some growth, a change and then innovation on top of that.



Media Evolution City.
Photographer: Media
Evolution/Sebastian Borg.

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For a cluster like Media Evolution, a lot of our activities have been focused on organising meetings, conferences, round-table discussions, workshops, setting up an office space or even a whole house, the Media Evolution City. Our second area is business development, matchmaking, identifying customers, and supporting processes of open innovation. We also gear on so called soft-landing, which is to attract knowledge, know-how, and companies to our region. The third area we are working with is competence development: business intelligence, executive leadership program, business development, international know-how, theories of learning organisations.

Imagine that you have a cluster that works in Malmö and in Blekinge. **What would be the next step if you are focusing on new media and converging media development?** Is it converging industries? If you only make business within your own cluster there is now way you will reach growth, you need to go beyond into areas like transport, healthcare, the food industry, automobile, or whatever big industries. Then we can really start talking about cross-industry meetings, that is, innovations across sectors. You need to involve and cross-fertilise sectors to create new innovations.

Based on your experiences from working with clusters, are there any specific stories of successes and failures that you would like to share?

PERNILLA: A traditional way of measuring failure for a cluster is to look if the triple helix constellation was achieved. There is a theory called the bank robber theory: once the robbery is carried out the robbers split the loot, disband and take off for new adventures. Unfortunately this sometimes happen in our world too, between partners in a cluster. Once they've received a grant they worked on together, especially from, for example, a public fund, the partners often split up. Not because that was the original plan, but just because it turns out to be too difficult to collaborate across borders and disciplines. The partners may have had no prior experience in what a cluster is or how to collaborate.

I could use the early stages of the collaboration between Medea and Media Evolution as an example. At Medea we are really good at working with participatory design, involving and collaborating with, for example, marginalised groups

in society and one-to-one meetings. Media Evolution had prior experience of creating meeting places, but of a totally different kind, and based on totally different methods and experience. Initially Media Evolution was continuing to do their things and so did Medea. We were not able to figure out where our fields of expertise could actually meet and fertilise each other. **Initially we didn't know where to meet, and therefore we kind of took our part of the loot** and just continued our business as usual.

Today our cluster has matured. We know each other better and can see each other's strengths and weaknesses. At this point, we are ready to establish new forms for collaboration based on knowledge about our organisations. Instead of working according to our old well-known methods, we are now ready to develop new methods together, and establish a true collaboration.

Do you mean that to build a cluster is also a matter of learning how to work in a cluster together with your partners? It is not just about building a structure, it is also about building relationships between the partners in a cluster.

CHRISTER: Yes, you have to work together for quite some time in order to understand what are the roles and expertise of the other partners. In the case of our collaboration, it has taken us some time to understand Medea's role, how Medea works, and what its interests are, its agendas and so on. The same goes for Media Evolution I assume.

If you don't build this relationship, then you might end up in the situation that you just write applications together, and after that you just go back and do whatever you want to do in each organisation and never meet. That is just a waste of talent and money.

Today we actually have several projects going on between Medea and Media Evolution based on initiatives that we have formulated together in a truly collaborative process. It took us some years of relationship building to reach this.

PERNILLA: This story is not a matter of success or failure, it is just a matter of how collaborations work and the importance of putting an effort into building long-term relationships between partners in a cluster. These insights have a lot of consequences for cluster theories and how

governments and policy-makers should handle these matters. **It not as easy** as just bringing two partners together and ask them to apply their previous experiences and knowledge and start a new project. You need to acknowledge the fact that collaborations build on relationships and that takes time to establish – then you can start working together for real.

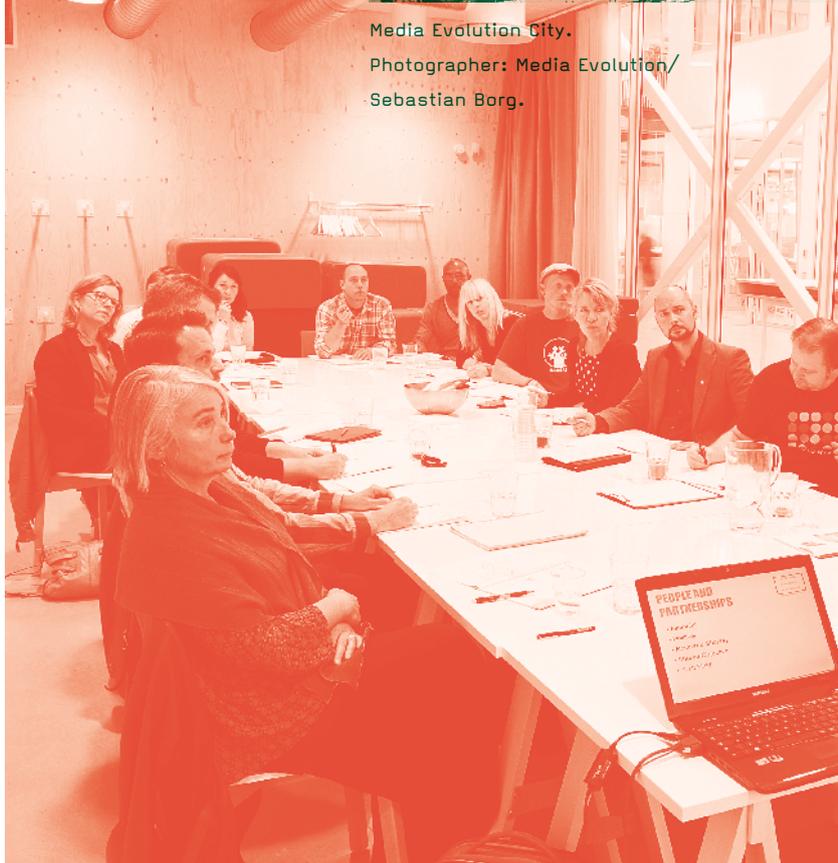
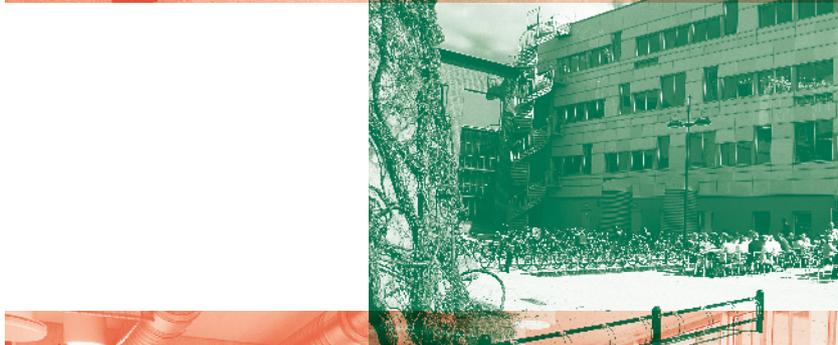
CHRISTER: In a cluster, you need people that are for real interested in building these relationships. You probably need intermediaries, people that build these bridges between the partners and infuse and encourage the desire to really work together and leave your comfort zone.

PERNILLA: This is so interesting, because in previous cluster theory you could find a lot of ideas about the importance of intermediaries and matchmakers. However what we can see in the collaboration between Medea and Media Evolution is that it does not really work that way. It is not possible to put a person in-between two partners and then ask that person to make these two partners start working together. The initiative has to come from the partners themselves. In my previous project, that was kind of my role. I was supposed to be the one in between, bring partners together and make them want to work together. Things don't work that way. Collaboration only occurs if the partners truly want to work together, establish a relationship without an intermediary in between them. You need to meet and build relationships and create a social contract between you.

CHRISTER: I understand what you mean. It can almost be like an invasion. "You should work with that partner", but who are you as an intermediary to judge what is good for my organisation? You have to be very careful when trying to match partners.

PERNILLA: It is a defence mechanism. You don't want to speak to the one in between, the intermediary, but to the actual collaborator. In my research material, and also in early cluster theory, I can see that we have given these intermediaries a role in collaborative practices that is based on misconceptions. **All collaborations have to start from a genuine interest from both sides** and an understanding of the benefits. To build that understanding, you need time to establish a relationship, and get to know each other. An intermediary can't do that work.

CHRISTER: Talking about our two organisations, I think we have reached that understanding now, but it has taken us some time. Now I see collaboration emerging naturally between us. The reason for establishing a collaboration with a partner outside your own organisation has to be that that



Media Evolution City.
Photographer: Media Evolution/
Sebastian Borg.



partner can make your organisation achieve something that you can never achieve on your own. This means that you have to go outside the scope of your own organisation and create new visions and goals together with your partner.

PERNILLA: In the early phase of our collaboration, my understanding is that Media Evolution had the perception that they were going to ask the companies they represent about what they need, and that would then dictate the terms for research at Medea. **However, that is not interaction or mutual collaboration or co-production at all.** It is old cluster theory, but reversed from the initial idea, which was that academia should produce knowledge that the companies could make business from. This imposing of what a collaboration should be about is not constructive. Instead we should meet on common ground and discuss what issues and problems we are interested in exploring, and how can we work together to solve them.

What would be a good strategy for building a cluster today?

