



From the introduction to the symposium:

So here's a crash course in contextmapping

The context of user-product interaction is multi-layered and diverse. Designers need a map to explore this terrain, more than a grand theory to replace it. Users are the experts of their experience, and should contribute as such to design. Especially the combination of 'make and say' is a way to bring out tacit experience-based knowledge. This brings designerly tools inside the research process. Involving people as experts takes time: you shouldn't surprise them, but sensitize them over a period, to bring out the user's expertise. Similarly, it takes time (and methods) for the design team to obtain empathy for users and inspiration toward new products.

Liz Sanders, who has the most experience in this field, will tell us what she's doing these days in field of co-creation; she was our main source of experience before we had any experience ourselves. Then our second speaker, **Jacob Buur** from the University of Southern Denmark, will tell us about his experience; then we have a hour of the best of our own, beginning with the first context-mapping PhD, **Froukje Sleeswijk-Visser**, who defended her thesis yesterday. She will introduce **10 students** who have graduated and actually have a year or two of experience in practice (some even more), and they will give you an overview of what's happening today in user-centred design with these types of methods.

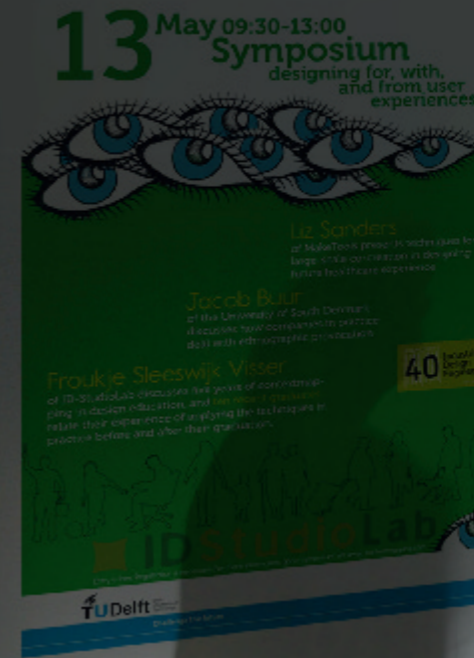


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proceedings

designing for, with, and from user experiences





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proceedings

Pieter Jan Stappers (editor)
Jane Szita (Editorial contributions)

■ IDStudioLab Press



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introduction

how to design for, with,
and from user experiences

Pieter Jan Stappers

The contents of this publication were created for the conference, held in Delft, on the occasion of the defence of the first PhD in 'contextmapping'. We had been working on the contextmapping project for a good five years in Delft, so we decided that it was time to bring in international colleagues, designers and former students who are now in practice, to reflect on the current state of affairs, and the implications for research and practice. The response was overwhelming. We ended up with a densely packed programme for a completely full auditorium (over 300 people, half from industrial practice and half from various academic institutions), plus a busy programme of tie-in workshops in the afternoon.

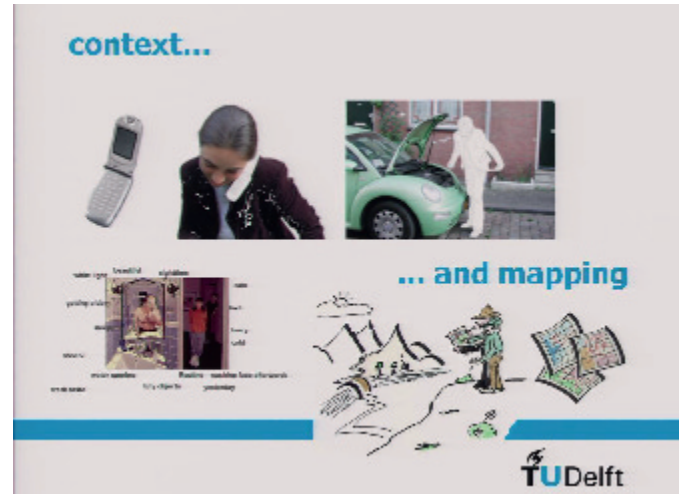
with a button for the user to push, unless your trick is very new, valuable, and unique. But thinking *about* the users is often not enough any more.

Designing **with** users goes a step further: there is extra value in bringing real users into the design process. Over the years, we have seen many forms of this, of which the usability test (finding out what's good and bad in your concept relating to its use and the user *before* you bring the product onto the market) is an established wisdom. For a long time, this meant consulting users about new products, or testing them – typically, after the ideas had matured. But new roles for the user are starting to emerge, beyond that of a passive object of study or informant. The user is increasingly being seen as a collaborator bringing valuable ideas and concepts, and working together with designers to identify needs and important directions. The term 'co-creation' has been unleashed upon the market as one of the new approaches to designing with users. But involving users in active roles has not been easy, and in many of the cases where co-creation is claimed, we see only shallow forms of user involvement.

One reason for this is that collaboration takes investment and time. Professionals working in multidisciplinary projects always find that it takes effort to develop a working collaboration and shared understanding, and to get useful contributions from people. You cannot just invite someone in from the street and expect them to instantly contribute to something as complicated as designing a future product. You want to involve their expertise.

It takes effort to raise users to their level of expertise. Within the contextmapping project, we developed techniques aimed at involving users as 'experts of their experience', in collaboration with Liz Sanders. These engage users for a longer time, and give them the tools to observe and recall their experiences, reflect on them, formulate insights, and contribute to the design. This insight by people based on reflections on their previous experience is key. Hence the third term, **from**

user experiences, as the users' insights from their own life experience forms the basis on which the designs are developed.



what is it?

A one-paragraph description of the contextmapping approach should mention context, expert, tools, and time:

- The meaning of a product lies in the way it functions in the *context* of the user's life. The design team must not just understand the product, or its use, but focus on all the factors which influence the experience of a product in use. We call this *the context of product use* and it includes factors such as place, situation, time, emotions, and other people.
- The user is the *expert* of his or her experiences. To gain insight into the variety of factors that influence the user's experiences, we need the users themselves. They are the only people who are experts of their own experience. Their input is as important as that from the other experts (in marketing, aesthetics, production, technology, etc), and it needs to be integrated. The user is not 'telling the designer what to do' as some designers fear, but participating in the design team.
- Appropriate *tools* are needed to support users so that they can express their experiences to the design team. The tools

involve typical design activities: making collages, scenarios, diagrams, and even models.

- You cannot ask a user, 'how do you experience your coffee ritual in the morning?' *Time* is needed to become aware of your own daily rituals with a product and which aspects influence the experience of using a product.

Over the last ten years, we have explored and tuned these elements, combining them in an established procedure for designing from user experiences: contextmapping (Sleeswijk Visser et al , 2005). The new MSc programmes in Delft have allowed us to involve about 200 design students each year since 2003, and dozens of them have used contextmapping in their graduation projects. It has especially helped in exploring the needs of large and small design projects for products and services in the fast-moving areas of consumer goods, building, electronic products, interiors and public spaces.

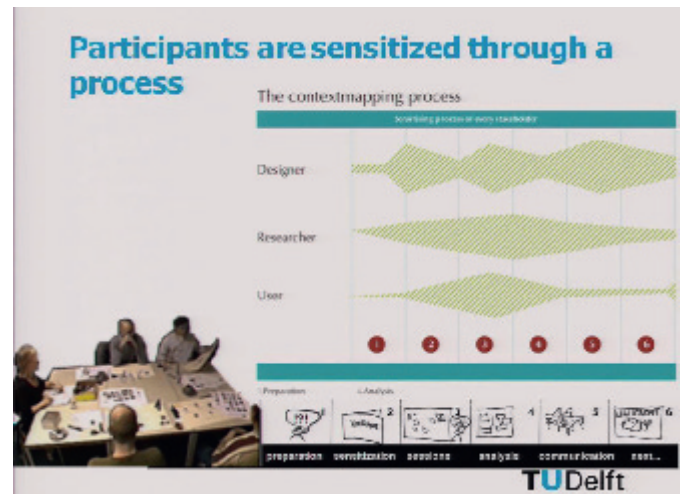
At this moment, the procedure of contextmapping is finding its way into industry on a large scale. Several examples of this come up in the 20 short graduate profiles on pages 43 to 49. About a dozen international workshops have spread the techniques to academics and practitioners outside TU Delft. The first PhD dissertation, 'Bringing the everyday life of people into design,' has been successfully defended, and four more PhD students in the ID-StudioLab are further developing the techniques.

what's in this book?

This book presents the harvest of the symposium. The morning programme consisted of three key notes: three doctors and ten masters. The first speaker was Liz Sanders, founder of SonicRim and MakeTools, who presented her experiences in organising 'mass co-creation' with large numbers of stakeholders in the design of hospitals. Jacob Buur reflected on ethnographic provocation techniques. Froukje Sleeswijk Visser gave an overview of how the contextmapping project interacted with students, and how it related to her PhD project, 'Bringing the

everyday life of people into design'. Ten of these students tellingly related their interaction with practice, and how they did (or did not) apply contextmapping in their jobs (they can be found among the 20 single-column mini presentations).

In the afternoon, about a hundred practitioners and academics brought in their own expertise, in seven tie-in workshops. Findings from these workshops are related in part two, and show how the field is coping with the new developments. Some themes recur throughout these pages, and echo themes from the morning presentations. For example, the roles of users, researchers, and designers are changing; overlapping in some places, mutually supporting each other in others. Furthermore, the developments are not advancing uniformly: some IT and electronics sectors are leading the way in adopting the new techniques, other product, service, and policy sectors are catching up, but still others, such as the building industry, are only just awakening to the new possibilities. Internationally, there are great differences too – not least because contextmapping methods naturally touch upon culture and attitude. But while the workshops revealed a varied and uneven playing field, they also indicated how far contextmapping has come – and even suggested how much further it will undoubtedly go in the future.





part 1

morning programme



Liz Sanders MakeTools

is President of MakeTools, a design research firm. Liz's numerous design awards, patents, publications, presentations, and her proven track record have established her as a leader in the field of design research.

Her client relationships have included 3M, AT&T, Apple, Baxter, Ciba Corning Diagnostics Corporation, Coca Cola, Compaq, Hasbro, IBM, Intel, Iomega, Johnson Controls, Kodak, Microsoft, Motorola, NBBJ, Procter & Gamble, Siemens Medical Systems, Inc., Steelcase, Texas Instruments, Thermos, Thomson Consumer Electronics, Toro, and Xerox.



exploring co-creation on a large scale

designing for new
healthcare environments

I am excited to be here and to have the opportunity to share some work that I have not been permitted to share before. I have been under cover over the last five years, as a consultant for a large architectural firm. The name of the firm is NBBJ. It's an American office with 10 offices worldwide and about 700 people: quite a large company in its field. I had worked in the world of products for many years, so this seemed to be a different kind of challenge, and I was ready for that. I have been working there with a small group of people, under the radar for the most part, trying to work out how to bring a human-centred approach to architecture and planning. We are not there yet. I thought it might take a couple of years. Now, after five years, we are just beginning to make some progress. It's a big nut to crack.



At NBBJ, as the website indicates, the list of services is rather traditional: what most large architectural firms would offer. You see no signs yet of the human perspective; we have not made it onto the website yet.

However, NBBJ's vision is much bigger than simply architecture. Its goal is: 'to shape a future that enhances life and inspires human potential and spirit through design.' It aspires to be a design firm with very lofty, human-centred goals. The little

The context

NBBJ's vision is to shape a future that enhances life and inspires human potential and spirit through design.

NBBJ/rev explores:

- ~ Generative design research to understand experience
- ~ Visioning, consensus building and cultural change
- ~ Participatory prototyping of environments and experiences



group that I'm part of is called NBBJ/rev, and the work that we're doing and that I'll show you is exploring generative design research to understand experience: the experience of the people who would work in, live in and use the results of this process. We are doing visioning, consensus building and cultural change, and we're beginning to work with the participatory prototyping of environments and experiences.

Let me give you an example of what I mean by a large-scale project. I don't have pictures to show you. It's an ongoing project and we're not allowed to take pictures of the people we're working with. It's a new hospital campus for veterans in New Orleans and the surrounding area. With Hurricane Katrina, the entire hospital system for veterans was destroyed, and they are currently working out of office buildings and trailers. NBBJ is in the midst of designing the new healthcare campus. On this project we have 50 people from NBBJ, and 70 outside consultants. We're working with two local architecture firms. It's a one billion dollar project and the scale is 30 acres, and they have to take some neighbourhoods down for the development. We're currently in the design phase, and it's also very fast and aggressive and the completion date will be by 2013. That gives you an idea of the scope and scale. Those numbers are only the

internal team, that doesn't include the veterans. The veterans in this case are a very special group of people, characterised mainly by their special needs, which include: post-traumatic stress disorder, amputations, low vision, traumatic brain injury, substance abuse, the list goes on. Therefore, the human-centred perspective is critical here. Our client, the Veterans Administration, has been wonderful in allowing us to practise a lot of what we've learned in the past five years with them. Unfortunately, I can't show photos from the New Orleans project, but I have lots of other examples from many other projects at various levels of scale.

The context




The overall design context is that we're moving away from an old way of thinking about design, where the training of designers was based on the fact that you learned to design a product or a visual communication piece, or information; and the process was focussed around what it was you were designing. Architecture and planning were in this domain.

Today we are in the middle of a major shift, from outcomes based on your skillset to a much broader focus on the purpose of the design, and the holistic outcome. In the new design spaces, we are not necessarily designing products, but we're

using all the skills on the lefthand side (see fig xx) to figure out how to design for emotion, experience, healing, or serving, and so forth. I'd say that most of the design disciplines now acknowledge the righthand side of this equation, and are trying to figure out how to work in these bigger terms.

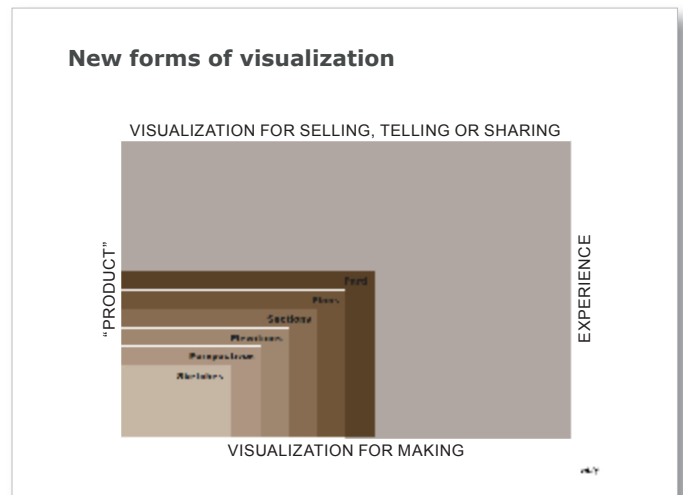
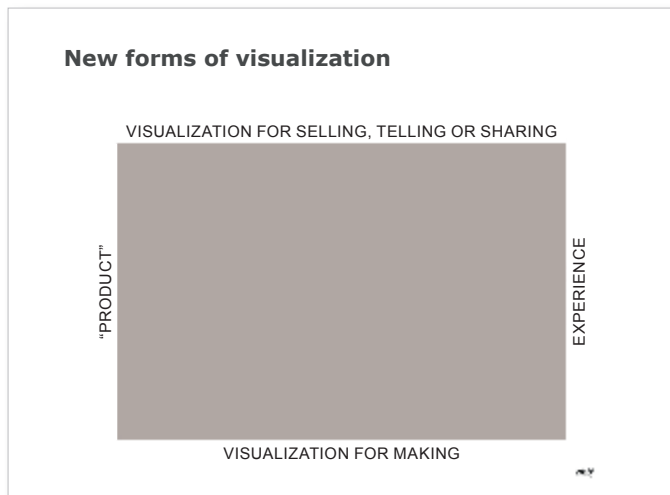
Architecture, in my opinion, is on the trailing edge. It has been slowest to move from 'architects design buildings' to 'architects need to be involved in designing for experience, healing and so on.' This is the bigger context of where we're going.