CHRISTER: You need to acknowledge the fact that it takes time to establish relationships between partners in order to get a true collaboration going. You need to formulate a vision that goes beyond your own organisation, based on an idea of future solutions that you would never be capable of delivering on your own. For example, **our vision here in Region Skåne is to create a lot of innovation,** growth and to transform an old industrial city into a city in line with contemporary times and demands. To achieve such transformation, we all need to join in.

PERNILLA: In some ways clusters are future-making, offering the possibilities of better future-making. To create a successful cluster, we need all these things that Christer is talking about, but we also need to establish a sense of “coolness”. You have to make people want to be a part of a cluster. In our society we have hierarchies and power structures. What we can see is that creative industries have leaned very strongly on the aura of “coolness”. At Media Evolution, they have actually been able to create a sense of “coolness” through their events and by putting a lot of emphasis on design. We, the participants, feel cool when we join your events. This coolness is somewhat untouchable and unexplainable, but it is there and is an important ingredient when building a cluster. This aspect has yet not been properly acknowledged, talked about, used and understood when it comes to cluster formation.

CHRISTER: I agree, and also want to add one last thing. In order to create a successful cluster in a region we need to also start including the parts of the populations that are still not included. In a town like Malmö, we have a lot of assets that are not used, or included enough in our activities. At Medea you do work a lot with marginalised groups and at Media Evolution we do some, but there are lots of resources out there that we could involve on a higher level. We should look at these resources as an asset. It could be other kinds of organisations and groups that we do not normally collaborative with, like NGOs, kids from an Arabic-speaking background, for example, or different kinds of cultural associations. What competencies and knowledge do they bring to the table? This is a field with great potential and we need **to start acknowledging these unused resources in our city and see them as assets.**

Urban gardening experiment by Living Lab
Fabriken at STPLN. Food production in
the middle of the city!





Why work WITH TECHNOLOGIES and dance?

Susan Kozel combines dance and philosophy in the context of new media. She works with bodies, ideas and technologies and is Professor of New Media at Medea.

In 1994 riding the bus through central London I saw a poster saying, no... SHOUTING, "Seduced and Abandoned? The Body in Virtual Reality." This was promoting an upcoming conference at the Institute for Contemporary Arts (ICA) which would draw together most of the leading speakers and creators in the domain of virtual reality (VR), which at that time was causing quite a stir in cultural, social and technological circles.

The poster had its desired effect: it provoked a strong reaction in me. Playing on people's fears and desires over our technology-dominated futures, it was intended to provoke. It made me angry: not again, I thought, not another cultural advancement that was hostile to bodies. I had just received my Ph.D. from the University of Essex Philosophy Department, where I had written on the phenomenology of dance. I had looked at philosophical models to see how they could or could not account for moving bodies. Phenomenology seemed to have the most potential for opening out and respecting the fluid complexity of the moment of dance, not from the choreographer's perspective but from the dancer's. But I had decided to let all that philosophy go, to see what I might do next, you know, in the "real world." What I did next is attend the conference at the ICA on the virtual world.

Those were the days of the celebrity conference. For 3 days, people crammed themselves into the seats, isles, and bar of the ICA to hear and see what presenters from many countries were saying, making and getting excited about in the field of virtual reality. Out of approximately 20 speakers, only 3 seemed to me to have any way of integrating physical experience, and I wasn't looking for any particularly sophisticated account of embodiment, just the fact that all of us have bodies and that Virtual Reality is experienced through the body. (One speaker actually made a joke out of how his body only participated in this glorious digital world because he had to leave VR occasionally to pee.) Interestingly, the three presenters from that event I selected are still strong producers of compelling performative, hybrid work with technologies and various forms of embodied interaction: Orlan with her gruesome but powerful plastic surgeries, Blast Theory with their interactive performances (but we did not use the word interactive in 1994) and artist Paul Sermon who continues to explore the nuance of telematic installations. (I should also say that Sandy Stone's account of her own transgender status in VR also provided a distinct way of challenging VR through physicality or sexuality).

Paul Sermon invited me to perform in his installation Telematic Dreaming, this important early telematics work of his initially linked two sites in Finland in 1992 and had a place in a large contemporary art exhibition in Amsterdam's Boers van Berlag called Ik & de Ander (I and the other) curated by Jeanne van



From "Other Stories", dancer Susan Kozel. Photographer: Devon Cody.

Heeswijk and Ine Gevers (1994). Van Heeswijk had said to Sermon that she would set up his installation, which linked two beds in two different rooms by means of a video projection loop, if there was a performer in one of the rooms for continuity.

The installation had never had a performer before. He asked me to try this out. So I moved to Amsterdam, and for 6 weeks I spent 4 hours a day, 6 days a week in the almost-virtual space of Telematic Dreaming.

It was a simple but tremendously effective set up and it did not even use wifi or a telecommunications network. **Long, long video cables linked the camera over the bed in the public room with monitors around the bed in my private room.** I lay on a chromakey blue duvet cover – and I remember how it would dye my clothes blue after long hours lying and moving on this horizontal surface. A video camera captured my movement and sent it (needless to say, through another long, long cable) to the video projector over a nice white duvet cover in the public room. The white duvet cover became a live projection surface. When people sat or lay on the bed next to me their image was sent back to the monitors around my bed and by watching these monitors I could enter into a sort of duet with them in real time. Now we would say “I interacted with them.” It was a protected play space, an improvisation space for those who were more physically experimental, and also a site of great tenderness and violence. **I have written at greater length about moments of “cyber sex”** as it was annoyingly called at the time, as well as the times when I was “attacked,” see Susan Kozel *Closer: Performance, Technologies, Phenomenology* (Cambridge & London: MIT Press 2007).

As it turned out, my experiences bore little relation to the rhetoric about technologies of the time, which was all influenced by the cyberpunk era’s claim of “leaving the meat behind”, or uploading our consciousness into virtual space. In short, the rhetoric was all variations of seducing and abandoning the body, and I soon realised, as I inhabited my telematics space, that this was utter nonsense. **My body did not disappear, but it participated differently.** So how could I understand how, why and what this might mean? Through phenomenology. The philosophical approach that I thought I had left behind came back to me and was my greatest tool for understanding embodied experience. In the 18 years between then and now, I have continued to explore physical performance, expression, and communication using a wide range of technological systems. And phenomenology has continued to be a useful methodology – I have transformed it and expanded it like any good tool box, but it always makes me listen to what my embodied lived experience tells me. This is particularly important because my embodied experience is never isolated, it is deeply entwined **with other bodies, other lives and other hopes, fears and desires** regarding our shared futures and how they are shaped by technologies.

Chris Salter is an artist, Director of Hexagram-Concordia Centre for Research-Creation in Media Arts and Technology and Associate Professor for Design and Computation Arts. His work has been seen at major international exhibitions and festivals in over a dozen countries. He is the author of *Entangled: Technology and the Transformation of Performance*.

“There is a shift going on in the humanities and the social sciences towards trying to understand the position of things or objects in the world. How can the theories and practices of performance be used to make sense of the increasingly complex mix between human and technical “life”? When I use the word “performance” I have a very specific definition, and that is the focus on dynamic temporal processes over static objects or representations. In the so called new media world of the 1990s, I was surprised how people reinvented the wheel all the time. Talking about participation and interaction, and I found that weird coming from a performing arts background where those are just given.”



See Chris Salter’s Medea Talk Research Creation at the Intersection Between Media, Arts and Technology:
bit.ly/medea-chrissalter



AFFEXITY: CAPTURING AFFECT WITH A HANDFUL OF TECHNE



AffeXity Phase #02 Green Screen (2011). Performer: Niya Lulcheva.



AffeXity Phase #01 Carlesberg (2011). Performer: Wubkje Kuindersma.

On May 14, 2012, Jeannette Ginslov, Medea's Artist in Residence for Spring 2012, gave a Medea Talk: "AffeXity - Capturing Affect with a handful of techne". Ginslov is the videographer for the AffeXity project and is researching affect and AR (Augmented Reality) in collaboration with Professor Susan Kozel at Medea.

AffeXity is an interdisciplinary pilot choreographic project examining affect, screendance mobile networked devices and cities. It is a project of embedded choreographies, beginning in the city of Malmö, Sweden and accessed by Argon or Aurasma, augmented reality applications for use on smart phones and other mobile devices. AffeXity is a play on both "affect city" and "a-fixity." It has several intended outcomes, one of them being a pilot choreography embedded in urban spaces, using location-based videos and open source socially networked choreographies.

From concept to delivery, this project is concerned with the necessary techne to deliver non-representational artistic encounters reflecting experiential encounters of connected resonances via the Internet. The project explores the notion of affect that, according to Kozel, emerges and comes into existence at the moment of convergence of and "between minute movements and decisions" and a "performance through the tension and the flicker of motion." (cited in Kozel 2012 p 6). It is our hope that these affective encounters are felt at the moment of reception by viewers responding to the outside world via mobile devices.

So far, we as a team have undergone three phases of development, and the most important questions for me as videographer were about my ability to understand affect, how to tease this out from the performer in front of the camera, how to become aware of the moments

when the performer generated affective motion, how to capture affect with the video camera in combination with my proprioceptively engaged body. In addition to these, I wanted to know if the affective moments, which were present at the moment of capture, were amplified through the edit and finally if they were still tangible when they unfolded into the connected virtual layered spaces on the mobile devices.

Furthermore, I need to ask whether the video material needs to be adapted to the ar platforms in order to elicit affective responses from the viewer. What affordances of the techne do I need to change, e.g. choreographic choices, performance of these choices, location choices, camera movements, editing, special effects, locations and the positions of the video in real locations. These locations will be crucial to the reception of affect as certain locations are more imbued with affect than others. How will the selection of locations before and after capture effect the reception of affect via AR? Can the notion of affect be performed, directed, captured, uploaded and felt by the viewer in the location where the primary performance was first captured?

Later on as a team of developers, I think we will need to ask: does the AR platform and the mobile device change the appreciation of affect, does it pose a challenge in terms of the devices size and manner in which the viewer engages with it – at arm's-length? Will there be a learning curve in the reception of imagery viewed at arm's-length, just as theatre audiences learnt to "read" cinematically nearly a century ago? Will the positioning of the arm's-length media amplify experiential and reciprocal reception? Will this and smaller screens amplify affective resonances? Will the subtle nuanced affective gestures be readable on small screens or will they act as a magnifying glass, pulling into focus subtle and smaller moments of affect? How will this change the way I eventually choreograph and shoot those moments?

COLLABORATIVE MEDIA – PRODUCTION, CONSUMPTION AND DESIGN

Jonas Löwgren, Professor of Interaction Design, and Bo Reimer, Professor of Media and Communication Studies, Malmö University discuss the concept of collaborative media.

You have just finished your book on collaborative media. How do you describe this concept, and do we really need yet another expression when talking about media?

JONAS: Collaborative media is the kind of media that goes beyond the traditional model of a producer distributing the same media product to a large number of consumers. The thing about collaborative media is that production is also distributed so that many more people can, and actually do, engage in media content production. In our case, that applies to digital media since that is the field we are operating within. Various forms of collaborative media, such as **cut-and-paste photocopied fanzines, also existed before the rise of digital technologies,** but the kinds of collaborative media that we focus on are within the digital realm.

BOSSE: To problematise that further, you could say that it is also a perspective to have on media, looking at aspects of media that have to do with collaboration rather than things. Using the term ‘collaborative media’ is an attempt to come up with better ways of speaking about contemporary media in comparison to similar kinds of concepts like new media, digital media and so on.

Can you give us some examples of collaborative media?

BOSSE: In the work for the book, we have done a number of concrete case studies **describing how collaborative media can be designed, produced, and consumed.** We take our point of departure from things we have been involved in at Medea, or projects that we have special access to, or knowledge we have that has some kind of Malmö connection. We look at some of the more well known examples such as Arduino (an open hardware platform) and Bambuser (a live video broadcasting service used on mobile phones), but also other kinds of examples.

JONAS: If we start on one end of the wide scale of collaborative media we find the Facebook thumb, the “like-button”, which can be described as the atomic action of collaborative media. It is a very simple action, but is a part of producing the content of the medium that is known as Facebook. The interesting thing is that **a “like” does not only show up as content, but it also changes the structure of what you see on your Facebook page.** That is, your experience is to some extent shaped by what people have liked. It is a simple action, but with fairly profound consequences.

However, this particular case is not what we put an emphasis on in our case studies. A couple of other cases that more have to do with our field of interest at Medea are, for example, the Bambuser and Malmö City Symphony project. Bambuser is a fantastic example of a new and inherently collaborative media platform, stretching out across the world,



A UMPTION



Bambuser is an example of collaborative media.

Image credit: Flickr user tomsun CC:BY-ND

being used by millions of people and having a real influence on the way societies are developing, even in terms of global politics. The Malmö City Symphony, on the other hand, is an extremely local project, strongly facilitated and curated and with a fairly low number of people participating, but where the content production by these individuals is an essential part of the production, the result, the event.

BOSSE: Let me describe the project a bit closer, and where it begun. The City Symphony is a film genre from the 1920s where filmmakers made a symphony of the city using the rhythm of daily life as one way to portray it. The Malmö City Symphony is that idea, but brought into a contemporary setting. In this project, people in Malmö were invited to contribute to the symphony by sharing their films about Malmö shot with digital and mobile cameras. Their images and films were shown at an evening event where their contributions were put together by VJ's (video jockeys) at the same time as there were two electronic DJ's playing music accompanying the films. This event, with all the images, and music, also became a film in itself – The Malmö City Symphony.

JONAS: It is a bit like a crowd-sourced performance version of the 1920s city symphonies. These have the same kind of approach, different kinds of technologies and different ways of creating and putting together the content.

BOSSE: This whole setting also offered the possibility for anyone to remix that film again, which is very different from the 20s. Anyone can make their own version of Malmö City Symphony just by using the film clips that are out there.



Image credit: misspixels CC:BY-NC-ND

When talking about collaborative media it becomes obvious that the role of the consumer has shifted into also becoming a producer of media content.

BOSSE: It is actually more than that. As you said, the people that previously only consumed media now take part in its production. What we write about in the book is the step before that, which is the actual design of the media infrastructure itself. People are not only consumers and producers of media; they also **increasingly take part in the process of designing** both the media hardware and software.

JONAS: A very good example of this is the #hashtag function in Twitter. When Twitter was launched, there was no such thing as a hashtag. It was just a tool for broadcasting 140 characters of text. After a year or so, one of the early users was missing a way to search in the Twitter streams. That person came up with the idea of using a searchable hashtag in connection to the tweets. It was just an improvisation based on a need from a user. The solution caught on, everybody started using it and six months later it was part of Twitter's functionality. Since then, a whole ecology has emerged of third party sites aggregating Twitter feeds in different ways, all using the hashtag functions, which was not originally designed by the people behind Twitter, but by an early user.

Has this development also changed the way media platform producers design their systems?

JONAS: That is one of the main insights here. In the early days, when you designed a software product you tried to make it complete. You had a release date, the product went out into the world and you were done with it. Maybe you

did a new version a year later, but that was it. **When you design a media platform today, you try to go public when you have just a skeleton,** just a bunch of functions, an early beta. You start engaging people in the continuous design of the platform. Early users are involved in figuring out what the most appropriate functions are and how it should really work. The whole development process has changed fundamentally, in media primarily but also spreading to other areas of software development. **This concept of perpetual beta is growing enormously.** Also, in areas where you don't design media platforms you do the same thing, you launch a rudimentary version and then you rely on the community of early, dedicated users to help you get it right.

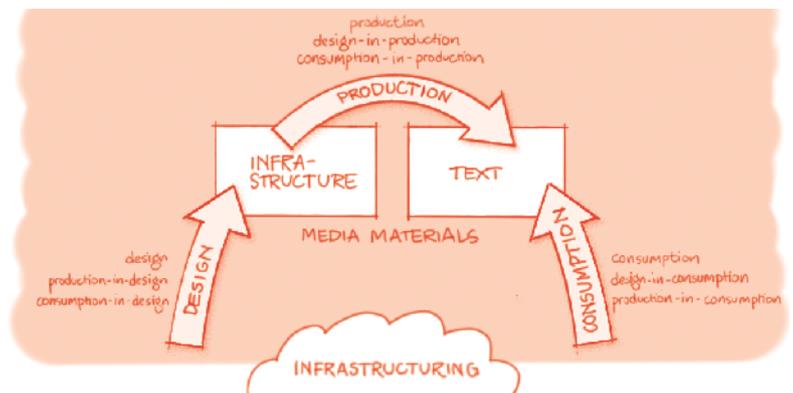


Illustration of the three steps of collaborative media.

To summarize, when you talk about collaborative media, it is about collaborative media production, but it is also about collaborative media platform production.

BOSSE: Consuming, producing and designing together – all three steps.

JONAS: In traditional media you have production, and you have consumption. What we put forward is that in collaborative media you also have design and that these three steps are interconnected. **People formerly known as users are now placed in the middle** and take part in all three parts in the infrastructure: design, production, consumption.



Löwgren, Jonas and Reimer, Bo (forthcoming). *Collaborative Media: Production, Consumption and Design Interventions*. Cambridge, MA: MIT Press, slated for publication in 2013.



Building Illutron Hydrophonic Soundscapes in Helsinki, 2011.

Photographer: Johan Bichel Lindegaard



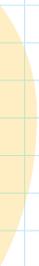
WHAT DO YOU WANT TO CHANGE?

WHY?

“All of our devices invite a set of physical gestures, either determined by the data they convey—voice, text, visuals—or by their design—ergonomic or awkward. They invite gestures by a set of codes and communications across distinct social groups. These codes include ‘how to wear’ your devices in different social settings. For example, the way you carry your device might be different in a club, on the underground, in the library, or in the studio. The mobile phone is a perfect example: do people hunch into it, or speak loudly, as an indication of social or financial status? Do they hide it in layers of clothes, or do they expose it? Do they place it on their desks at meetings? Or do they have to dig in the bottom of their bags to find it? Is it set to ring very loudly, or very softly? Is the ringtone humorous, or is it quite discreet? Or is the phone almost always off? Whether we realize it or not, there are performance qualities such as ephemerality, expressivity, humour, poetry, physicality, and gesture integrated into our daily devices. We can act to disrupt the performances, or we can celebrate them, or, in fact, we can distort and transform them. We can also do the same for databases, networks, and systems of all kinds; see them as performative platforms.”