Now I'm going to paint a landscape of where our work has been, starting with a space that's defined by products on the left and experience on the right. By 'products' I mean things both real and virtual (eg websites as well as objects and buildings). The world of design today covers both product and experience.

In this diagram, it's a space about design visualisation or design

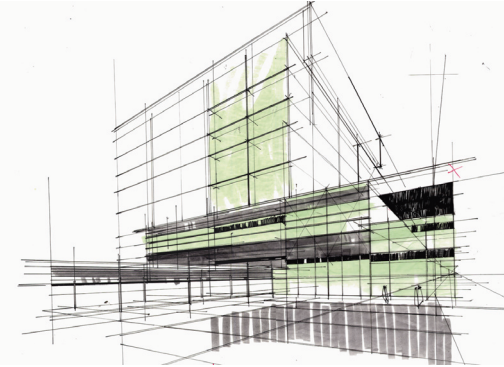
conceptualisation. On the bottom there's visualisation about making; on the top, there's another way of using visualisation for selling, telling, or sharing. Now, all the traditional visualisation tools of architecture and planning are in the making of the product quadrant. They are all about making the building, or plans or programmes (getting a little bit towards experience), but the tools don't really deal with experience.



perspectives

OH

Cleveland Clinic; Cleveland

**plans**

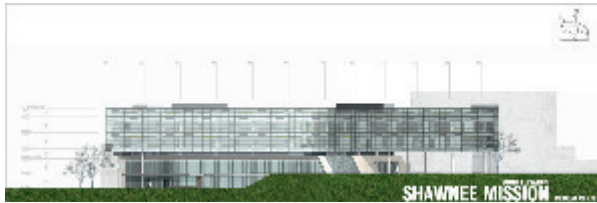
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Providence Park Hospital, Novi,

**elevations**

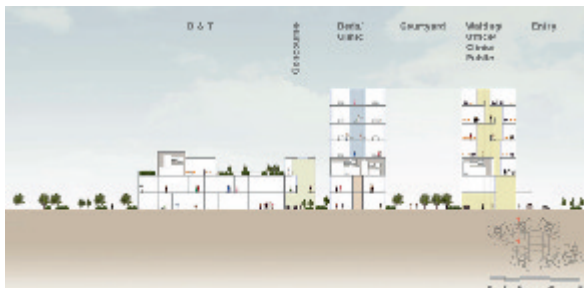
Shawnee Mission, KS

Shawnee Mission Medical Center;

**sections**

Turkey

Vakif Bank;



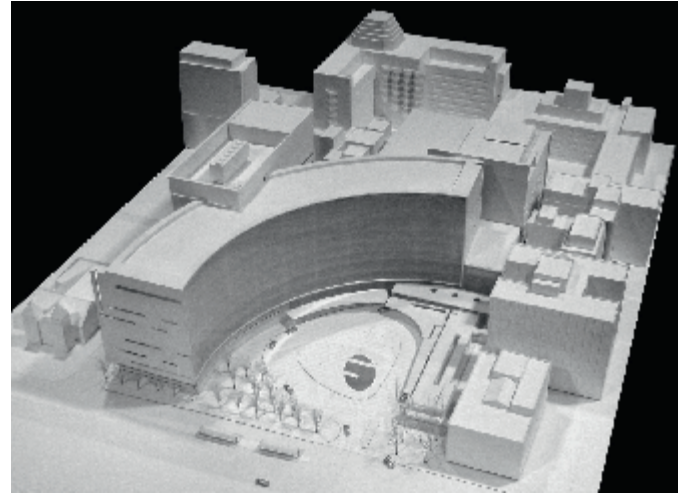
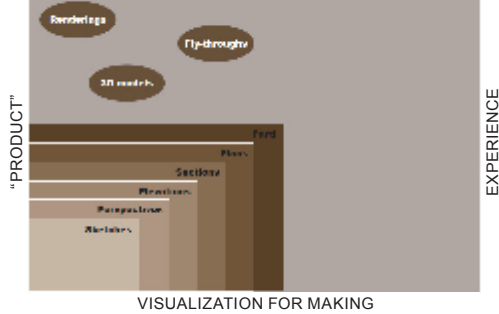
All the traditional tools are internal to the architectural team. They understand the tools. They know what they mean. The problem is that the clients usually don't get it – they don't fully understand what the output of the tools means or doesn't mean.

If this is an entire hospital, how big is a person in this map? How long would it take, to walk from one end of the site to the other? These are the kind of questions that clients ask when they are presented with visuals like these.

Therefore, architects use other visualisation means to help sell the idea to the client, such as renderings – aka 'money shots'. These can be quite expensive to produce, but as you can see, they are more like the real thing, with quite a bit of life and spirit. These are presented after the design stage, to convince the client that this is the way to go.

New forms of visualization

VISUALIZATION FOR SELLING, TELLING OR SHARING



Another way not just to sell, but to share the idea, is to build 3D models on various scales so that the client can actually imagine the project, or animations, and you can generate fly-throughs in computer space.

The visualisations are used to sell the idea. It's not a case of, 'You're the expert and we're here to work together;' but more a case

of, 'We're the architects and we will make it and sell it to you.'

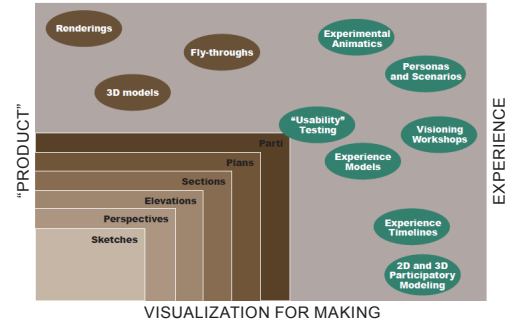
At NBBJ over the last few years, we have been exploring the other half of the conceptualisation and visualisation space. Interestingly, it's easier for us to convince the client and end-users to work with us in this way, than to convince our own architectural team. You can see the line (in fig xx) between the brown and the green – we haven't connected them yet, we're just beginning to do so.

visioning workshops

These are, I would say, the most prolific approach. We seem to be able to get in right at the very beginning of projects, when the architectural and client teams are starting to imagine what this space will look like. This is an example of using a very large

New forms of visualization

VISUALIZATION FOR SELLING, TELLING OR SHARING



toolkit and using it not on an individual basis, but putting a team together to use it to imagine what the future experience could be. We are not visioning the building, we are visioning the experience of the patients and visitors at the hospital, say eight years into the future.

Often, we'll do the exercise internally. In this case, we did it ourselves predicting what we thought the client would and could do, and then comparing that with the vision of the clients themselves. This can be a very useful tool for assessing where they are and where we are.



In this photograph, they've been given a bullseye, so the priorities for the future vision can be better established collectively. Only so many things fit in the bullseye, so the discussion around what goes in it and in each ring is extremely beneficial, and this sort of visualisation can live through the project - as long as it's kept alive.

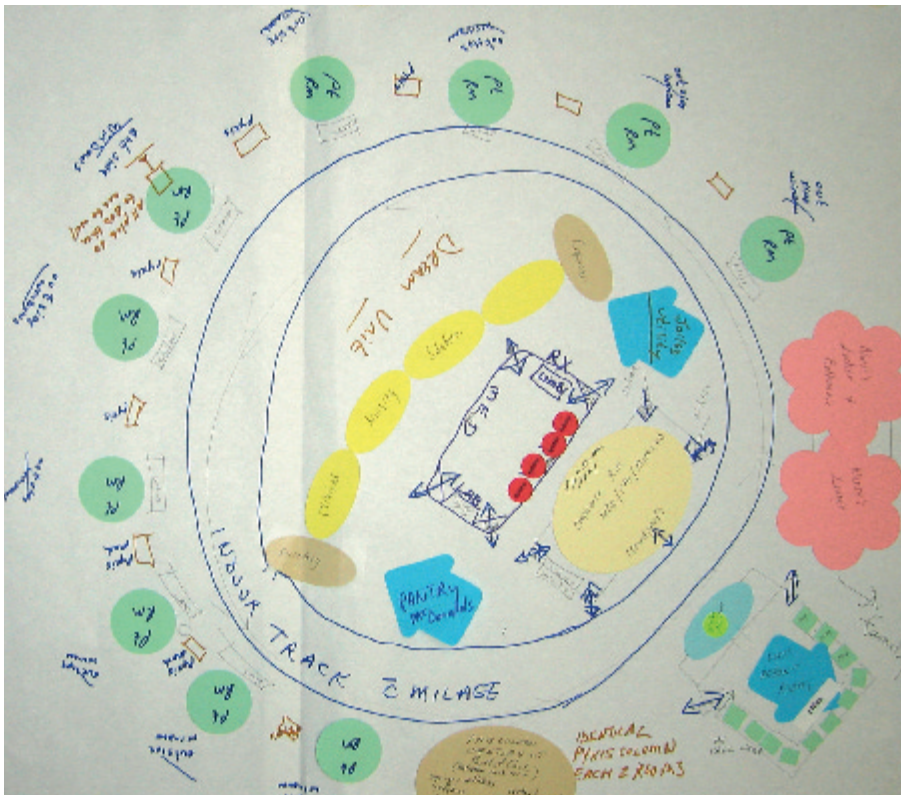


This photograph is from a visioning workshop. This is one individual this time - a visitor to the hospital. It's a similar kind of approach, but in this case we're working with individual people in the community who will be users in the future. We are not asking them collaboratively about the future at this stage. We are getting 10 or 20 or maybe more individual dreams, about what the future could be.



experience models

Here a team of nurses is working with a set of tools to imagine the ideal flow of people, information and materials within the patient floor of the future. We are not asking them to arrange the room or design the floor; but to think about experience, the flow of stuff, in that space. You can see there are many ideas here that had never been thought about by the architectural team before. Sometimes though the team will come back and say, well we thought about those things before. What the research helps them to do is to understand where the priorities are for the nurses. You could have 20 good ideas, and not be able to execute most of them. The research helps point out what really matters.



This shows a different project and a different set of nurses. You can see that the locations of the research tend to be in a storage room in the hospital, or wherever we can get the space. We are used to the fact that we might start with eight nurses and end up with four because they're called out on duty. We have learned to be very flexible when working in hospitals.

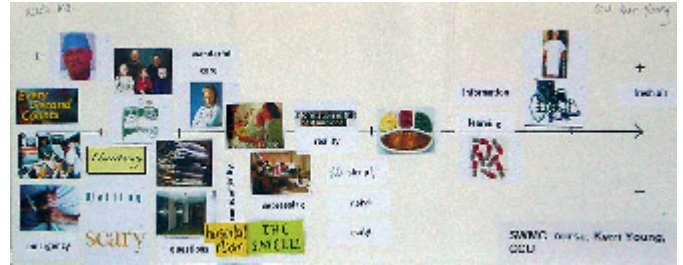


experience timelines



See the big dark line across the paper? Here we're in the early stages of the project, but we've already generated a picture of what the future experience could be. In this case, we're describing how it could play out over time. It's how the experience could unfold from the current situation up until six to eight years from now. In hospitals, it may take two years to design the hospital, and two to three years to build it. We're designing always about five years ahead. The timelines can be done with teams of people, or with individuals.

This is an individual timeline, expressing the current hospital journey. This is a nurse's representation of the ups and downs of the patient's experience. We also had patients do the same journey with the same toolkit, so we could get a feel for the differences there.



participatory modelling

We do play on the 'stuff' side of the equation, we're trying to integrate the experience research with the making.

Here we have two former cancer patients, who are given the opportunity to lay out the patient room for a long-term stay. This was a very early experiment to find out how we could



get nurses and other staff members and patients to tell us what would be the ideal layout of a room, using little scale cut-outs



of all the amenities typically found in a hospital. We were amazed at how well it worked, that people could not only make the future room, but also imagine future scenarios within it.

three-dimensional toolkits

We have a number of different three-dimensional toolkits; this is one I call velcro modelling, which uses velcro so that all the items can stick easily together and people can generate ideas instantly.



This is a workshop in Helsinki with some university people, design-firm people and hospital people exploring future mobile technology for use within the hospital environment. Here we're working full-scale in an actual hospital environment with healthcare people, so this is an ideal scenario for generating



ideas about the future, and not just generating them but playing them out in an actual context of use and running through hypothetical scenarios of the future. The more you get full-scale, real and 3-D, the better it gets, but it also gets very expensive to do, so you can't mock up whole hospitals.

Since exploring the patient room 2-D toolkit, we've also generated a 3-D toolkit for modelling smaller-scale spaces such as nurses' stations and patients' rooms. This photograph gives you a sense of just how many items are in the toolkit, and how abstract the pieces tend to be.



This photo is a group of nurses collaboratively generating an ideal patient room of the future. At this point in the project, we know how big the room can be, for various reasons, so





they have that space constraint: they are working within some see-through walls. What's interesting is that these nurses work at the same hospital on different floors and they didn't know each other before. They have spent maybe half an hour talking together before this exercise, yet in eight minutes these three women made all the decisions on this room together. Two views are shown above.

If you work with experts of the patient room experience and give them the materials, warm them up, so they can complain about how they currently work and get that out, then they can come up with the room in a very short amount of time. Notice that they cheated: they added the bathroom. They were working so fast we didn't even notice – they were supposed to stay within the walls. They added the bathroom because they told us they needed that space.

In the toolkit, some pieces are very literal, such as the toilets and sinks which come from purchased doll's-house kits. Because while there are wonderful opportunities to learn from ambiguous components, in hospitals you have to have toilets and sinks.

This is a single patient room. It looks like there are two patients and two beds, but one is the patient's husband, and he is having a nap. The second bed is not a bed but a couch.



The nurses make the space very quickly and then the story emerges. They will explain what's there and why, and they will take the dolls and show us and run through things.

I watched this team, and even the order in which they made their decisions was extremely informative. First, they placed the patient's bed. Then they positioned the window, the clock and the TV. Then they figured out where all their stuff needed to go. It was patient first. This was the kind of room a patient would be in for weeks. It wasn't the sort of room where you might be for a day or two, I think that situation would lead to a different sort of ordering. I was impressed by their ability to take the patient's role and to drive everything from that.

One team decided that they didn't want to do the patient room because they had more problems in the nurse station, and the toolkit had enough potential ambiguity that they were able to mock up their own workroom using the same tools and materials, and very explicitly tell us what went where, and why.



usability testing

The term usability testing tends to be used in many different ways. Within NBBJ, it makes sense to refer to this particular mock-up application as usability testing. What is going on here is that we've designed a new patient room that has never been done before. It has some peculiarities that needed to be tested out. The entire room is mocked up. As you can see the walls are particle board.



Typically, architects are not very involved with questions like, 'Where's the soap? Where's the hand sanitizer? Where are the towels?' From the point of view of a nurse, looking at things in an experiential way, you could start the whole room from that and design from there. It was a very useful exercise, and resulted in lots of little tweaks from an architectural perspective which were then recognised in this full-scale mock-up

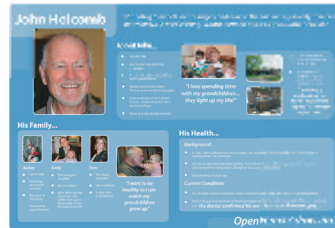
This is a full-scale, entire room, completely mocked up. What we did then was have nursing teams go through scenarios of use, including some where a lot of people would come in with a given patient, testing the limits of the room at a very early stage. Generally, architects don't tend to build 3-D models until much later, at which point it's too late to change things that didn't work. What you see going on here are discussions about what the architects would consider details, but which the nurses consider critical.



personas and scenarios

We also use personas and scenarios. I think this approach is widely used in product design now.

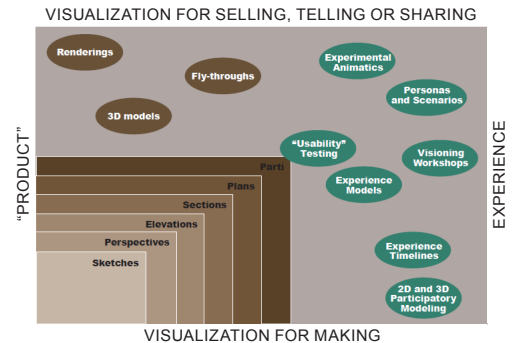
Interestingly enough though, it had never been used in an architectural office before.



Our newest trick in the toolbox is puppets. For some people, especially those who are a little more extroverted, it really brings out the emotions in the stories of the future. In this case, a patient living with type 2 diabetes is using the puppets to talk about the kinds of things he and his wife talk about. You can see from the position of the puppets how he feels in that discussion with her. We have doctor puppets and nurse puppets and people puppets and patient puppets and a lot of times what we do that works very well is we give people a choice: we ask, do you want to make something with velcro, or tell us a story using puppets? And we've found this a great way of letting people use their strengths to tell us about their experience.

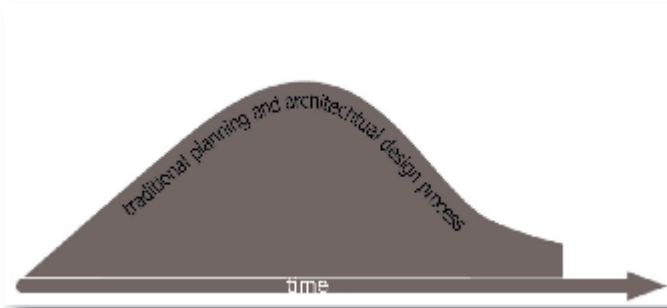


New forms of visualization

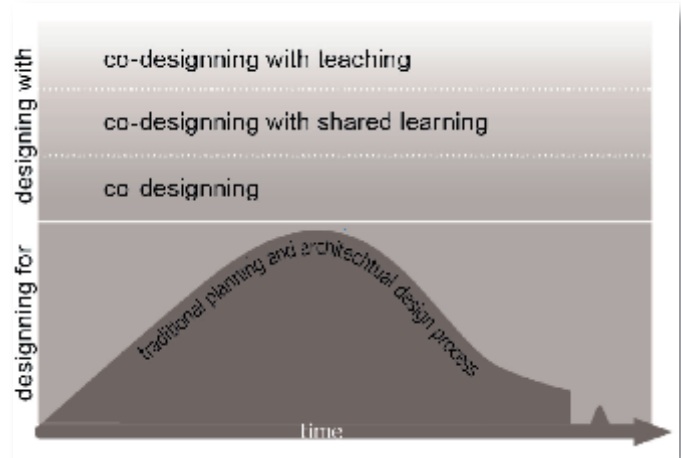


In review, here's an anecdote from our project in New Orleans. You can imagine that the architectural team would be standing in the lower lefthand corner, looking at the job ahead of them through the lens of the visualisation of all this stuff. From the architects' point of view, the precise location of the rest rooms, on a 30-acre campus, would be a detail, something they would expect to get around to later.

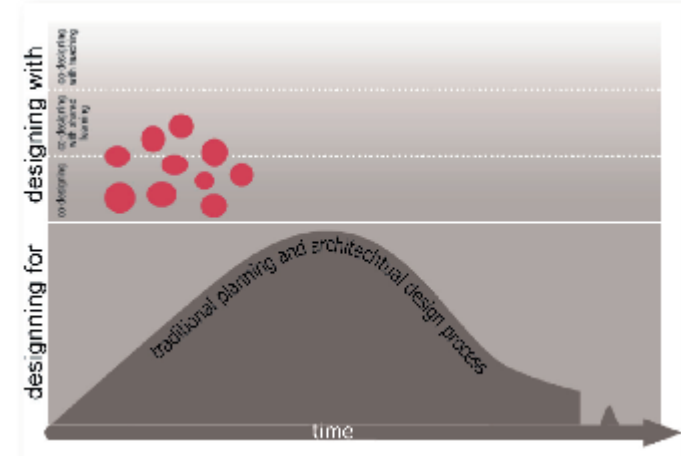
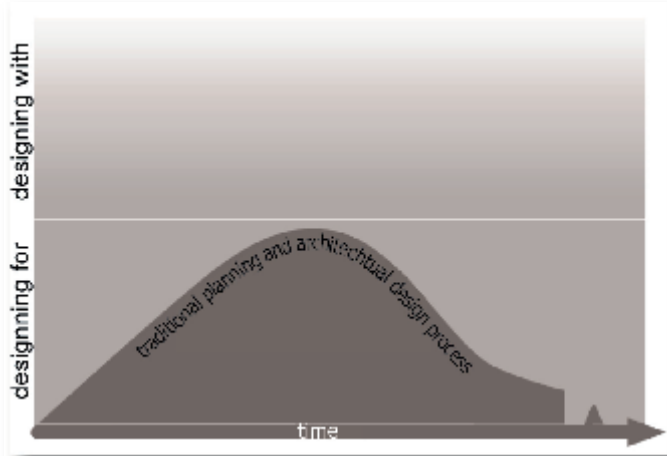
When you're standing on the other side, looking at things from the point of view of disabled people in wheelchairs, the location of the restrooms is the big idea. That's one of the things we've seen in our research: it highlights how what is important to the users often seems trivial relative to all the other issues that the architects are dealing with. So we're grappling with that sort of dilemma.



In summary, this is a picture of the traditional architectural design process over time. There's a lot of activity in the schematic design, the design development. And the traditional architectural process is about designing *for*. Designing for the client, for the patients, for the visitors and for the family. You can imagine that it's a big enough task of co-creation just to get the architectural team aligned.

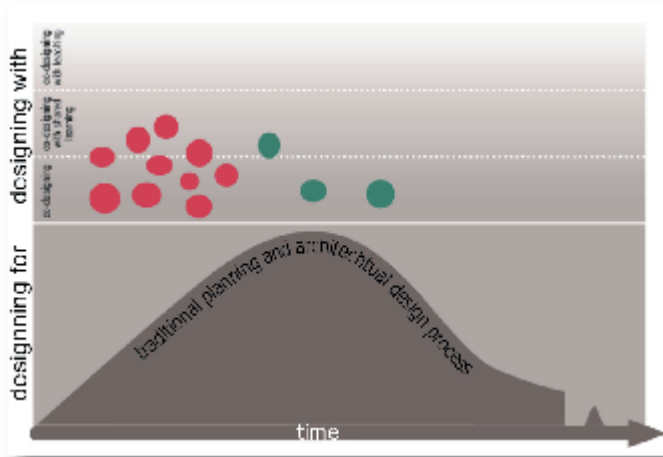


designing at the same time. An even higher level is co-designing with teaching, so when the project is done the designers know how to do it themselves.



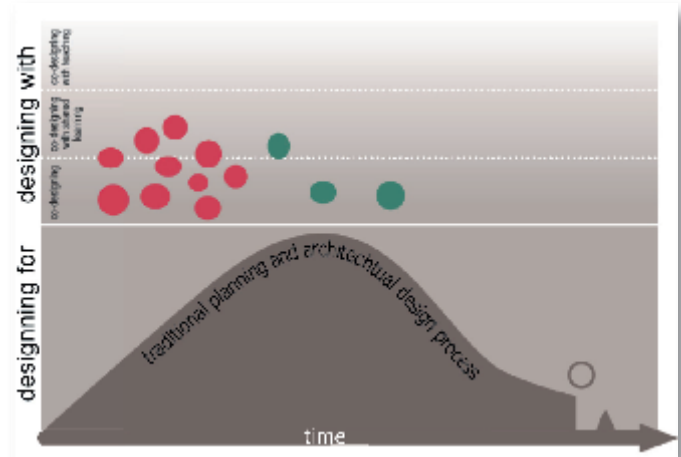
What we are seeing now is that there's a whole other way of working that's about designing *with*: designing with the client, and with the end users. That's very much what we're trying to do with Rev. There are many levels of designing with. There's co-designing, that's one level. Another level of intensity is co-designing with the client and learning together about co-

You can see that the funding that it takes increases as you go up the chart. It takes a lot more time and effort to do co-designing with teaching. We have examples from product design where clients have come to work with us at that very high level. In architecture, we're just trying to get up to the first line, to connect the designing *for* and the designing *with*. Most of our



little experiments are in the beginning of the process above the line. They're not joined up, because often we don't know if our findings are used: we come in the beginning, and often we don't stay at the table, because the budget was written three years ago, and there isn't room in it for us.

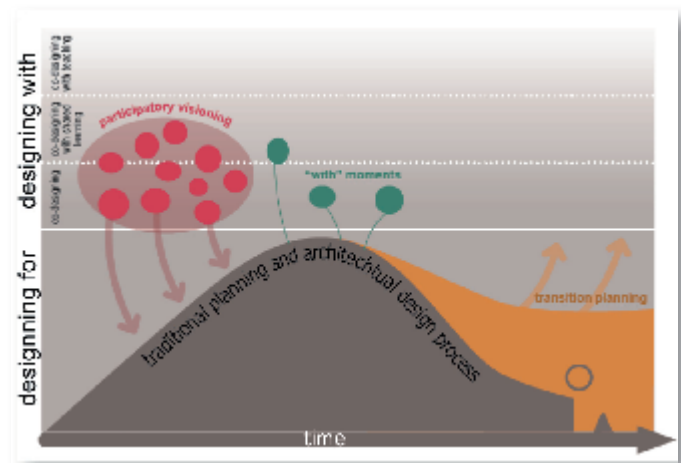
In the New Orleans project we are at the table: 1.5 people in a team of 50. So we're at the table, but not with a large team. We have had some opportunities where we've been able to



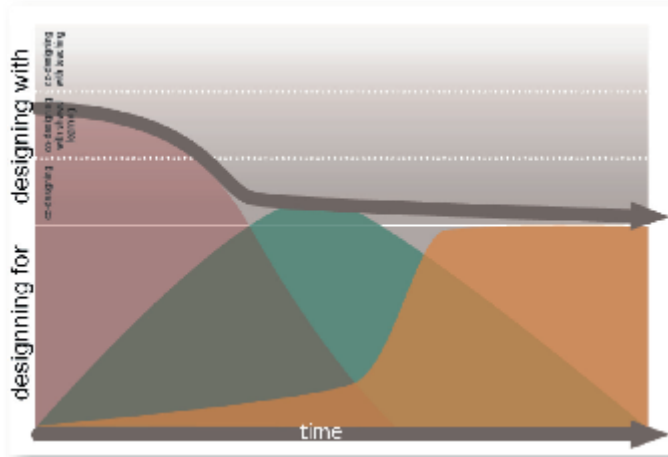
work inside the process, with the clients or users. And the third little bubble is the recognition that an architectural firm with a vision like NBBJ can stay with the client, after the work is done (and there's going to be two to three years of construction). Typically the architect finishes the drawings, and two years later the client moves in. But there's an opportunity there to stay with the client to help them figure out how they may need to change their mindset or way of working for the new building, which may operate very differently

transition planning

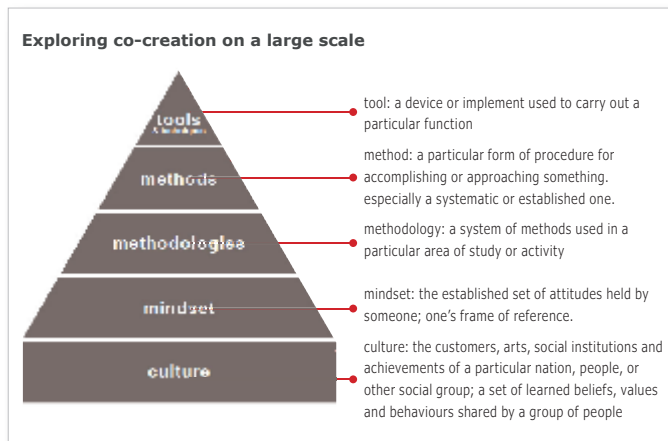
This is where we are now. We've done a lot of participatory visioning, in 2D, 3D, and timelines, and we're learning to connect it. We're finding our advocates within the architecture and planning and design team, and we're trying to stay at the table. We've had some very successful 'with' moments, where we come in and get engaged and try to stay engaged. The orange just shows that the ocean of 'staying with the client' between the end of designing and the beginning of moving in is an area lots of agencies are moving into, in the USA it's referred to as 'transition planning'. There's a huge opportunity to aid that transition.



The picture might hopefully soon look like this. It's beginning to take shape. We're very positive that we've been recognised as keepers. We have our own studio. That will help us to continue to make these changes.



In a nutshell: this is what we've learned – and we kept wondering, why is this so hard? Why is it taking so long? This chart helps explain why. It's not just about tools and techniques, because these need to be practised through methods which are organised, clustered and approached through methodologies, and most critical is the mindset with



which these tools and methodologies are used. If we are working with people who don't think it makes sense to design with the client and design with people, it stops there. If we can work together with that kind of mindset, then we have the ability to change the process and change the culture.

We are working our way down here, and we have some significant collaborators, but we still have a lot of work to do.



Q & A with the audience

- Q** How do you tackle the two perspectives issue – for example, with the bathroom positioning in New Orleans, where the architects see it as a detail, and users see it as vital?
- A** We haven't solved it yet. One thing we're doing is having wheelchairs and scooters in the office at NBBJ and we're trying to make everyone on the design team use a wheelchair or scooter for at least a day, to give them a feel for that. There's a veterans' facility in Columbus, Ohio that NBBJ designed with a major bathroom problem, and we're trying to get people there so they can understand the issue. The problem is bad enough that in the little store there, they sell underwear. Think about that: why would they sell underwear there along with the candy? Because people don't always make it to the bathroom. So we don't have answers, but we have lots of ideas, so we keep trying.

Q Do the architects actually use the information you get from the users?

A Some of them do, yes. Part of it is figuring out how to present and when to present; the project is so big and moving so fast that it's hard to get their attention in a meeting. So we're exploring many ways of impacting them. And we're making really good progress, but there is lots of progress still to be made.

Q When you design with users, do you specially select the users?

A No, we don't. We carefully prepare them for the session they are going to be in. The preparation usually gets them to think about their work, and the way they live. We work with anybody in that way, as long as they are prepared.

Q Is there a minimum number of users for this kind of research?