See Susan Kozel’s Medea Talk Social Choreographies:
bit.ly/medea-susankozel



THE PERPETUAL *printing* OF THE TWITTER MACHINE

Iampoem.net is a website that pumps out poetry at breakneck speed 24/7. It's instant poetry authored by millions of unknowing but egocentric Twitter users around the world. This work of art is the result of a collaboration between Medea's Living Lab the Stage represented by Erling Björgvinsson, authors and editors Anders Bräck and Per Engström, poet Pär Thörn, and interaction design students at Malmö University. The aim was to explore poetry in relation to social media.

This interview between Erling Björgvinsson, researcher at Medea and responsible for running Living Lab the Stage, and Per Engström, editor of the literary journal Pequod was conducted by Magnus Sjöholm.

What was the starting point for the collaboration between the poet and the students?

ERLING: Pär Thörn came up with some ideas and the students began to develop them. They explored digital flows and wrote software that made queries for sentences starting with "I am". Their first choice, Google, turned out to be too limiting. Twitter worked better, but **if you create poetry with the same speed as the world tweets** "I am ...", it would become completely unreadable. A certain percentage of tweets had to be skipped to slow down the pace. In addition, we excluded all retweets, all links, and Twitter handles.

PER: What is most exciting is that Pär not only transformed a text to a new medium, but also created something that might actually be new. Pär works with the poetic rather than "only" presenting traditional poetry in new ways.

ERLING: Thörn works with the qualities of new media in ingenious ways. He argues that the ego – the self – is central

both to poetry and to social media. He saw similarities between the two in their somewhat exaggerated self-centeredness, even though their cultural statuses are quite different. Pär Thörn works extensively with an aesthetic of ready-mades. He is a poet who "does not speak in his texts"; neither the self nor a cult of personality is present in his poetry.

During the first few days of the project, the "I am poem..." flow was, unexpectedly, a mix of large and small concerns. Then something happened: Fukushima.

ERLING: It was fascinating to see what people tweeted in relation to the event: **declarations of love, messages of death, grief and joy and people drunk-tweeting.** This mix of the minutiae of everyday life and world-changing events is what makes people stick to the poem. It's as though you are devoured by the flow. It is something. It has cinematic qualities and it's like a chorus of scattered voices: voices that still have something in common.

The poem only lives for a few seconds. Then it's gone. Even though it always lives, the sentences you see, you only see as they flutter by. The poem is a momentary glimpse of the world. As long as Twitter does not shut down, or Pär Thörn does not shut the poem down, **it's an eternal poem that is in constant production** on iampoem.net and all over the world!

Whose work is it then? Who could claim the copyright for it: the students, Thörn or the Twitter users?

ERLING: Pär Thörn says that the **real poets are those who wrote the code,** the program, those who made the selection and decided on the characteristics of the flow. He sees himself primarily as a concept maker.

48 hour Arabic Game Jam: CO-DESIGNING GAME CONCEPTS FOR ARABIC-SPEAKING MARKETS

Computer game culture is no longer a Western or Japanese phenomena. Today there are strong game cultures growing all over the world, including the MENA region (Middle East and North Africa). Despite this, there are few computer games developed for, or in this part of the world. The global game industry is still of a rather limited cultural nature, and most games are produced by North American, West European, Japanese, and South Korean actors.

In Malmö we have a strong cluster of game companies, as well as a large immigrant population with Arabic cultural backgrounds and language skills. What if these two groups of competences were brought together to co-design game concepts directly targeting the growing Arabic-speaking game markets? What other kinds of stories, game mechanics, aesthetics, and value systems could these generate? What if such initiative could contribute to widen the still somewhat homogeneous selection of game titles available on the market today, and/or even generate more work opportunities in the game industry?

These initial thoughts on the potentials of cross-fertilizing different immigrant cultures with game developers resulted in a long, open discussion across sectors in Malmö. Representatives from the city council, the game industry, academia, NGOs and focus groups took part in a series of workshops and meetings discussing the potential of the project both from business and cultural perspectives, how they should proceed and what would be the next step.

From these discussions the idea of hosting a game jam was born. The basic plan was to explore the potential discussed in an open, direct way,

and with an explorative approach by organising a jam inviting all those interested to take part in the process. A project plan and an application were formulated, and additional funding was obtained from the City of Malmö. On the last weekend of January 2012, the game jam took place in the facilities of Malmö University. The game jam was open to anyone with an interest in the field. Six teams were formed consisting of a mix of people with skills and competency within the fields of game development and Arabic cultures. The design brief given to the teams was to create computer game concepts for Arabic-speaking markets – in 48 hours!

Yasemin Arhan Modéer, project manager at Media Evolution, and Elisabet M. Nilsson, researchers at Medea, talk about their joint project Arabic Game Jam:

To start from the very beginning, before you decided to host a game jam, where and how did the whole process begin?

YASEMIN: It was the City of Malmö that took the first initiative and invited Per-Anders Hillgren and me from Medea, as well as a bunch of people from other organisations, to be a part of discussions on how to develop five urban areas in Malmö (the so-called “Områdesprogrammen”). Per-Anders and I became members of the group focusing on Herrgård (a neighborhood in Rosengård in Malmö), entrepreneurship and finding new job opportunities, especially for young people from the ages of 18 to 30.

We were invited to brainstorm and come up with ideas on how people living in Herrgård that are outside the job market could be involved in an active way. We met at three workshops



and meetings together with people from the Employment Service, companies, academia as well as from our own group, Media Evolution.

What came out of all this was a list of ten concrete projects that could potentially make a difference. **One of the projects is something we call “Massive Rosengård”.** From our previous discussions we realised that there are a lot of people in Rosengård that have an interest in the game industry, as well as a great deal of competence regarding game culture and skill in playing games. This, in combination with a strong game industry in Malmö, as well as the presence of game education and games research, made us want to go further and explore the potential of combining all these factors.

In combination with what Medea was doing during the meeting between the two of us and our different approaches and entry points, there was something that started to grow. Per-Anders and I were appointed by the City of Malmö as project managers for the group that was going to look into the possibilities that I mentioned. So we were given the trust to take this project further and do something with it.

We started with “Massive Rosengård” and **ended up in the idea of hosting a 48-hour intensive, open, co-design game workshop** that we eventually named Arabic Game Jam.

Initially the idea was not to put a special focus on the Arabic-speaking markets or on people with an Arabic cultural background, but on people in general outside the job market. However, due to practical restraints and limited resources we had to focus, and we decided to go for the Arabic theme. Sten Selander, business developer at Media

Evolution, had already been in contact with people in the MENA region about their growing game market. After the Arab spring, things have changed a lot on many different levels. The market has opened up and in the future there might even be a chance for us to export games directly to that region. Of course, all these factors influenced our choice of theme.

How was the Arabic Game Jam organised and facilitated? What happened during the weekend?

ELISABET: Once we had decided to go for the game jam idea we formed a small project group consisting of **people from Media Evolution and Medea**, as well as a reference group consisting of people from the city council and the other involved organisations. We hired a producer, Karolin El-Jaleb, who was in charge of coordinating all the bits and pieces of the game jam, of which there were quite a few.

Since we had never organised a game jam before, we decided to do our game jam as a part of *Global Game Jam*, which is a huge annual event happening all over the world at the same weekend. Through Global Game Jam, we got a lot of practical help and advice when it came to how to facilitate the whole jam. It was also nice to be able to tell our participants that they were a part of such a huge event, and that almost 11,000 people in 47 countries were struggling with their design projects simultaneously.

Basically, the weekend was divided into three major blocks. On Friday evening we started off with inspiring lectures, hints and tips on how to start the design process as well as an introduction to some game design tools. The second block consisted of **hard design, work, blood,**



sweat and tears blended with some happiness and euphoria. In between, the participants could attend more lectures offered in the program, or be supervised by professional game designers who volunteered during the weekend. The final block was the presentations on Sunday evening, where all teams had to pitch their concepts in front of a jury consisting of people from the game industry, some researchers, business developers and of course people with genuine knowledge about Arabic cultures.

Who participated?

ELISABET: In addition to our six design teams, there was also a long list of companies and other organisations that participated and contributed with everything from giving lectures and coaching the teams to handing out prizes and being part of the jury committee. We only had two women participating in the teams, which was very disappointing. We tried hard to recruit females, but failed miserably. Next time we will try another strategy.

What came out of the whole game jam?

ELISABET: First of all, six game concepts with great potential, but also a community. Through this whole process we have built a network of people interested in exploring this field and who want to continue the process. We also learned a lot about how to actually organise such a big event as a game jam with all that implies, such as working with group dynamics, methods for rapid game prototyping, coaching teams in creative crisis, providing feedback on great game ideas and so on. The jam was also covered in regional and national press, which of course has made people open their eyes to this growing field.