A It depends on how much time and budget we have. Definitely it would be more than two, but on occasion it has only been two small groups. So, we have to be careful what kind of conclusions we make. A lot of times, when we're designing with users, we're inspiring the team, not choosing a direction. So you need a variety of people that are engaged for that. You don't necessarily need a lot of them.

Q How do you inspire the team?

A We try to get them to come to the sessions and give them a role. We request they come along and do the audio or notes, we try hard to get them help us decide what to do. So we try to bring them along with us. Once we've got them to come once, then it's easy to persuade them to come back. Getting them to come along for the first time is often the hardest part.

Q How do you deal with conflict between participants, and between participants and designers?

A We don't usually ask the participants to come to any consensus. They're there to express their own ideas, and we encourage them to disagree with each other. Then we take that data and make sense of it. If an architect or designer is sitting in on

the session, then generally we don't voice any disagreement out loud; we let the people speak, and record that, and then discuss it later. Often, people want things that for one reason or another are not allowed in the hospital. That happens all the time. But we don't say, 'Oh, you can't do that, this is a hospital.' We just let them dream. And we sort it out later.

Q Are medical specialists from the hospital involved in this process?

A Yes, both in the regular process and in our process, and we might have them construct things to see what they have to say. We also have medical specialists on staff, healthcare consultants who tend to be people who were nurses for a long time. We work closely with them, and they have collaborated on all the tools and techniques.

Q At what level do you communicate the results to the designer?

A Some of the designers are involved in the process from the start on a very intense level, for others all we can do is present summary material. So we work very hard to make it impactful. We show video if we've been allowed to shoot video. We relate it to what it is they need at that point in time. So it depends on the team, the timing, and where the project is – so I don't have any magic answers. We've been trying a variety of approaches. Sitting in the team space is a good idea, although in this case it's such a big team. So we have to fight to get that spot.

Q Do you ever make calculations where you have to persuade the client that something is worth the extra money that it costs?

A No, we haven't been fortunate enough to be at the table at that stage, and be involved in that part of the process.

Q What are the cultural differences in practising this sort of work in Europe and in the USA?

A I think it is much more advanced in Europe than the USA, which is why I come here a lot. I think it's starting to be used and recognised and talked about in the USA, but that's only in the last few years. I think it's a lot to do with the mindset: if you have that expert mindset, it's harder to admit that a user could drive the design of a room.

Q Is decision-making undergoing a change in projects like yours?

A Traditionally, the architect has been the lead decision-maker. I think in architecture that's still true in most cases. But now the client is demanding a seat at the table. Architects have noticed that if they treat themselves as the expert, they have to sell their ideas to the client, and that's a lot of work. But if you work together, you don't have to sell the idea. There's just sharing and telling and the ownership by the client is huge. And in some of these projects, where the nurses have laid out the floors, ownership is probably the main result: they took part in the process and they feel ownership and responsibility for that design. So what's changing is that the client is saying, yes our people are important. Our veterans are really important: we are there to serve them. So things are shifting.

Q Do you also evaluate the design after people have moved into the building?

A No, not usually. That really surprised me. But when the project is over, the relationship tends to disappear. There's usually no money left. There's also a bit of hesitancy to be confronted with what didn't work.

But now that transition planning is increasing, I'm sure post-completion evaluations will increase too.

Q When you let users be co-designers, users act like designers and fall in love with their own ideas. So how do you use their results?

A We summarise what we've heard, but we're careful as to how that is presented. So in the case where the nurses were mapping out the space, the summary map said 'Nurse Dreamland'. So there is no question that this is a hypothetical dream future solution, because there were things in it not permitted by hospital standards. So we capture the dream and make sure it's communicated. A lot of the work we're doing is at the experiential level, so there's less of a tendency for them to fall in love with the stuff. We invite them to stay with the process, instead of just using them for their ideas. That helps too.

Q Have you done anything to facilitate or explore the predictability favoured by large organisations, in terms of quantifying your work?

A No. That could be a future step. At the moment we're just struggling to get a seat at the table through the whole process. But the more we design with others, if those decision-makers are making a vision of the future collaboratively and with pictures and words, then that's what we're focussed on and we're starting from that. Then eventually in the future they will help us with that. So we will get to that later. The big advantage of healthcare is that they really do want it to be patient-centred, and nurse-centred, and family-centred. So our clients are sometimes bigger advocates than our team members. There are some standard metrics that measure how well the hospital works; and we're developing a new set of metrics more concerned with experience for the veterans' hospital. But bear in mind that you won't get those figures for five years; the feedback loop is really slow. So we'll be grappling with those things. But at the moment we just want to get the designers into wheelchairs and into bathrooms!

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His research focuses on the study of people, technology and work in order to create innovative products.

Before he was Senior researcher and manager at Danfoss A/S.

He has designed user interfaces for a range of products, including joysticks for excavators, electronic controllers for heating and refrigeration, valves and frequency converters.



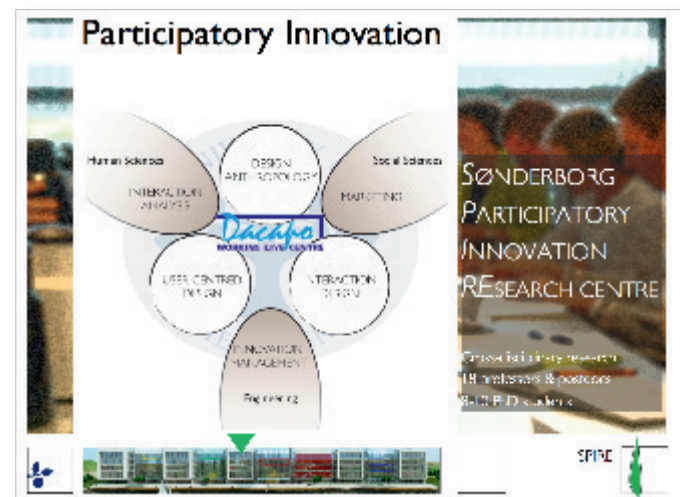
ethnographic provocation

participatory innovation, and how ethnography helps

I'd like to discuss ethnographic provocation. I'll start off by expanding on the preceding observation, that companies love predictability. Since innovation is not about predictability, maybe there's something in the way we sell ideas and convince people that we could change to our advantage.

I'll be discussing two case studies from my prior work with the large Danish manufacturer Danfoss – concerning strange plant stuff, products that are hidden away in refrigeration or heating systems or waste water plants.

I spent about ten years with the company, in charge of building a group on user-centred design, from 1991 to 2000; then in 2000 we moved the group into a university and expanded into both research and teaching. Today, I'm head of a research centre that we call SPIRE, which is an attempt to move from *user-centred design* into *user driven innovation*.



The way we do this is to take the three disciplines that we've developed over the last few years – we have a user-centred design competence, an interaction design competence and

a design anthropology competence. We expand these with colleagues from the human sciences who are good at doing detailed interaction analysis; we have social science in there with the business side and we have engineering with innovation management. We are in a brand-new building located on the waterfront in a place called Sønderborg, which is about as far as you can get from Copenhagen, down by the German border.

We have 18 professors and postdocs and we are training eight to ten PhD students. We're collaborating with an organisational theatre as we also need the competence of organisational change, and they bring that in.

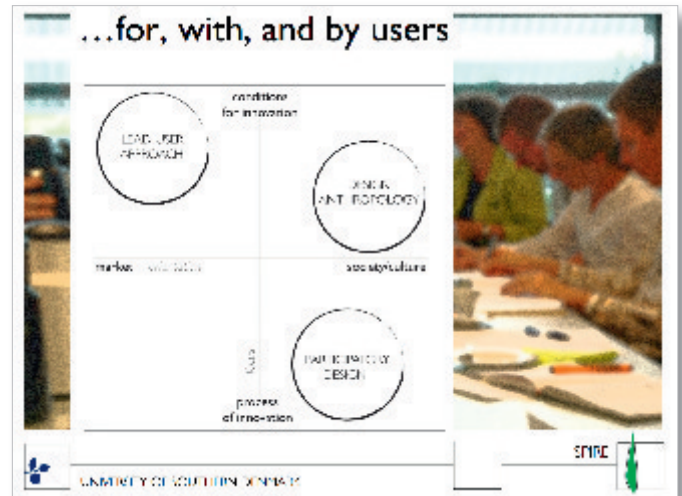
Three approaches

Here's a map of the three dominant 'religions' in the field. Many of you will have heard of the **lead user approach**, defined by Eric Von Hippel of MIT. The idea is, let's find the users who are so dissatisfied by what the market offers that they tinker and build new innovative stuff – kite surfing is an example – and then you pull these ideas into companies and make money from them.

Design anthropology dates back to the 80s, with Lucy Suchman in a prominent position; but around 2005 it gathered momentum when Intel and other large tech companies began hiring numbers of anthropologists to help them understand what people do with their products.

Participatory design is my own background: it's a way of working with users that originated in Scandinavia in the 1970s. It banks on a continuous engagement with users throughout a design project.

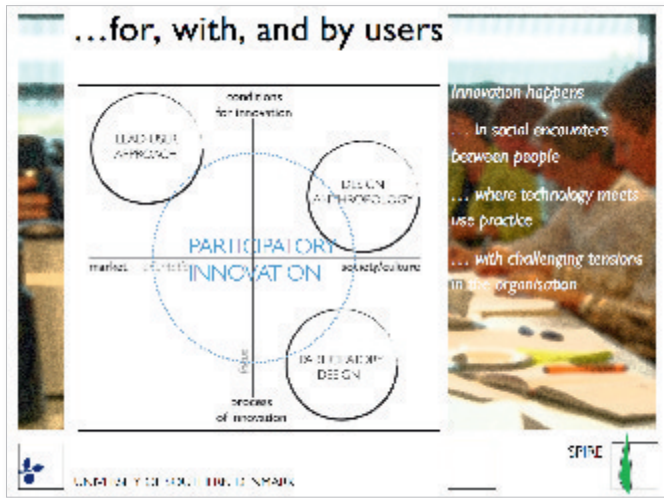
One reason we had to map these approaches was to explain why it was so difficult for us in participatory design to talk to lead user advocates, and it's simply because we see the world



so differently. The lead user approach is typically explained in terms of market, and it has a fierce grasp of the terminology that is used in the business world. It is also very good at explaining the conditions for innovation, and it argues through broad studies of a number of companies and how they work.

On the other hand, in participatory design we are very focused on the process. We can spend hours discussing how the chairs should be arranged around the table, the colour of the post-its, and exactly which people should be invited to participate in innovation sessions. And of course the reverse way of talking about things is that the lead user approach has very little to do with what actually goes on in a company; it believes that once an idea is in place, there's a process that just makes it happen. Participatory designers believe that because we've tried it in one company, it will probably work everywhere. Design anthropologists aren't very excited by the business side of things but bring an understanding of culture.

So all in all, I think that if we can borrow from each of these approaches, we can gain an interesting understanding.



challenging organisational tensions

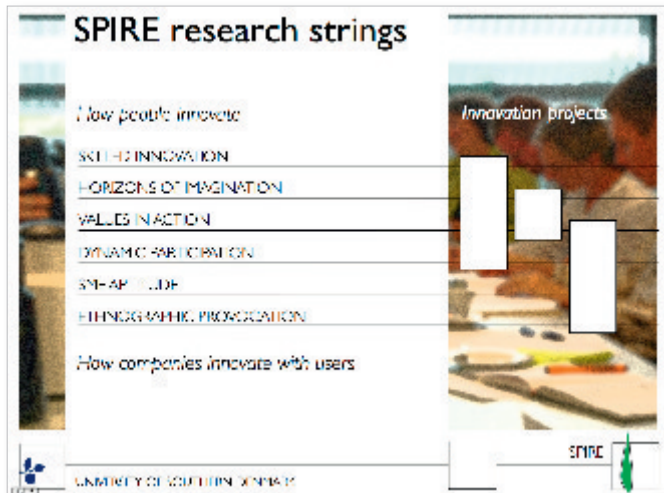
What we call **participatory innovation** starts from the understanding that innovation happens in the social encounters between people; it's seldom the individual creative designer alone at his or her desk that makes the great leaps forward. It happens where technology meets user practice. And then user knowledge challenges what companies believe, so you

can't generate innovation without creating tension in the organisation.

It's that last topic – the innovative tension in an organisation – that I want to address. It's a positive story, but the message is that innovation hurts. You can't innovate unless it hurts in the company.

To develop participatory innovation, we've identified six research strings. They are named in a way that reflects the collaboration between our different research disciplines.

For instance, **horizons of imagination** is about how people imagine the future, or how they locate the future in the present. That sprang out of a discussion between *innovation management*, which is concerned with how technology develops and needs to look 15 or 20 years ahead, and *user-centred design*, which can only look a couple of years ahead. So there's a tension there, and we realised that this isn't just about users and producers – it's also about marketing, sales, service technicians and others; and everyone has a different way of imagining the future. If we understand that, then we can support innovation better.



The last one of the six themes, **ethnographic provocation**, is the one I'm going to focus on. The way we do our research is to work with industry projects to explore one or more of the research strings.

Many people think ethnography is a method. It isn't quite. An ethnography is a description of people. As Malinowski, one of the founders of ethnography, wrote in 1922, the point of ethnography is to: "Grasp the native point of view... his relation to life... to realise his vision of his world."


This study of people has the goal of creating a theory as to what goes on in another culture. Why would we want to do that? Well, as Andersen, who was head of Xerox Parc in the

Ethnography

A description of people

"Grasp the native point of view... his relation to life... To realize his vision of his world." (Malinowski 1922)

"While viewing other cultures, then, not only do we hold a mirror to our own; we also ask questions about ourselves." (Anderson 1994)



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Ethnographic Praxis in Industry

Field studies for innovation



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1990s, said: "While viewing other cultures, then, not only do we hold a mirror to our own; we also ask questions about ourselves."

The value of an ethnography is not just to get excited about another culture, but to also discover more about your own.

There was a short film made at a conference of industrial ethnographers – people with an anthropology background who get together to talk about user studies. It was made at EPIC, the conference of Ethnographic Praxis in Industry. We were in charge of the panel last year in Copenhagen, and we wanted anthropologists to discuss the future of doing these studies. So our theatre partners played out a scenario about an ethnographer bringing an engineering manager along to a user study for Rubber Band Inc, to meet the users of rubber bands.

The film is a humorous look at the things ethnographers discuss. It is a parody, but it underlines the essential facts. What matters is how you build the relationship between you as researcher and the company people, and how you engage the users and informants out there.

applied anthropology

We've learned from anthropology. Anthropology is the science within which ethnography lives. Applied anthropology is about understanding invisible working practises as well as exotic tribes. You may have heard of the paper about the tribal office, describing what goes on in the office as if it were a tribe. Field-study periods can often be much shorter than in traditional anthropology, and it is concerned with work and products rather than general culture. Its goal is to think about new ways of working and organising, more so than creating new theories about norms and societies.

The first case study I'd like to discuss is a rather old one, from 1999. We happen to have video recordings of this company encounter. The beauty of recording is that you can actually go back and figure out, when things are nagging at you, what exactly happened. I'd like to focus on an exchange that was very central in a particular half-year meeting. There was a lot of tension at this meeting and it somehow felt quite unpleasant. But we couldn't figure out what it was that was wrong. Years afterwards, I put a student to work transcribing it, and we took

the transcript to our conversation analysis experts. They pointed out how and why the team loses ground to the company.

The project was one concerning control products for wastewater plants. We started studying what people were doing and shadowing them with video cameras in several plants, and we used that to try to build an understanding of what goes on there.

We filmed a discussion in a meeting between a team of 10 or 11 people (anthropologists, computer scientists, engineers, designers), and a sales engineer from one of the business units who was giving a presentation on flow meters. The team was there to learn what a flow meter does, which is to measure sludge or other liquids, but at some point a discussion started about whether future products would have a display or not.

The sales engineer was very certain that there would be no displays at the plant in the future, because all the information would be fed to the computer screen of the central control system. He says: "You don't need to go outside the control room, you can see everything on the screen." There was a certain silence, an uneasiness, because we hadn't really discussed yet what the practice of plant operators is, but this felt wrong. One of the team members tried to formulate it – that the operators seemed to walk around in the environment all the time; and that was just what we had seen. So the marketing guy says, "We don't mind that, if you have to sweep the floor it's ok to go out, but it's not really necessary. In the future, all the work will take place inside the control room."

The language researchers showed us line after line how we lost terrain in this discussion. We were a team of ten, and we'd all seen people race around the plant, but this one lone sales engineer managed to win the discussion! This had a huge effect on the team, because we suddenly realised that we knew something the company didn't know, or didn't want to know.



So we put more effort into understanding the practice of the operators, and it turned into three videos, and also a text description with three headings: feeling the process, watching the components, and controlling the control system.

They seem powerful, but when you start discussing this with engineers in the company, things go rather wrong. Because 'feeling the process' essentially means that people have to be there in order to feel what goes on. You can't just rely on sensors. 'Watching the components' means that the components break now and again; you can't rely on technology lasting forever. People need to be there to check that the components still work. And 'controlling the control system' means that the control system doesn't control the plant: people do. Sometimes, they switch the control system to manual, because they know that under certain conditions it's better to control it manually. So there is lots of power in all of these three statements.

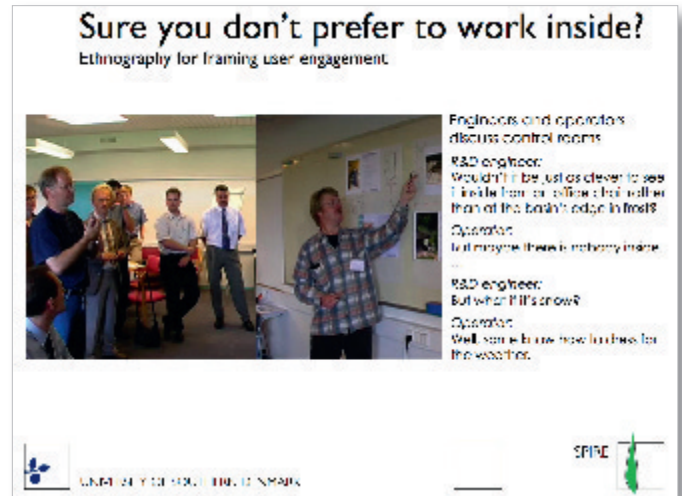
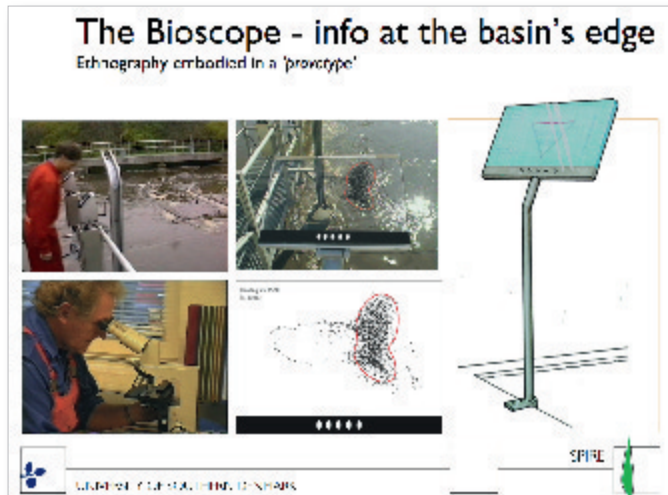
Is it a theory? Pieter Jan says designers don't need a theory. You could say that this is a very small theory. If we think about ethnography as having the goal of creating a theory about people, practice and culture, then as Wade says, a "theory

may be defined in all simplicity as statements that structure an amount of data."

It sounds easy, though to me as an engineer it was scary to hear that from an anthropologist, because theory in an engineering understanding is something you learn from books. Theory is created by professors in labs, it's tested and reliable and you can use it. But anthropologists talk about actually generating theory in the field. Tom Erickson says: "Theories play multiple roles. At the most basic level, a theory is a useful mechanism for imposing a framework on the blooming, buzzing confusion that is reality."

This is a rather relaxed idea of what theory is. It's something that can help us discuss the world, and within which we can discuss.

We started designing and one of the concepts that came out was a computer screen positioned outside, near the basins in the wastewater plant. We worked with what it should show. And this was because we'd seen the operators walk around the plant and seen them in the lab using the visuals a lot.

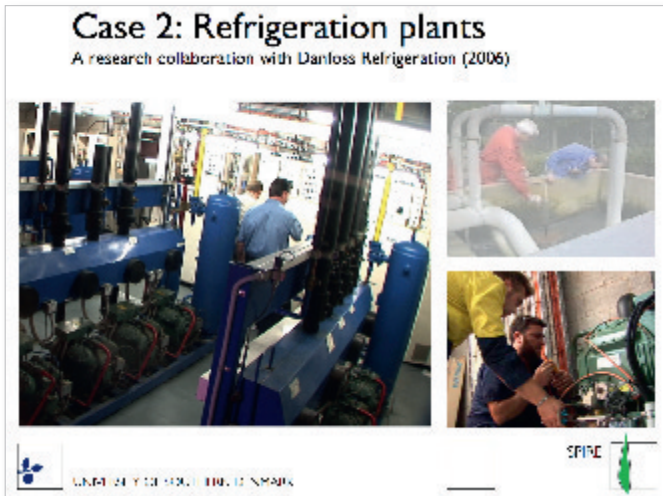


In a later meeting, the same discussion came up again: why on earth do we need an information screen outside in the plant, when everything is available on a screen inside, and you can sit there nice and cosy and do your work? In a user workshop with operators, one of the engineers asked, "Wouldn't it be just as good to see it inside?" And an operator answered: "But what if there isn't anybody inside?"

This is a clash between two different ways of understanding work. The engineer thinks work is about sitting at a desk behind a computer. For the operators, work is about walking around and doing what you do at the plant. They may have a control room but nobody really wants to sit there.

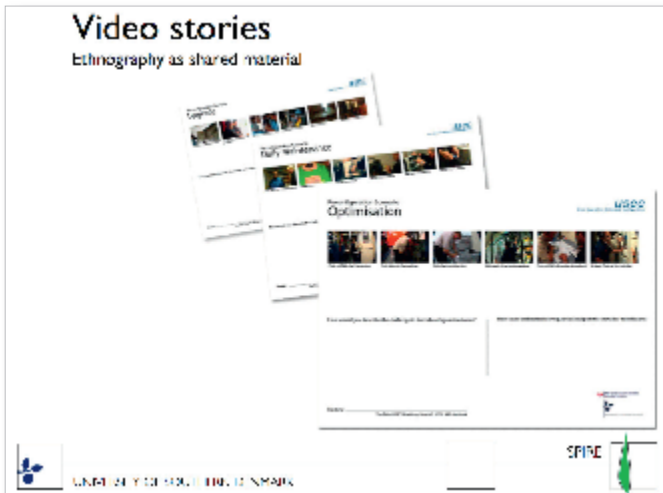
When the student transcribed the text of this meeting, the same topic – the weather – came up four times within 20 minutes, and the weather got worse and worse! What if it's cold, or raining, or snowing: wouldn't you rather sit inside?

We completed the project with some tangible prototypes that could hopefully challenge the company developers' understanding of what they were actually doing – but it took a while to figure out what we were really working with.



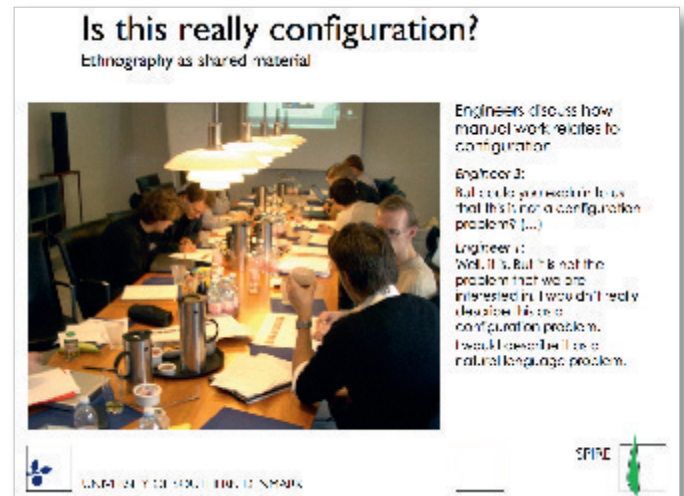
provotypes: experience modelling

In another Danfoss project, a few years later, our research unit worked with refrigeration, and the controllers that run compressors and valves and whatever else you need to refrigerate goods in a supermarket. This time we were prepared: we knew we might see things that wouldn't go down well with the engineers, so we prepared material and video

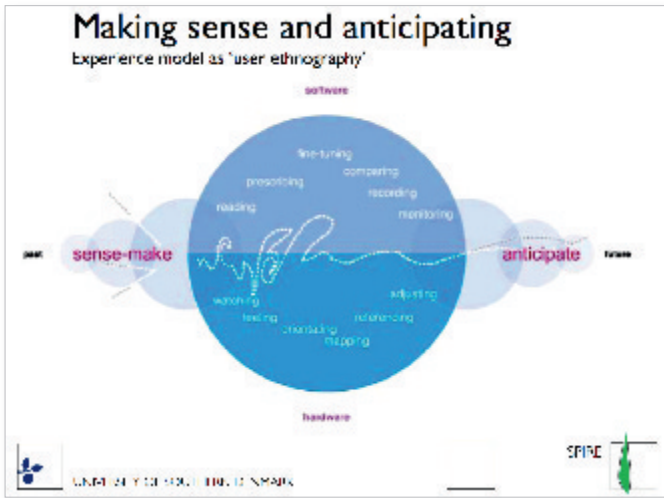


stories and tried to challenge the engineers that we collaborated with to make sense of it.

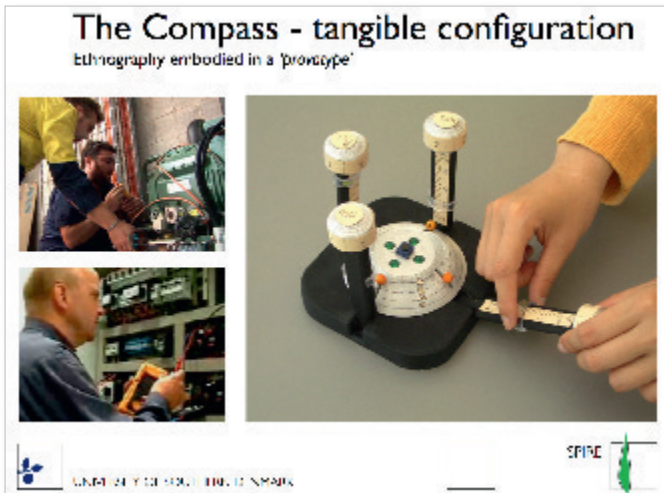
In a discussion about this project, two engineers were talking about whether a problem is a configuration problem or not. One says to the other, "I wouldn't say it was a configuration problem, I'd say it was a natural language problem." These two guys are software engineers, they're interested in configuration – meaning, how do you set all the parameters inside the control box to run this particular part of the plant? It's a very challenging task. These boxes have maybe 1,000 parameters that need to be adjusted. Everything around that,



the mechanical stuff that we'd seen, that doesn't really qualify as being a configuration problem to them, that isn't seen as a real development challenge. We used our field studies to create a diagram of the work practice of these refrigeration plant technicians - this time in the form of what Liz Sanders would call an experience model. How do they make sense of what happens, what do they do when they're in the plant setting things up or doing repairs, and how do they anticipate the future?



Here, the light blue and the dark blue are about the relationship between what goes on with the software and what goes on in the plant with the screwdriver and the hammer and the real physics. We have a wonderful shot of three engineers inside a control room with a computer adjusting parameters: and then someone outside shouts, "Hey! There's smoke coming out of this thing!" And that shows you that there is a reality outside the computer, that what you do does sometimes have an effect in the real world.



Also here we're trying to work with prototypes, or **provotypes** you could say, as a way of putting a point across. Can we change controllers from computer interfaces into something tangible, so technicians can actually use their bodily skills? We use that with the engineers in the company, and out in the field with the users. So we're beginning to learn to see the shaping of ethnographic material as something you share within the organisation, team and users. It can be something you embed in provotypes or prototypes, or it can be a frame for user engagement.

A guiding quote is from another Andersen paper: "The contribution that ethnography may make is to enable designers to question the taken-for-granted assumptions embedded in the conventional problem-solution design framework."

That is, the best that we can get out of user studies is if they challenge the way we see problems and solutions: that's where they have their real value. Unfortunately, that's not even close to predictability, but it's what you need if you want to create innovation.

I heard a wonderful conversation some where between an anthropologist and a project manager. The anthropologist had finished a pre-study of various sites, and had come up with a list of 18 problems because she thought it would be best to present the pre-study in such a way that people in the company could really see that something was coming out of it – so she had identified 18 problem areas you could start working on, and now she was going to do the main study. The project manager asked, "Do we really need to do that? What can we get out of it?" Because in his view the list of problems would – presumably – get three times longer. She replied, as an anthropologist, quite sensibly: "You never know!" You never know what's out there, and that's the beauty of it, that you need to expect the unexpected.

Over the years we've developed a variety of tools, mechanisms, ways of engaging both the team and people in the organisation in making sense together, and in this way finding out what is challenging in the field – video collages, site plan models, theatre, interaction mobiles, silent games and so on. I'll talk about just two of them.



One is the **silent game**, it's a way of acting out a situation that you've seen in the real world, and you take away one means of communication: you can't talk. It's about people building with very simple bricks together. This one we called the 'corporate identity game.' You've got the R&D departments of three different business units in the company. They all build something out of their own imagination. Then you've got another player, the corporate design person, who needs to ensure that there's a corporate identity across the three business units. The R&D people in the game had an advantage. They were allowed to move three bricks at a time, whereas the corporate person could only move one. Within ten minutes in this game, because they couldn't explain what bricks to move and why, you got all the emotions of being in a business unit and doing the best you can and suddenly someone comes in

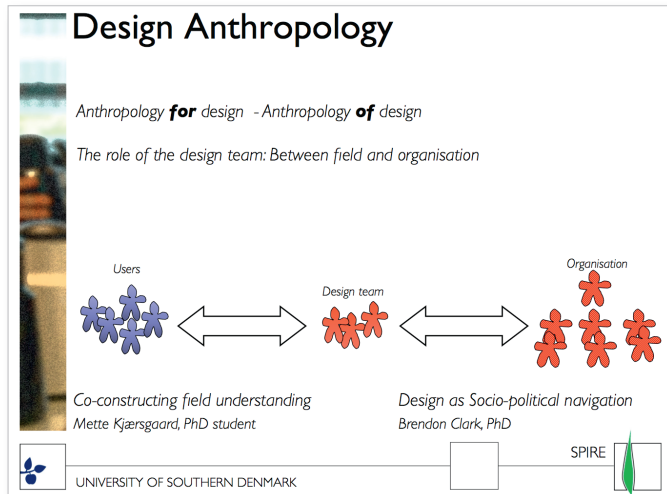
from corporate identity and destroys your beautiful creation. And meanwhile the corporate designer was thinking, "I've explained exactly how it needs to be, yet they mess it up again."