YASEMIN: I think a game jam can be a way of facilitating the development of potential business ideas. Of course, there is a CSR (Corporate Social Responsibility) perspective in terms of broadening the way companies look at competency when they employ people. If you want to develop products or services for the Arabic markets, then you need Arabic cultural competence. We have a lot of competent people with that kind of background in Malmö who are left outside the job market. I must say though that the game industry is already very good at recruiting people with different backgrounds.

Another effect of the game jam might also be that the participants gained some self-confidence and can now

see themselves working in the game industry. There are actually people that were involved in the jam that are now studying at the Game Assembly, which is a three-year game education here in town.

What happens now? What is the next step?

YASEMIN: The next step is to organise another game jam, make use of everything that we learned so far, avoid the same mistakes and make an even more successful jam. Next time we need to think more about what will happen after the game jam. We need to build a structure and organisation for how to more carefully follow up on the teams and help them take their concepts to the next level.

ELISABET: Two of the themes that Medea explores are user-driven design and open innovation: how to produce media content from a bottom-up perspective and how to include groups of people who do not normally have access to a specific domain. In upcoming game jams, we want to continue to explore these aspects, develop methods for co-designing games and for facilitating meetings between people with different types of competency and interests. Of course, we are also interested in looking deeper into the outcome of the process – the game concepts. What new kinds of game designs and game genres, if any, do we see? Is there such a thing as an Arabic kind of games, in comparison to Japanese games or games produced by Western developers?

YASEMIN: As I said, a concrete next step is of course to organise another game jam, and our plan is to make this happen. But I also think we have learned a lot from this process that we can use in other fields, that is, alternative ways of working with business ideas and concept development. This whole process has given us a new perspective on how to work in these kinds of open co-design processes. I guess one could say this project is a good example of how academia and an organisation like ours can come together, combine our different approaches, methodologies, agendas and reach far beyond what we could have achieved on our own.

More information about Arabic Game Jam, and about the six game concepts: www.arabicgamejam.org

HAVING CHANCE AS OBJECTIVE

By Per Linde, Ph.D in Interaction Design, and Assistant Professor at Malmö University.

“As beautiful as the unexpected meeting, on a dissecting table, of a sewing machine and an umbrella”, a phrase by Isidore Ducasse, was one of the war chants of the first surrealist group, referring to chance encounters as aesthetic method. Research is most of the time understood as the opposite of chance, whereas researchers themselves recognize the unexpected as an integral part of research. While the goal of design research often is development or trying out of products, services or formats for making these, the encounters between people, places and artefacts, are extremely rewarding for the actors involved in a special way. Many of these are unforeseen, wherein their beauty also can be found. The pictures are from different research activities where chance has not been the objective, but where the dynamics of unforeseen and situated encounters have been simply beautiful.

There is only one reality. The virtuality of the screen is just as material and real as places we visit and people we meet.

Left: public “boom box” tried out at skate park Stapeln (Periphèria project). Right: girl skateboarders watching tricks performed during the day (Urblove project).

Like temporarily seeing the world through a lens. School children documenting the neighbourhood (Periphèria project).

Reality can be immediately accessed and experienced, futures must be constructed. Left: prototyping a street event (Periphèria project). Right: pupils from the school of Kryddgården producing sustainability patterns (Periphèria project)





Gatherings are part of construction and experience. Left: prototyping the local square (Parapolis project). Right: visitors at the street festival (Periphèria project).



The city is full of inscriptions. Left: the "101" back-yard at Professorsgatan (Urblove project). Right: answers to riddles in mobile games (Urblove project).





The city can be performed, appropriated and played with. Left: steppen (Urblove project). Right: workshop break (Periphèria project).



We're jamming the future.

Left: originators of the parascope, Erik and Magnus, jamming on drums and parascope (Parapolis project). Right: manager of local store looking into the future (Parapolis project).



On the inscriptions, further inscribing takes place. Left: making gaming nodes at Herrgården (Urblove project). Right: playing the game (Urblove project).



The Medea Studio.



INNOVATING IN DEVOLUTIONARY TIMES

Bob Jacobson is co-founder, chairman and strategist at Atelier Tomorrow, based in Malmö. ATAB's purpose is to develop systematic means for developing regional innovation platforms. In 2009, Bob was Medea's first Entrepreneur-in-Residence. We sat down at Medea for a discussion about resistance to innovation and the need for mankind to devolutionize when we run out of cheap energy.

What are your thoughts on the European innovation landscape?

Last week I attended the EC's INNOVA conference hosted by the EC and Denmark's innovation agency, DASTI. People from all over Europe came to talk about how the European approach to innovation has, and has not, worked. In keeping with the Danish custom of teaching through humor, the conference featured mock trials (complete with advocates in black robes and white ribs) of national innovation managers nominated by their peers for "worst of the year." The questions boiled down to the value created, or not, by millions and billions of euros (and pounds and crowns) spent each year by official bureaucracies on innovation. First, does the money even reach the small and medium-sized enterprises (SMEs) that are the proven engines of innovation and job-growth, or is it mainly patent fuel for large corporations that can be allies, but are often the enemies of SMEs? Second, which is a better strategy, public grants or tax reductions and other financial incentives (often touted in the USA) for stimulating company and job growth?

The evidence is generally negative. Many small companies are started with small public grants – but then they enter "The Valley of Death" between the time they create a new product or service and the time these innovations produce substantial income. They need help with, and money for, commercialization – marketing, sales, etc. and just for staying alive while it all happens. For this, there is no official money, or it arrives so late that it makes no difference and these companies die. Moreover, the coaching that new companies need, the collaboration, the networking with potential business partners and buyers – the stock in trade of venture capitalists, of which Europe has very few – isn't available. Incubators don't do the job. Investor "white knights" are non-existent. Clustering alone is not a sufficient solution. As to incentives – well, the US election will tell the tale of which strategy the people favor, Obama's policy of support or Romney's of cutting taxes. So far, no one has made a compelling case for tax reduction as a cause of anything other than the rich getting richer and then investing the money overseas in developing nations or stashing it offshore. A lot more attention needs to be focused on European national and regional innovation policies, not whether they can work, but, rather do they work as they are. So far, the answer is "barely."

Can you describe what “open innovation” is about, now and historically?

The concept of open innovation has many different interpretations. The original meaning was for an enterprise or service-agency to collaborate with its business partners, its suppliers, and its distributors and wholesalers, hopefully to discover new ideas for production and marketing and so forth, ways to add value during the product life-cycle.

It turns out that organisations are secretive by nature. They are competitive, or at the very least, protective of their autonomy. They don't share well. There are always exceptions, cases where the old form of open innovation actually worked. **These are trumpeted in reports by academic promoters** and what I call the “Wow!” magazines and blogs purveyors of business voyeurism – but it's because they are exceptions that we learn about them.

Social media altered this meaning. Now it's possible for enterprises and agencies to communicate directly with their customers and clients, potentially to involve them in the very act of co-creation – conception, design, and development of new products and services. I say “potentially” because although open innovation's been given a lot of press, just like “design thinking” before it, it's been more successful in blogs, papers, and Powerpoints than in practice.

Open innovation is casting a net. You advertise your openness to receiving communications about your business or service and how it can do things better from the standpoint of the customer, the client, or the general public, as well as business partners. Or you proactively seek new sources of ideas in the outside world beyond the organisation's boundary. So far, this has been as ineffective as the former sort of corporate open innovation, but for a different reason: this type of open innovation produces too great an abundance of “new ideas,” most of which are redundant and without any quality-control. Just sorting through this plethora, let alone testing the best ideas for

implementation, is a daunting challenge. This process can be automated, but that only allows faster absorption of greater numbers of ideas, not their quality. Then it becomes crowdsourcing, the ultimate abdication of responsibility by organizational innovation managers.

The answer, I believe, is to use open innovation techniques to identify trusted, constant innovators, “innate innovators” as we used to call them before the current faddish devotion to ultra-democracy expressed in such practices as crowdsourcing. **These constant innovators will produce interesting, valuable inputs every time you contact and share information with them.** Organise them into a network and you create an engine of innovation. In the USA, a new C-level officer has been created in many organisations, a “chief learning officer” or CLO whose job it is to identify constant innovators within the organisation and recruit them as workers, either as employees or outside consultants. Organisations need implementers as well as innovators. It's a tricky business getting the mix right. But when it's right, the organisation becomes an innovation platform.

How do you relate to open innovation in your daily work?

When you get down to the practicalities of running a company and developing projects, a lot of the rules go out the window including abstract concepts of open and closed innovation, networking, crowdsourcing, and so forth. Those are things for journalists, academics, and PR people to write articles about. If, for a moment, you can halt an entrepreneur or successful innovation manager (often the same person) in action, he or she may be able to recite the contents of one of these articles. This “knowledge” has become a sort of badge one wears as an “expert”. But when they're working, unless they're merely window-dressing, people hired for PR effect, they haven't time for such readings of business poetry. In Atelier Tomorrow, we're busy all the time. **We have so many new ideas to put into practice,** any more

would cause us intestinal distress. Like many entrepreneurs, we also maintain private practices on the side, to keep our incomes sufficient; we're busy all of the time. We don't have time to implement theories. We must think fast and work faster. Our open innovation happens continuously.