The other is the **tangible business model**. This is a way of talking about business using designerly stuff. In this case, we have a collaboration with a Danish hearing aid company, and the model is trying to demonstrate how hearing aids are sold. So the little marbles are hearing impaired people who need a hearing aid, and at the bottom you've got the company products and competitor products. The flippers represent the audiology clinics, because you need to go through a clinic to get a hearing aid, and these typically have a preference for one or the other manufacturer. Then there are product features that drag you to one side or another. And now you can start a discussion about whether to do a supermarket model before the flippers, and if you did a service package, how would that change things? So the tangible business model is a way of getting people in the organisation, the design team, and even users, to talk about the business of innovation too.

Conclusion

In conclusion, design anthropology is anthropology *for* design, but it's also the anthropology *of* design. It's concerned with the role of the design team between the field and the organisation. Ethnographic provocation is a way of talking about what happens when findings from the field don't go down well with the organisation. Now that we have a name for it, we can start locating it and thinking about what we do with it.



How can ethnography provoke?

- 1 Forget about bullet points. Rational arguments in textual form hardly provoke anything.
- 2 Provoke now, don't wait until the theory is done, because theory building cannot progress without understanding the beliefs in the organisation.
- 3 In Danish we say, "cut it out in cardboard": meaning you have to somehow make it tangible and physical, so people can engage with it.

Insights

How can ethnography provoke?

- Forget about bullet points: rational arguments in textual form hardly provoke
- Provoke now, don't wait until the theory is done: theory building cannot progress without understanding the beliefs in the organisation
- 'Cut it out in cardboard' (old Danish saying): physical material, moves collaboration beyond requirements talk

UNIVERSITY OF SOUTHERN DENMARK

Q & A with the audience

- Q** How do we select users so that we don't fall into the trap of people defending their job, so that we can't talk technology that would make them obsolete?
- A** The more information the better. It's not a question of picking certain people and selecting information from them. It's more that users are a wonderful resource to learn what you're designing for, so of course you need to hear all the stakeholders in a game like that.

- Q** Isn't participatory design always about politics?
- A** Yes, it is. We simply try to understand the mechanisms better, and try to provide ways to engage different stakeholders in this discussion. Another of the research strings is dynamic participation, and it's about what happens when you don't just think about users and designers, but about the whole value network in a company. Which people do you need to bring together when?

Q Do business people think a foam version of a business model is valuable?

A You have to quickly say that this is not a simulation. Or they'll quickly back off, saying it's not precise. You have to tell them this is a way of talking about things with us naïve ones who don't understand business, then it works.

Q Do you try to steer away from consensus in the process on purpose?

A There's a dilemma here, between being a good participatory designer wanting to embrace everyone and agree on everything, and ensuring that these tensions actually surface, because if people just bury them then you don't have the spark that really gets innovation on the table. I can't say we do it yet, but we're aware that we need to get the tensions out.

Q How do you ensure that every decision is not a compromise?

A That's what designers are for. This is not a democratic design process. It's a way of ensuring that all the stakeholders are heard, but the final word is the designer's, if they can convince the business people.

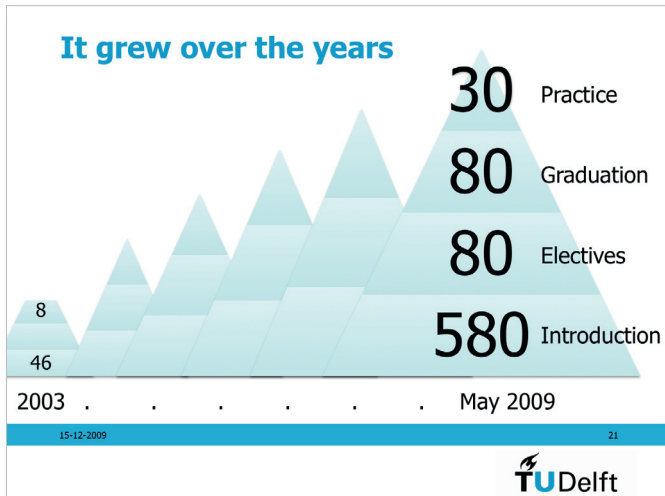
**Froukje
Sleeswijk
Visser****Delft University
of Technology****is the world's first
contextmapping
PhD. The day prior to
this symposium she
defended her thesis,
entitled 'Bringing
the everyday life of
people into design'.****Currently she is a
part-time assistant
professor at TU Delft
and runs her
own consultancy,
ContextQueen.****a good five
years of
context
mapping at
TU Delft****a brief history and a little
peek into Froukje's thesis**

Five years ago, we started the contextmapping research programme and have been diffusing our knowledge in education ever since. The students have applied this knowledge to their projects and kept us informed of their experiences. The basic foundation of contextmapping is largely based on the ideas that Liz has introduced: letting users make, say and do things, while supporting them to become aware of, reflect on, and express their everyday experiences with products and services. Users contribute to the design process in their role of experts of their own experiences. In this way, the experiences of users are collected and used to inform and inspire design projects.

Let me say a few words about how we implemented our method of contextmapping here at TU Delft. We have three Master programmes, and in two of them, the Master Design for Interaction and the Master Strategic Product Design, 200 students per year are taught the basic theory. These students get a basic introduction. They learn the theory, they get a first taste of practice, but they don't really hone their skills in that course. They can apply the techniques in successive projects. Then we have a few electives, with about 25 students a year who really dive into the method and learn to set up the research, facilitate sessions, and analyse findings to use for design purposes. Moreover, we have about 20 students a year who use contextmapping extensively in their graduation projects in collaboration with industry.

Besides teaching students, we have also been teaching practitioners in Master classes and in workshops.

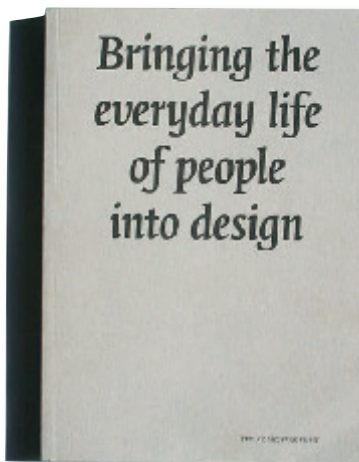
After five years of contextmapping education, you could say that we have almost 600 students who have acquired a basic notion of contextmapping. About 80 of them have deepened their knowledge and skills via electives and graduation projects. As far as we know, at least 30 of them are currently applying contextmapping in their professional life. Ten of them are introducing their work today. They are a varied cross-section of people with one to three years of experience.



Some of them have started their own companies, and others are working in marketing, design or consultancy.

In my own research, the connection between design practice and education has played a large role. Students participated in case studies, research projects, and design projects, exploring new solution directions, stumbling upon new questions, and furthering the growing insights in continuous discussions.

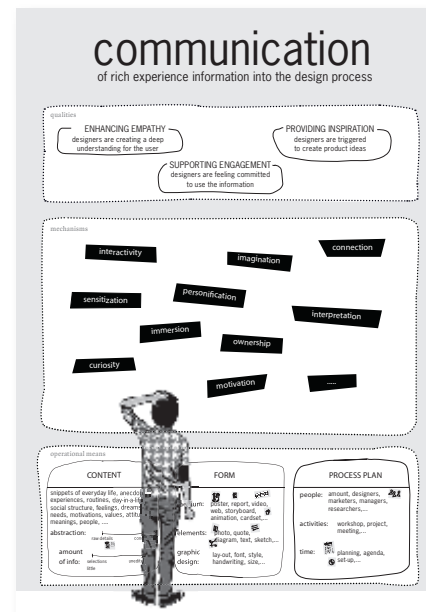
My thesis is about bringing the everyday life of people into design. The research was mainly conducted through case studies that include contextmapping projects within design practice. After dealing with the methods and tools for gathering user experience data in my MSc project, my PhD research focused on successfully integrating the rich experience information



into the design processes of product development companies. This kind of explorative user research is most useful at the fuzzy front end of design: the phase where strategic decisions are made. Here design teams need to be able to get inspired, besides getting informed, and need to be able to empathise with the users in order to understand the users' experiences. Moreover, not only designers need to engage with the data: other stakeholders such as managers, marketers and strategists also have to see the benefit of user experience information in their work.

I developed a framework in which these aims are positioned at the top level. The three main goals for successfully communicating user experience information are

- Empathy: supporting designers to empathise with the users
- Inspiration: supporting designers to get inspired for innovative ideas
- Engagement: supporting designers to interact with the information



At the bottom level, all kinds of elements are listed that can be used to communicate information. The middle level is gradually filled in during the case studies, and presents the mechanisms that are addressed when aiming at one or more of the goals.

2. present real individual people

Instead of presenting users as a group of people, such as a target group or consumer segment, presenting them as real individual people is highly recommended. People have the ability to make empathic inferences when seeing data about other people. The personas method is based on this principle. But this guideline is different from the persona technique. Personas are fictive representations of users, whereas this guideline explicitly recommends representing real and individual people: real, because users are everyday people like you and me; individual, because experiences belong to individual people. Showing the real people who participated in the research emphasises the fact that the information is about people. Moreover it supports credibility, because the source is clear.

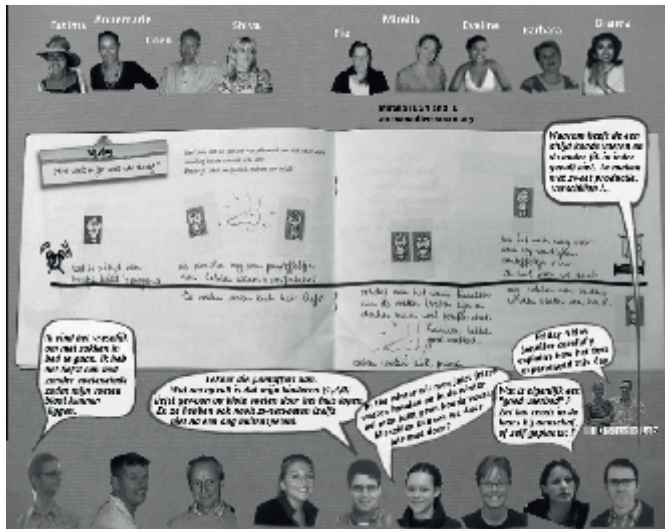
Tip: Give insight into the life behind the users.

Use elements in the presentation that invite the receiver to get



This persona sheet shows a week from the subject's agenda to give a bit of background information about her everyday life

an insight into the user's life; eg a day-in-the-life or a page of his/her agenda. This works well, because such elements tell a story about a person. Insights into a few aspects of the day or a week of someone's life can help to construct a coherent overview of that person over time.



This website revealed snippets of the user data in the three weeks prior to an idea generation workshop based on the results of the contextmapping study. The various stakeholders of the design team could leave reactions on this site.

3. sensitise designers

Sensitising means 'making sensitive for...'. This is a fundamental principle for communicating rich experience information, because this supports empathy and inspiration. Just as users are given little triggers to help them reflect on their daily lives before entering a generative session, designers can be triggered to create awareness about the topic of study and/or the users.

Tip: Send little triggers which are easy and fun.

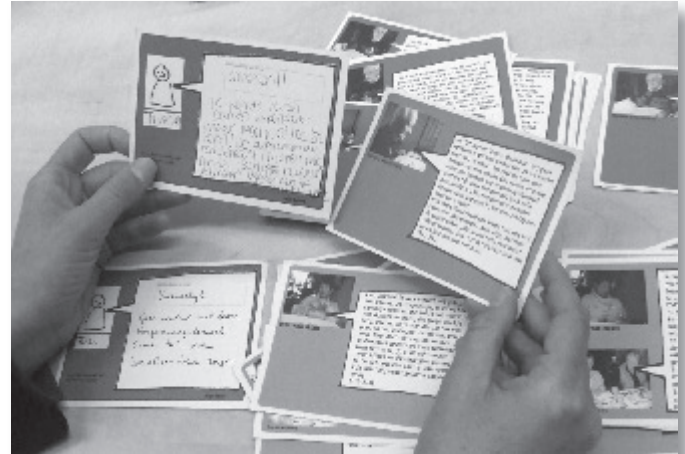
Make use of postcards, email updates and interactive websites. A website might be a bit of work, but a postcard with the message 'the field studies have begun, in two weeks we will report findings' can get more attention than an email. Make sure access is easy and invite designers to participate. It will trigger their curiosity. These triggers could be focused on the topic of the study, involved users, or even first insights

4. stimulate designers to address their own experiences

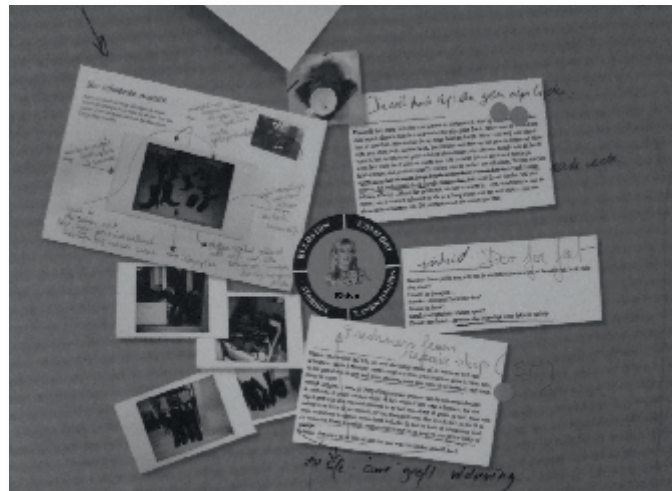
When designers are stimulated to become more aware of their own experiences, they are better able to connect and relate to the users' experiences. Empathy is a process of four steps: discovery, immersion, connection and detachment.

The connection step means connecting with their own experiences. This leads to a deeper understanding of the users' experiences, and also to a more open and personal atmosphere in the workshop.

Tip: Support designers to share and discuss their own experiences relating to the topic before they dive into the experiences of the users.



Designers fill in a few cards about their own experiences and are asked to compare these with the cards filled with user information during an ideation workshop



On these posters, representing snippets of raw data grouped around the users, there is a white space above each quote to be filled in by the design team, to paraphrase this quote

5. make the communication participatory

Rich experience information cannot be communicated as a set of facts. Designers are active recipients of the information and by a process of understanding and sense making they are able to act upon this information in the design process. By giving designers the means to organise, structure and finalise the information, they are able to make sense of it.

Tip: *Unfinished and open aesthetics.*

By providing tools which are not 'finished' in an ideation workshop, designers can collaboratively 'finish' the tool. By making this action visually explicit, the teams are supported in creating insights into collaboration. Such tools invite designers to explore directions, without forcing them in one direction.

For more tips and tricks, see the guidelines chapter of my thesis which you can find online on www.contextmapping.com (Sleeswijk Visser, 2009).



twenty graduate students

ID-StudioLab

these recent graduates are already applying their contextmapping studies to the real world

Recent graduates are already applying their contextmapping in industrial practice; for some, it has become part of their job descriptions. In the symposium, ten graduates presented their experiences in rapid-fire, four minute presentations (see the website), several more participated in the afternoon sessions. Here, twenty of them tell of the central role of contextmapping tools and techniques in their new professional life and/or aspirations.

Whether starting their own businesses, or adding new dimensions to existing companies, like Philips and Samsung, and whether active in the field of design, consultancy, marketing or research, each graduate demonstrated a commitment to contextmapping – not to mention an infectious enthusiasm – that was revealing in itself. Acting as advocates of the new approach, their stories told of publicising, proselytising, and persuading others, of crossing disciplines and borders and confidently taking the methods into new places, professionally (from insurance companies to development organisations) as well as geographically (from Turkey to Taiwan).

While a few provided cautionary tales of uncomprehending industries or markets, most revealed a growing receptiveness to the new ideas of designing with rather than for prospective users: in the words of one young professional, companies (active, in this case, in Spain) are keen to embrace 'a more creative, open-minded and people-centred approach.'

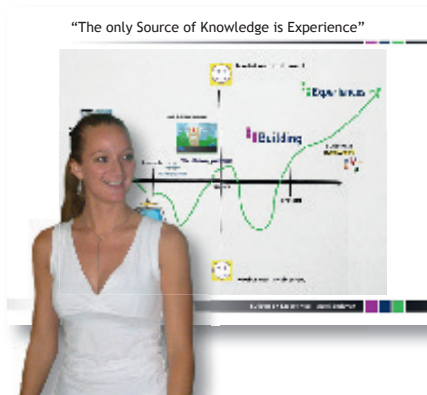
In applying their ideas so variously, to products, processes and perceptions, the graduates' accounts revealed a collective vision of contextmapping's potential that was convincingly broad in its scope: more a new way of seeing than a mere toolkit. That, more than anything else, speaks volumes for the changing face of design, in education and in practise.

Quiel Beekman

4Building (4Experiences)

As a product designer, I was trained to design not only for but also with users. I wondered whether design errors could be avoided by involving the end-users of healthcare buildings in an early phase of the design process. I discovered, during an internship, that architects are not used to this!

As well as finding that contextmapping was applicable to the end-users of public buildings, I also developed my own methodology, the Hospital Stakeholder Participation Method. This became the subject of my graduation project. The company 4Building has given me the opportunity to put my findings into practice and further my ambitions. Currently, I am looking for healthcare organisations interested in implementing this innovative approach.



Stella van den Berg

Philips Consumer Lifestyle b.v.

During my graduation project for the Master Design for Interaction at TU Delft, I designed a web 2.0-based tool for brand-mapping for the online research agency, BrainJuicer. In this research tool, I let the respondents describe the most important attributes of a product by visualising the context of their last product use. This project showed me how a context study can combine qualitative and qualitative research.

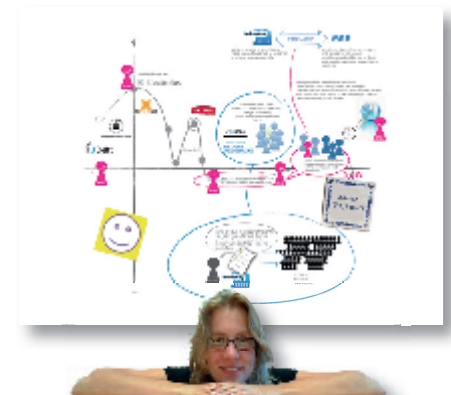
In my current job as Application Researcher at Philips, I guard the usability of kitchen appliances such as grills and steamers during the product development process, to enhance end-user satisfaction. Here, contextmapping is a valuable method for getting in touch with end-users and learning about their true needs.



Marcelle van Beusekom

Samsung Design

Some people say that life is what happens while you're making other plans. But I think life is all about jumping on the train of opportunity. You can choose to hop on, or just let it pass by. My first train was headed for Delft, studying at the school that inspired me to become a designer. My second train went to Sweden, where I studied at the Umeå Design Institute and learned to present my ideas - and myself. In Eindhoven, the third train came to a stop at VanBerloStudios, where I learned to become a professional. My next stop? London, working for Samsung Design Europe. I'm looking forward to getting there. I'll keep you updated.

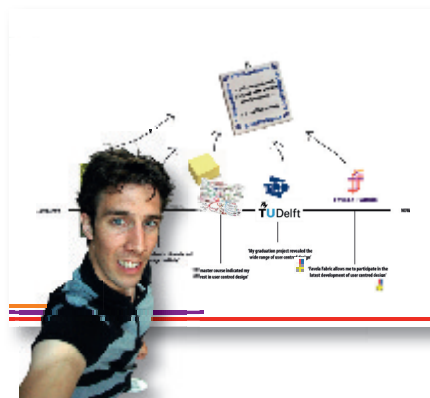


Lex Dekkers

Favela Fabric

Lex Dekkers likes to discover. A few years ago, my journey mainly focussed on framing architecture.

As a photographer, I was discovering interesting neighbourhoods, restaurants or shops in cities all over Europe. More recently, that journey took on a human touch. Inspired by the methodology of user-centred design, I became more interested in people, especially how they behave. Today I discover, observe, investigate and work together with users in order to make online platforms, suited to the target group. This is my daily work at Favela Fabric, a co-creation consultancy. At weekends, I'm driving my old-timer convertible, practising watersports or enjoying a quick city trip.



Christa van Gessel

Zilver Innovation

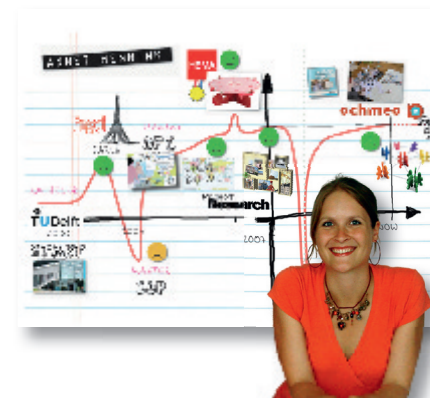
I enjoyed the Master Strategic Product Design, working at the fuzzy front-end. Contextmapping gave me the opportunity to indulge my passions for people and being creative. It all came together in my graduation project at Philips Research, where real engineers worked with real user insights. Currently, I work at Zilver Innovation, a creative consultancy where I help companies to innovate using their insights, vision, and brand. Here, contextmapping results in information and inspiration to help designers create products that fit both the company and the users. I love (and think it's essential) to be a researcher and designer in the field of strategy and to stay connected with real people and everyday life.



Annet Hennink

Achmea

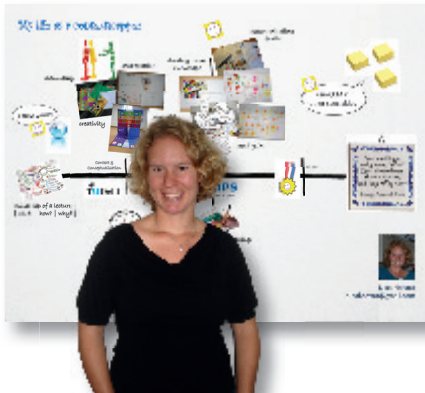
During the Master Design for Interaction, I became interested in the connection between user research and design - especially how user data can be communicated in an inspiring way for product development and innovation. I graduated from Microsoft Research in Cambridge in 2007; I studied English families and the knick-knacks they have on display in their homes, repeatedly tested my concepts with the same participants, and designed the Family Gallery. In that same year I won the HEMA design competition with 'Tast Toel', a disposable cake platter. I now work for a strategic innovation project at Achmea, a large insurance company in the Netherlands. I do contextmapping studies, communicate user insights and set up co-creation sessions.



Nina Horstra

CLMS

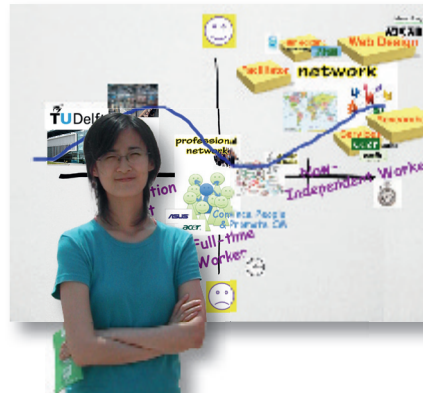
I did my graduation project at Philips Research, where I performed a contextmapping study on how people exchange experiences in the living room, in order to design product concepts that enrich the exchange of experiences. What I appreciate about the method is that it enables you to get to know and collaborate with the real users of the to-be-designed products. What, why and how do people exchange, and what tools do they use while exchanging experiences? What are their dreams, and what do they detest? People's creations and their discussions provided me with much information, which proved a great inspiration for creativity. At the moment I work as a usability consultant at CLMS, where I improve website usability and set up requirements and design ideas for good websites, based on the user's needs and wishes.



Kang Ning Hsu

Freelancer

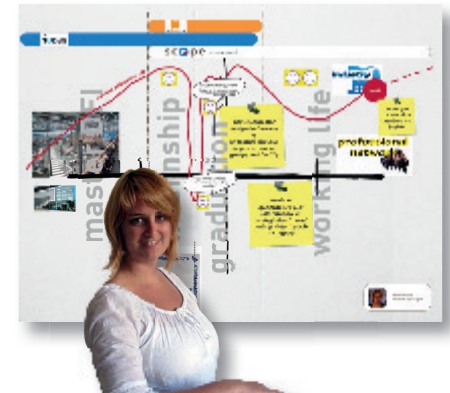
My Msc graduation project was called Contextmapping in Taiwan. After I graduated, I hoped to apply contextmapping methods in my work; ideally, I'd use my experience to develop feedback processes to improve the method. However, things aren't going as planned. Contextmapping is new to Taiwan's industries and education, so that it's quite hard for me, as a contextmapping junior, to be effective. And being a designer/ researcher in the Taiwan IT industry is not the life I want. I've tried to switch to the service industry, to have contacts with people in real life. At the same time, I will stay involved with user research projects and design cases as a freelancer – and keep my life aspiring and my brain researching!



Maartje Huinink

Scope Design & Strategy

During my studies in Delft I executed several contextmapping studies, which showed me the value of insights into user experiences and user contexts for product development. In a study with the design agency Scope Design & Strategy, we investigated how contextmapping techniques can be successfully applied to projects for SMEs. In my current job at Scope, I'm working on ideation and strategic design projects in diverse industries. I'm always looking for pragmatic ways to benefit from rich insights into user experiences in projects for our clients. The user context still inspires me every day in my ambition to create successful products. I am currently applying contextmapping techniques to design projects, as well as stand-alone services.



Linda van den Hurk

Linsperience

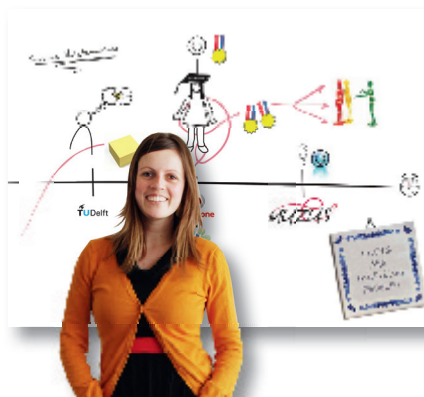
In my Industrial Design Engineering studies, there were some 'experience highlights': courses in Context & Conceptualisation, RichViz and User Inspired Design at the University of Art & Design, Helsinki; and my graduation project on Experiencing Service at Philips Healthcare Customer Services. By focusing on experience, you get a good understanding that helps in developing concepts that people love. I lost my own heart to contextmapping, so I started my company, Linsperience – 'Inspired by Experience'. Linsperience supports companies in their innovation processes (any kind!) to get an understanding of the related stakeholders. Whether it's products, services, product assortments or internal communication - Linsperience looks for insights! Contact me @ linda@linsperience.nl



Sanne Kistemaker

Muzus

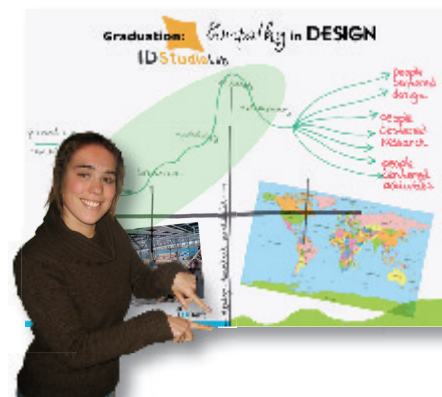
After winning three design awards with my 'Piece of Family', I wanted to apply user-centered design techniques in areas other than simply product design. So I set up the user-centered design agency Muzus, together with my sister. Every day we design with and for people, and our strength is combining the perspectives of researcher, designer and user. We work in four fields: product design, service design, organisational projects with end-users, and community-related projects where people participate in social matters. We notice that businesses are open-minded to user-centered approaches: it's refreshing and inspiring to hear honest stories from real people, presented in a non-commercial way.



Merlijn Kouprie

Social and creative researcher

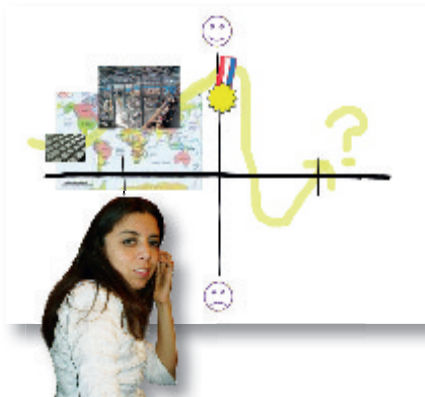
Ever since I made people my main point of interest, I started seeing possibilities for applying creative techniques in all kinds of fields. My future might develop in various directions, but it will remain people-centered. My ambition is to apply my knowledge and experience to socially relevant (design) projects. I believe there's great potential for using contextmapping techniques in development organisations. When you use them as communication tools to stimulate dialogue between different parties, they can help to raise people's awareness. Increased awareness can help them to understand their ability to improve their situation. In the end, I want to contribute to improving people's lives.



Andrea Leal Penados

New graduate

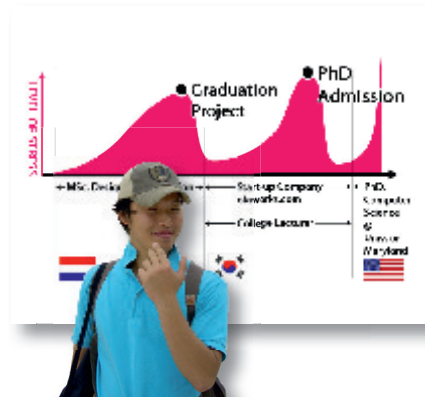
I developed my graduation project for TNO Quality of Life: a toy that stimulates children to increase their physical activity. The research focused on children and their parents in order to discover what motivated them to be more physically active. Contextmapping techniques were useful during the whole design process. For example, interviews with parents and children were carried out using generative tools during the research phase, and generative sessions were conducted with children to gain information about what was important for them, and to generate ideas and test design concepts. I'm certain that, in my future career, everything I learned will be used in some way.