Do you think that the discourses on open innovation for the last 10 years have permeated people's mindsets so that they actually dare to talk to other people and competitors about what they're doing?

That's the interesting thing, that they do it, but not officially! They know it's the right thing to do, often **the difference between corporate or agency life or death,** to build networks of proven innovators and participate in them, to know what's going on, and to share ideas and opinions for business and project improvements – just as we do in ATAB on a daily basis, even in the evenings and on weekends when we do our email and Skyping. Maybe we do it even more so in the evenings and on weekends, when our time is more relaxed. Most employees don't feel empowered to do that during the daytime, with the casual attitude it requires. They go online at night and that's when they spill the beans. Business noire.

Can innovation be managed?

It's not my belief that innovation can be systematically managed, in the sense of developing formal systems that exist beyond personal communications and intuition. **Can we develop tools to help us in our informal "management" of innovation?** That we can do.

I believe in innate innovation, that some people are simply better innovators because of genetic predisposition or early upbringing. By the time you are an adult you know, given a chance, whether you are an innate innovator or not. I'm not

simply speaking about the Leonardo di Vincis and Florence Nightengales and Richard Bransons and Aung San Suu Kyis who capture our attention in traditional and "Wow!" media, but also the innate innovators whose abilities are known and respected only among their peers, be the rocket scientists, fine artists, or gardeners, fields in which crowdsourcing and other extreme forms of open innovation would be useless since so few people have broad awareness of what's happening around them. Or by no one but themselves. Only raw innovators enjoy living off the professional grid.

I read that in Sweden the workweek is now 26.5 hours, when you subtract all the time off and daily fikas, etc. That leaves 13.5 hours during the conventional workweek for innovative thought and communication. If this time is well used, it should make Sweden the world's leading innovative nation. Why isn't it? Because the reward systems are stacked against innate innovators. The cliché obstacles to innovation in Sweden, about which everyone politely laughs but privately acknowledges are real, are lagom and envy. **These are concretely expressed as biases among innovation agencies** to deal mainly with large, "safe" corporations and institutions (like universities and associations) rather than with new entrants to fields – and the same among the corporations and institutions; and a general official uneasiness with innovations in the public sphere unless they pass the test of raging public popularity, a sort of Catch-22. This tendency is somewhat relaxed in Malmö, though perhaps not to the degree that was formerly the case while the city was undergoing its post-shipbuilding resurrection.

What do you think the role of innovation will be in the future?

It depends on the future we anticipate. James Howard Kunstler is an independent scholar and writer recently seen on SVT's Kunskapskanalen, in a public forum on future

human habitats. Kunstler believes that we've reached Peak Oil – net reductions in oil output – years ago and that societal strangulation due to lack of cheap energy is our unavoidable destiny. He remarks that **we are the only people who will experience, in our lifetimes, petroleum-based global affluence** and then its disappearance.

Kunstler foresees an end to globalisation (and most travel and transport of all types, for that matter) and the breakup of large social constructs like multinational corporations and nation-states based on cheap travel and transport. In their place will spring up city-hinterland domains like the city-states of medieval and Renaissance Europe or for that matter, most of the world since the beginning of time. Rome and similar great empires were based on slave labor; perhaps that's in our future also. Or maybe we will all starve.

Kunstler's point is that we have to start talking and planning in devolutionary terms so we don't end up as characters in Cormac McCarthy's devastating novel of a Kunstlerian future, *The Road* (made into an equally bleak motion picture) that won awards but obviously didn't change a thing.

Opposed to these bleak visions is the hope (that I share, though cautiously) that in a devolved social order, innovators will find room to develop ways of living in keeping with ecological principles and a notion of the good life based on something other than consumption. It will be smaller scale, more personal, more local, with diminished ambitions, only a simpler life lived in synchrony with natural rhythms. This is the world as described in novelist Ursula Le Guin's *Always Coming Home*, a compelling history of a gentler possible future. We are remembered by Le Guin's people living in the region of Kesh, in 50,000 AD, as "the people with their heads on backwards" whose innovations destroyed each other and permanently polluted the world in which all things must live – but who also created The City, **a self-repairing global computer, usually kept underground and out of mind, busying itself answering the Big Questions, always ready for a chat.** Our mixed legacy.

Regardless if Kunstler is right about oil, in a future characterised by severe climate and social change – about which there is no doubt innate innovators will be honoured and their achievements implemented, not ignored, second-guessed, or reviled. They will be our shamans, our inventors, our counselors, the preservers of life in a potentially hostile environment giving rise to widespread human conflict or cooperation. The practice of innovation, often radical innovation, will truly become open. At least for a while.



Image credit:

Flickr user Eric Fischer CC:BY



A PLACE-CENTRIC VIEW on rehearsing future use OF PUBLIC SPACES

Interview with Per Linde, Assistant Professor,
and Ph.D. in Interaction Design.

A place is not the same thing
as a location.

You have been working a lot with the concept of place-centric computing and media. What is it and why do you think it's a fruitful concept to work with?

At first, it might seem rhetorical to take *place-centric* as something foundational for working with Interaction Design and computing technologies. But place-centric computing argues for a place-centric perspective on digital design, where the digital technology is regarded as but one element of the on-going social construction of place. Often we talk about 'communities of interest' and 'communities of practice' while designing social technologies, but we can also talk about 'communities of place' or 'place-based communities', which are communities where people are bound together because of the physical and material spaces they inhabit and live in. Fundamental for my design experiments is how the everyday man can temporarily, or more permanently, appropriate public urban spaces. These spaces might originally be designed for something else; traditionally, public spaces are governed by instances such as the municipalities. The appropriation of public spaces by the everyday man can only partially be imagined mentally, and I think it's crucial to perform public experiments in the actual places we work with.

The notion of place has been a driving force in many projects, not only my own. It becomes necessary to address the actual place and the actual use of public urban spaces as something *lived* and *experienced*, not something that is only programmed for certain functions. **It must be possible to rehearse alternative future use of public spaces.** We have, in the recent years, seen a huge variety of design projects specifically addressing public urban spaces. Most often they deal with combinations of geographical coordinates, connecting mobile phone applications and digital media to the coordinates, for example location-based services. But, a *place* is not the same thing as a *location*.

In many cases, this is because of the fact that augmented maps provide such a strong potential in itself, and places relate to the more abstract idea of maps. I think we need a perspective that treats place not as mathematical coordinates or something that is pre-programmed once and for all, but something lived and experienced that can be appropriated. **Place-centric computing tries to shift the focus from the urban form to the urban experience.** We can view the contemporary city as a dense ecology of impersonal social interaction occurring within recognisably public spaces. Thus we look upon our own environment as an appealing design resource.

What is the difference between place-specific and place-centric?

Early on, there was talk about *place-specific* computing and media that took a strong stance by starting from the extreme side of the spectrum. Place-specific computing was seen as a class of digital designs where both the functions and the media addressed a very specific place: for example, you can't access the media from the Internet but just by being at that specific place. And also that the media should be something that is specific to that place, that it should have been produced there or somehow related to it. The notion of *place-centric* is actually loosening up the concept a little bit to enable the full potential of a place. Another motivation for moving from place-specific to place-centric is that places are also networks. Places are connected to other places and people.

Could you give an example of a place-centric experiment you have been involved in?

The Bluetooth bus experiment where we distributed locally produced media on a bus. A bus is actually a nomadic mobile place. This experiment says something about the difference between spaces and places; something that architects and urban planners have been debating for years. Often we see a bus not as a place, but as a space for transportation, but that is not true. You get to travel on the same bus every day, **you have your habitual patterns of movement, you get to recognize your fellow commuters** and the graffiti on the seat in front of you.

By having a place-centric perspective, you can achieve an understanding of a place that we normally don't address as a place. Another important aspect of this experiment is that traditionally, the bus company owns the bus as a space. But actually, the people travelling on the bus have a potential of providing rich and meaningful media that can be accessed through riding on the bus. What the experiment did was not only to explore what kind of a space it is, but the clash between perspectives of ownership, which is a fruitful starting point of innovation.

Graffiti on a bus seat. Credit Flickr user micamonkey. CC:BY-NC-SA



Living archives: SHAKING OFF THE DIGITAL DUST

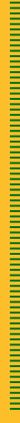
Our archives are the traces of our culture. They are the repositories of our hopes and fears, our accomplishments and our failures as a society, and they are increasingly in digital format. Social media and networked technologies are in the process of dramatically transforming archival practices. The Medea project Living Archives, led by Prof. Susan Kozel, will research, analyze and prototype how archives for public cultural heritage can become a significant social resource, creating social change, cultural awareness and collective collaboration pointing towards a shared future of a society.

Today, most archives have been digitized, but many of them are still dormant and inaccessible to the broad spectra of citizens. **Revitalizing public archives into living social resources** implies shedding the conception that they are the dormant and disembodied narratives of a dominant culture. With the Living Archives project, we shake the digital dust off archives and open the process of archiving so that it embraces contemporary practices associated with open data, social networking, mobile media, storytelling, gaming, and performance. The purpose is both to see how public cultural heritage can become a significant social resource, creating social change, and how archival practices outside institutions can be facilitated, performed and valued.

Archiving is not just located in the past, **it occurs in the present, and it impacts the future.** As such, archiving faces the same general problems as knowledge circulation: call it narrowing or shallowing. We know that search engines serve as amplifiers of popularity, continually reinforcing a consensus about what information is important and what is not. Digital information that is marginal, unusual, or even simply associated with atypical keywords is left out of the wave of what constitutes knowledge.

If we replace *knowledge* with *archives* in the previous sentence, then there is a risk that cultural memory becomes narrower, both in terms of accessing what already exists but also what is being generated now. In this project, we do not only open up dormant archives, but also address the wider problems of a *narrowing of content* (what is archived?) and a *narrowing of inclusion* (who does the archiving?). This project is **significant because participatory and performative social actions and openness of data will become increasingly important** in our digitized society, creating conditions and possibilities for action and thought.

The project develops tools, methods and best practices is carried out by a collaborative and multidisciplinary team of researchers, contributing knowledge and methods from the fields of History, Artistic Research, Interaction Design, Computer Science and Cultural and Critical Theory.



Richard Topgaard, Media Strategist at Medea
Susan Kozel, Professor of New Media at Malmö University

Learn more about Living Archives: bit.ly/medea-livingarchives



Image credit: Flickr user By Mike "Prakinejavamon" Kline CC-BY

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USING DATA GA understand TH THROUGH open

Marie Gustafsson Friberger, Assistant Professor, Ph.D. in Computer Science and involved in two research projects at Medea.



Open data, and especially open government data, is the idea of making data available to the public to enable, for example, transparency and reuse. Governments in countries such as the United Kingdom, Kenya and Sweden (to name only a few) have initiatives for making data available to the public via the Web. Other organizations include the United Nations and the World Bank, as well as cities, such as London. The available open data covers many different domains, for example, financial, social and economic indicators and community information. Common usages of open data are dedicated applications, as well as visualizations and mashups. Examples include the GapMinder tool for visualising world development, mobile apps for reporting potholes and mashups for seeing where bikes are stolen.

A variety of forms of access are used to provide open data to the public. One example is by providing the information in spreadsheets via government portals. This has drawbacks, such as being cumbersome to parse and access. One way of overcoming this is by providing application programming interfaces (APIs). Yet another way of providing access to open data is through the method of using linked data: publishing structured data in a manner building on standard Web technologies and where disparate resources are connected.

With increasing amounts of open data, especially where data can be connected with various additional information resources, new ways of visualizing and making sense of this data become possible and necessary. Common ways of displaying data are tables and charts, with more interactive forms such as the Gapminder tool becoming increasingly available.

Another possibility for helping people make sense of data is by constructing data games, games that allow the player(s) to explore data that is derived from outside the game, by transforming the data into something that can be played with. Games can be a natural metaphor for citizens (or players) to interact with, engage with and make sense of open data. Open data also offers an opportunity for games to connect with real-world phenomena.

As an initial proof of concept, we have constructed Open Data Monopoly, a simple software that generates Monopoly game boards using economic and social indicator data for local governments in the UK (available as spreadsheets through data.gov.uk). In this data game, the primary user interaction and data visualisation is in the process of generating the game board, rather than in playing the game. The main idea of the visualisation is to arrange the local authorities as Monopoly streets on the game board. In addition to playing the game on a generated board, the generation of game content itself

GAMES TO THE WORLD *data*

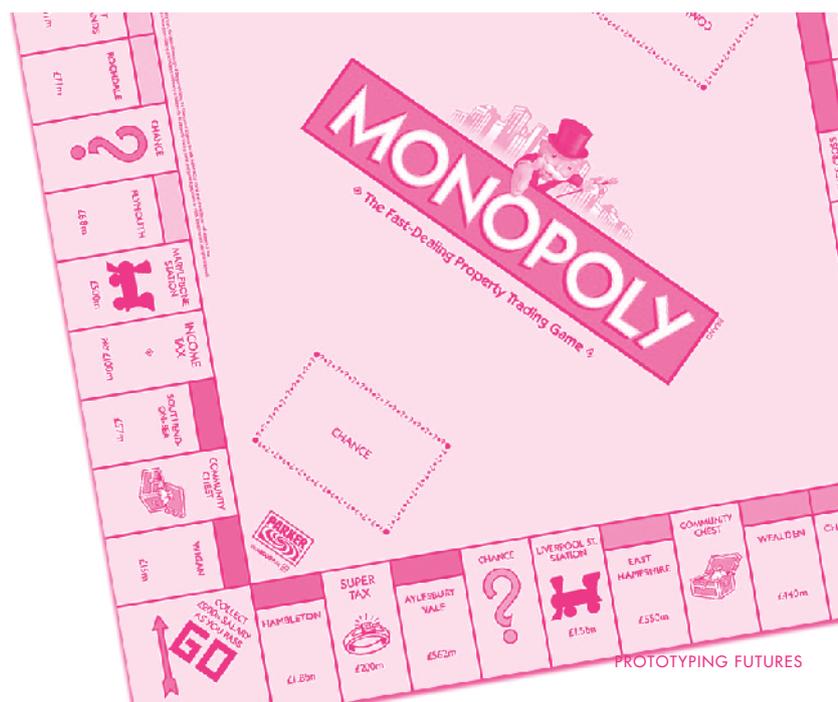
can provide insight into how different communities fare on different indicators.

Game boards are generated by first collecting user input on which indicators to use and how to weigh them, as well as what criteria should be used for street selection. Sets of streets are then evolved that maximise the selected criteria, and ordered according to “prosperity” as defined subjectively by the user. Chance and community cards are created based on auxiliary data about the local political entities, using structured data from Wikipedia, as accessed by linked data methods from DBPedia.

By using a common board game such as Monopoly as a visualisation metaphor, citizens can be provided with a means of visualising publicly available data about their country and neighbourhood. Other possibilities for data games are currently being explored.

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This represents work carried out together with Julian Togelius of the IT University of Copenhagen. A more thorough description of Open Data Monopoly can be found in the research paper *Generating Interesting Monopoly Boards from Open Data* at medea.mah.se/publications



GRANNY'S *dance* ON THE TABLE



Granny's Dancing on the Table is a transmedia production that includes a full-length feature film and an on- and offline story world with strong gaming elements. Granny's won the prestigious Arte Pixel Pitch Prize in London 2010, and did a successful Kickstarter crowdfunding campaign in 2012. Lead partners in this project are Tangram, Good World, Ozma Games, Pebble and Medea. The team explores how participants may contribute collaboratively to the production, both creatively and practically.

ERLING: What has it meant for you to work with us at Medea?

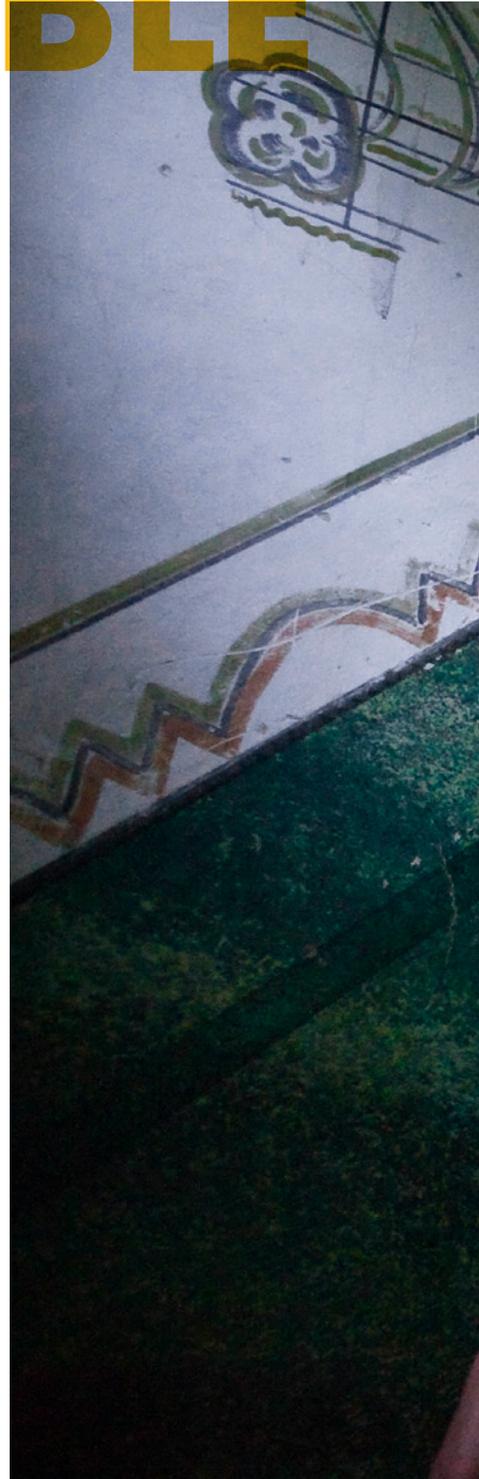
HELENE: "Security" is the first thing that comes to mind, in that you have been involved in every process related to the Granny's project. You are, of course, very warm and loving people, but you also have an academic interest in the development of the production: an interest in seeing our reality and joining us in it, to see the opportunities and adversity and to be our support.

BOBBI: You have been a platform for continuity. We've had many of our meetings here and I don't think that's just because there are rooms available, but because Medea has become our home base for the project.

KARIN: You've become neutral ground for us, but also an important source of knowledge. You have given us examples of other projects that are important to learn from.

HANNA: To me, the collaboration with you has meant reflections about the process. A few years ago, I was asked which I thought was most important: the process or the outcome. I used to reply that the outcome is most important. But now I have an understanding of the process and what it means, and now, to me, the process is part of the outcome and must be given equal weight.

HELENE: Because that the process and the reflection have been so central, it has given us the courage to take a step towards risks and being more experimental than we would have been if we had not had the researchers to lean on. When the first feature film *Nasty Old People* was distributed via the Pirate Bay, it wasn't just a whim, but was preceded by a process with researchers and students who looked at several alternative ways to reach out with a movie. Besides, you said that if there was a backlash you would be there to answer questions.



ancing



Eini, the protagonist.

Photographer: Emma Blomberg.



Eini after leaving home.

Photographer: Emma Blomberg.



HANNA: You've also been involved practically. Together with you, we set up the Facebook page where I started to communicate with our fans, and it was you who made the torrent files, you who initially seeded the film. You've been at the production development labs as well.

HELENE: May I ask what our collaboration has meant to you at Medea?

ERLING: A whole lot. We've often worked co-productively over the years, but these collaborations have often led to design concepts and nothing else. **With Nasty Old People and Granny's Dancing on the Table, the design has become public** in a different way. It has also been activist, with a clear political position. We have always wanted to have research that is based in the present rather than the typical "ten years into the future", with a focus on the future as being here and now.

BOBBI: Medea has also been a strong counterweight to the other systems that we have been fighting. It has been great to work with an organization like Medea that has a different way of thinking.

HELENE: We usually talk about the three dimensions of **the Granny economy: economic, social and cultural.** The systems we have been fighting have been the economic systems, in which we have found it difficult to fit in. Socially and culturally, we have fit in well at Medea. You may be right in what you say Erling, that we are more at home in the future than in the present, since this is pioneer work we are doing.

ERLING: Yes, but it is rooted in the present. IT and design research often see the new frontier as a blank slate rather than as a mix of the complexities the present consists of. We as researchers think it's exciting to be mixed up in the "now". Thus, we have gained many insights into the film industry, both with regards to narratology, as well as financial and cultural structures.

HELENE: We've also got a "researcher's identity" in us. We've become interested in **experimenting and doing things in new ways** to see what happens to the world when you do.



Helene Granqvist is the CEO of film production company Good World; Hanna Sköld is a director and runs the independent film company Tangram; Bobbi Sand and Karin Ryding runs the game company Ozma Games; Erling Björgvinsson is researcher at Medea, and responsible for running Living Lab the Stage.



Illustration of the game Below which is a central part of the Granny's Dancing on the Table story world.





The Crew

People associated with
Medea since 2009:

Alf Condelius
Anders Emilson
Anders Høg Hansen
Andreas Jacobsson
Andreas Göransson
Anna Seravalli
Arlene Birt
Asta Wellejus
Bob Jacobson
Bo Peterson
Bo Reimer
Carl Magnus Olsson
Christoffer Hansen



David Cuartielles
 Daniel Spikol
 Elisabet M. Nilsson
 Erling Björgvinsson
 Fredrik Ohlin
 Gion Koch Svedberg
 Halfdan Hauch Jensen
 Helena Holmström Olsson
 Jeannette Ginslov
 Jennie Järvå
 Jonas Löwgren
 Jon Kolko
 Jörgen Adolfsson

Karin Johansson-Mex
 Karolina Rosenqvist
 Lina Ehn Öberg
 Louise Tregert
 Marika Yamoun
 Mads Høbye
 Måns Adler
 Marcus Ljungblad
 Margareta Melin
 Marie Friberger Gustafsson
 Marika Yamoun
 Michael Rundberg
 Michael Tiberg

Paula Collijn
 Paul Davidsson
 Pelle Ehn
 Per-Anders Hillgren
 Per Linde
 Pernilla Severson
 Richard Topgaard
 Roger Johansson
 Sanna Marttila
 Susan Kozel
 Ylva Gislén

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CONCEPT MAPPING
#VALUES MAPPING

Q. MESSUNG TRENNUNG

IOER IS SYMMBOLE
-> MODELL & MAJORITY

programmieren



Medea co-partners

a-Muze! Interactive	Drömmarnas Hus	Leena Rouhiainen	Schoth
A. Telier	E.ON	Lilla Växthuset	Selfmade
Academedial	Education and Research about Responsible Living (PERL)	Luisa Carbonelli	Sigma Kudos
Aluma	Emues	Lund University (LU)	Sjællands Symfoniorkester/
Ambadoo	Epsilon	Malmö Academic Choir	Copenhagen Phil
Apokalyps Labotek	Ericsson	Malmö Museer	Skåne stadsmission
Arduino	Fabel Kommunikation	Media Evolution	Skånes Dansteater
Artcom	Feedus	Mediaverkstaden	Skånes konstförening
Återskapa	Flattr	Mia Keinanen	Skolstaden Helsingborg
Attendo	Föreningen för Sveriges kulturtidskrifter (FSK)	Miljonprocessen	SOCAP
Auto Images	Forskningsavdelningen	MINC	Sony
Awnic	Galleri 21	MIT Press	Southpost
Barn i stan	Geek Girls	MKB	ST Ericsson
Blekinge Institute of Technology (BTH)	Georgia Tech	Mobile Heights	Stadsarkivet
Bambuser	Gleerups	Netport	STPLN
BoostHbg	Gnistan	Ozma Games	Sveriges Television (svt)
Carin Hernqvist	Good World	Paxx Media	Swedish University of Agricultural Sciences (SLU)
Centrum för publikt entreprenörskap	Göran Network	Pebble	Sydsvenskan
Circom	GR Experiential Learning (GRUL)	Pequod	Tangopalatset
City of Malmö	Hållbara Hilda	Pirate Bay	Tangram
City of Malmö/Business office	Herrgårds Kvinnoförening	Psychic Malmö	Tantverket
City of Malmö/	HSB	Quinn Ertel	Telefonica
Environmental Office	Hungerprojektet	Rädda Barnen	TeliaSonera
City of Malmö/Planning Office	IBM	Råfilm	Testbedstudio
City of Malmö/Street Office	Illutron	Rámus	The Faculty of Engineering at Lund University (LTH)
City of Malmö/The sÖM project	Innovationskontor Syd (IKS)	Rebecka Svärd	The Royal Danish Academy of Fine Arts
CLICC	Institut for Uddannelse og Pædagogik (DPU)	Region Skåne	Tösabidarna
CoderDojo	Institutet för hållbar stadsutveckling (ISU)	Rhefab Management	TrendMaze
Coompanion	ISA	Rights Fashion	Ung i Kör
Cykelköket	Ixagon	Riksställningar	Unsworn Industries
Dagens Valfärd	Jeannette Ginslov	Röda korset	Uppstart Malmö
Damanco	κ3 students	Rörelsen Gatans Röst och Ansikte (RGRA)	Urban Studies/Malmö University
Danmarks Tekniske Universitet	Kore Productions	Rörsjökolan	Vandringslust
Deleted Art	Kryddgårdsskolan	Rosengård Municipality	Varda
Design for Social Innovation and Sustainability (DESIS)	Kulturbyggan	Rosengårdsskolan	Wi.se BTH
Designskolen KADK	Kulturkraft Syd	Royal Institute of Technology (KTH)	WIP
Det Kongelige Teater	La 27ème Région	Rundgång	Workshopscenen
Deutsche Telekom	Laura Watts	Schneider-Electric	Yalla Trappan
DoDream		School of Education and Society/	Øresundskomiteen
Do-Fi		Malmö University	



The future is unwritten.

MEDEA IS A RESEARCH CENTRE AT MALMÖ UNIVERSITY FOCUSING ON DIGITAL MEDIA, CO-PRODUCTION AND MULTIDISCIPLINARY RESEARCH.

This publication gives you a glimpse of what collaborating with academia might look like. Medea and its co-partners share their stories about activities happening at the research centre – projects, methods, tools and approaches, what challenges lie ahead, and how these can be tackled. Examples of highlighted topics include: what is a living lab and how does it work, what are the visions behind the Connectivity Lab at Medea, and how can prototyping methods be used when sketching scenarios for sustainable futures? Other topics are: what is the role of the body when designing technology, what is collaborative media and how can this concept help us understand contemporary media practices? We also discuss the open hardware platform Arduino, the concepts of open data, and Internet of Things, raising questions on how digital media and connected devices can contribute to more sustainable lifestyles, and a better world.

This publication is also an invitation to start prototyping *your* futures – sketch, test, fail, sketch and test again, and again and again in an on-going journey of knowledge building and a quest for more sustainable futures.