Tak Yeon Lee

University of Maryland

For two years after graduating from the Design for Interaction course, I applied the contextmapping approach to many projects in South Korea. As a project manager in a start-up company, I've designed a blogging system that promotes visual creativity in people. I've also taught introductory courses on human-computer interaction in two universities. In doing so, I realised that what I have learned in Delft is not only useful design techniques, but also a constructive way of thinking applicable to general tasks. Now I am taking a PhD course in the Computer Science department at the University of Maryland, USA. My research topic is information visualisation systems using enormous datasets, such as genome information.



Elisabeth Leegwater

Oliver Wyman

It was wonderful to have 'four minutes of fame' at the symposium. I was consumed by 'contextmapping madness' during my Master Design for Interaction course, and I am happy to apply this and other design knowledge in my professional life in Barcelona, Spain. For me, it's important to help clients better understand their customers, and transform these insights into opportunities and concepts for innovation purposes. Our world is evolving very rapidly, and I've discovered that many businesses are therefore open towards a more creative, open-minded and people-centred approach. There is still a lot to discover regarding the integration of design and business activities, but it's a fun and inspiring experiment!



Martje van der Linde

Blauw Research

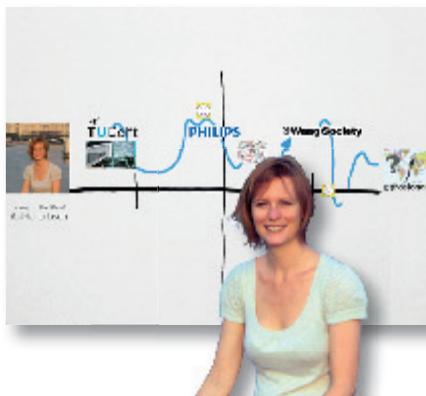
Why do we love some products, but hate others? Why do we feel connected to one brand, yet miles away from another? How can products fit our lives? During the Design for Interaction course, I was taught methods and techniques to investigate the role of products in people's lives, and how products can be optimised to fit our habits and rituals, and hence express our identity. In my current job at market research agency Blauw Research (Rotterdam), I mainly address these issues from the consumer point of view, conducting research for large companies in the durables and FMCG market. In the future, I hope to approach the subject more from a design/innovation perspective, by integrating consumer research into new product development.



Astrid Lubsen

Waag society

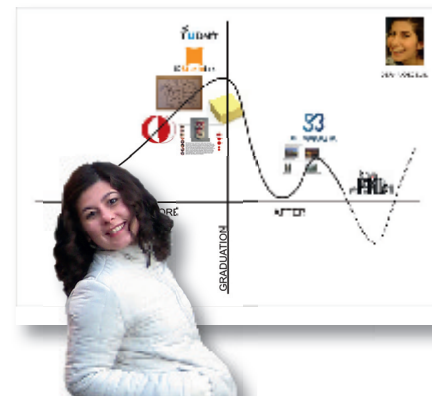
During my Integrated Product Design course, I discovered contextmapping - and loved it. So for my graduation project at Philips, I applied context mapping on a larger scale while researching how people deal with neck complaints. I discovered an enthusiasm for applying generative techniques in a company environment. Three years down the road, I work as a user researcher/designer at Waag Society. Most of my projects are healthcare related, where it is crucial to understand how users experience their world. Although it's a challenge to keep the research within budget and timing, the results are always surprising. For the future, I hope to continue working in the field of design research and get lots of inspiration from people's everyday lives!



Derya Ozcelik

Superbus/TU Delft

I received my degree in Industrial Design in 2004 from Middle East Technical University (Ankara, Turkey), as 'highly-honoured graduate of the year'. I then began my master studies. In spring 2006, I visited TU Delft Industrial Design Engineering as an Erasmus Exchange student. There I worked in ID-StudioLab, where I encountered contextmapping studies. I did literature research on participatory design methodologies, which became the basis for my graduation thesis on the analysis of participatory design methodologies and their utility for industrial design practice in Turkish industry. Since 2007, I've been working on the Superbus Project, TU Delft (www.superbusproject.com) as an interior and user experience designer.



Jonas Piet

Participle

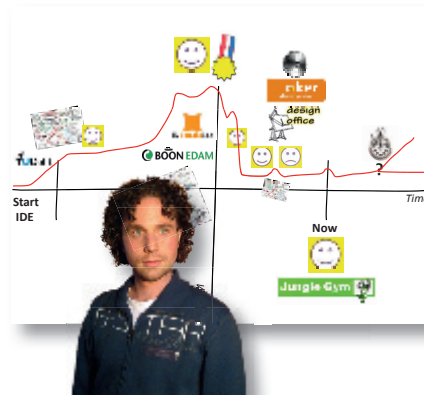
I work at Participle, a London-based studio designing public services targeting social issues such as loneliness and youth development. Working with and for the public, these projects change everyday lives. I graduated in Vilnius (Lithuania), with a tourist information system. Then I worked freelance on a range of projects - from mobile internet applications for older people (Vodafone), to illustrating abstract future scenarios with user-based implications to support mobility decisions (Rijkswaterstaat / Dutch Ministry of Transport). The common element in these projects is a user-centered approach, in which the people who will actually use the service are encouraged to explore, create and inspire the design at the start of the process, as well as test prototypes later on.



Victor Visser

Jungle Gym

From the moment I started my education at TU Delft, I have always been interested in user-centred design. Several courses and an internship have taught me various useful methods and techniques. In 2005, I was one of the first to graduate in using contextmapping methods. Using a wide spectrum of tools, I have developed a vision and concept of user-friendly entrance admittance. Since completing my education, I've worked as a designer of products for disabled people. I now design backyard playgrounds. These are both fields where a user-centred approach is very important. Although I don't currently use contextmapping in practice, my background helps me to look at products from a user-centred perspective.





part 2

afternoon programme





Graduates shared their real-world experiences

it's more about skills than recipes

experiences after
graduation

Remko van der Lugt

Over the last few years, hundreds of students have learned contextmapping techniques during their studies at Delft. Dozens of them have applied these techniques to their graduation projects. Generally, they have found them to be a useful contribution to their student design efforts. But then, on graduation, they are released into the 'real world' of design practice, where they find a totally different playing field. They face issues such as time and budget constraints, multiple stakeholders, the struggle between R&D and marketing (with the designers often wedged in the middle), and so on. Of course, one of the main differences is that a student project allows the student designer/contextmapper to use contextmapping to inform his or her own design process, whereas in practice the results of a contextmapping study often have to be communicated to a different design team, working on a separate design project.

In this workshop, 13 designers discussed how they have incorporated contextmapping techniques into their design practice. Some of them have been able to apply contextmapping in a limited way to peripheral areas of their work, while others have found it to be a main focus of expertise in their jobs. A few graduates have even started their own design consultancies to provide contextmapping services. We reflected on the problems that they have encountered, and how they have found ways to overcome these thorny issues.



In our discussions, we followed Sleeswijk Visser et al's (2005) model of six stages for the basic contextmapping process. What follows is a summary of some of the issues that surfaced for each stage, along with some tips from the 'pros'.

preparation: set boundaries at the beginning

Many of the problems that the contextmappers encountered originated in failing to make clear agreements. They stressed the importance of setting defined boundaries to the objectives and final product. For instance, ideally, the qualities of the data and the results should determine the kind of media used to communicate the results. However, ambiguity may lead to severe problems. *"We did a project in which we said that we might make an inspirational movie. In the end, they wanted a full-screen wicked Youtube film that*

could be projected in high resolution on a large screen. So we (almost) lost money on that project because of the exceedingly high production costs."

preparation: address participant motivations

Participants need to feel valued, which can be achieved in various ways. Some groups may benefit from a financial incentive, to indicate that their involvement is of a professional nature – a reward for supplying their expertise. Others need to see that their contribution helps a good cause, in which case financial compensation is of lesser importance.

"You help to make things better for other youngsters or for other elderly people - for many of the people that we work with, that's the main reason for taking part."

sensitising: building a relationship

"From the first moment that you have contact, it has already started."

The whole process of recruiting and sensitising is about building relationships. Even though it takes time to personally deliver packages to the participants, it pays off in later contact, such as in the workshops.

"You can say 'OK Harry', because you know, that's Harry, and you know what happened at home, so you can joke around with him."

If the relationship is disrupted, due to misunderstandings, it is very hard, if not impossible, to get the participants back on board. Personal contact can prevent such misunderstandings about what to expect in the process.

workshops: purge frustrations

The motivation of participants to help make things better, mentioned earlier, is oftentimes fuelled by frustrations. It's important to provide sufficient time for participants to let off steam, because otherwise you will never reach deeper levels of experience.

"The people present often have special reasons for being there. For example, perhaps someone has had a huge amount of trouble with an (energy company) bill. So when they get there, all they want is the account manager's head!"

workshops: skills, not recipes

Many of the graduates have developed a basic collection of materials, like picture databases, sets of magazines, and collage templates. However, they mentioned that they have started to adapt these tools and techniques, applying them more flexibly to the requirements of particular situations. *"It's more about skills than recipes."*

analysis: time well spent

Graduates stressed the importance of allowing time for analysis, in order to find patterns beyond the obvious. However, the client doesn't necessarily see this process as relevant. Graduates find ways to deal with client reluctance, either by making it a requirement in their project proposals – "We won't do it without proper analysis time" - or by doing it in their own free time. *"Not doing the analysis is like designing while not being allowed to sketch."*

communication: highlighting real people

The perspectives of real people are essential. Profiles of real people are always preferred to personas. Everyone delivers a final A4-sized report, perhaps more as a closing ritual than as a means to communicate the results. Knowing that the reports are often not read, the graduates provide additional ways to keep the perspectives of real people

alive, such as posters and user card sets.

"You don't say: *This is how it is*. You say: *This is what your users told us*."

use: avoid 'show workshops'

The final step in a contextmapping project often involves a creative workshop with the client (Van der Lugt & Sleeswijk Visser, 2007). However, these are not always effective.

'Show workshops', where the function of the brainstorm is solely to make the client feel good, can have a negative impact. The ideas from such sessions are easily regarded as the outcomes of the whole project, whereas they can only be starting points.

"We do a workshop and it's great fun, but when you see the results you think: we could have done it much better by ourselves."

use: educating clients

Making the effort to educate the client and the design team on *how to use the results* is vitally important. Otherwise, the rich experiences and beautiful materials will languish in the corner of someone's office, gathering dust.

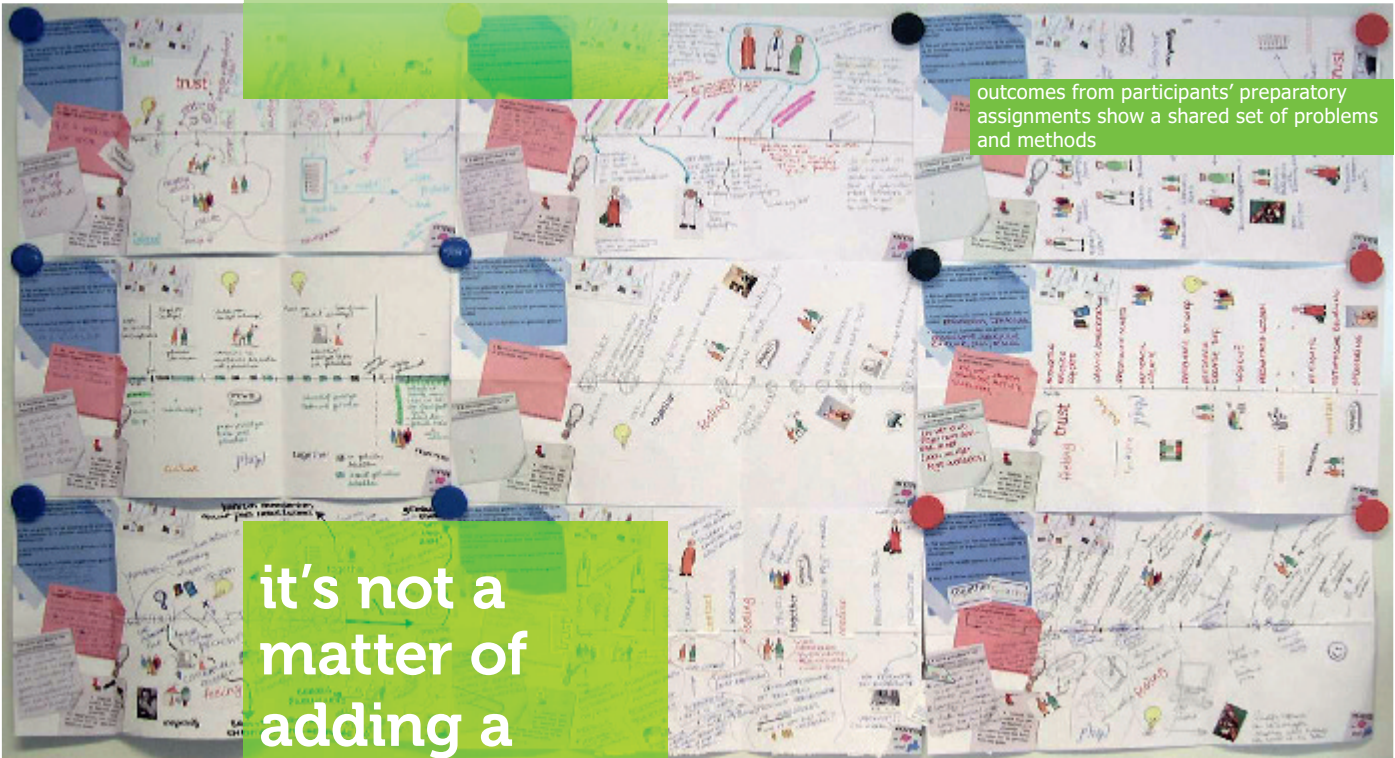
conclusion: collective services needed

The graduates enjoyed being together and being able to share experiences and learn from each other. They even started an initiative to build a special

interest group. It has convinced us that, after five years of individual professional experiences, it is time to provide the contextmapping community with collective services to help bring the field forward, for example an online community, intervision meetings, introductory or deepening professional courses, masterclasses, and so forth.

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outcomes from participants' preparatory assignments show a shared set of problems and methods

it's not a matter of adding a step to your project brief, it's preaching to get the process accepted

in the world of SMEs and short projects

Christine De Lille

Understanding user needs has become a major issue in new product development (NPD). Many large international companies have recognised this new approach to innovation and taken the lead in developing and applying it to their processes. Until Wakeford (2004), 'Small and Medium Enterprises (SMEs)' were the forgotten child of academic research into participatory design. The need for user involvement within SMEs has now been recognised, but how should this differ from that already taking place within larger companies? To be able to focus on 'guerilla' type user-involvement methods for SMEs, we investigated the current state of play in such organisations. During the workshop, we focussed especially on designers within small design agencies, inspired by Goodman (2007).

Some of the issues dealt with during this workshop were:

- Are specific methods used in small design projects?
- What are the specific needs of small design projects, and should existing methods be altered to fit them?
- Is there a need for new methods?
- What are the main problems when involving users in a design project?

As a preparation for the discussion during the workshop, all participants were asked to draw their design process and indicate at what moments the user was involved, and which method they used for this moment. The photo on the left page shows some of the filled-in design-process maps. When presenting the maps to the other designers, a common base for a discussion was developed: the problems that designers encounter when involving users in the design process.

During a lively discussion, the participants addressed two main issues: selling user involvement to the client; and how to select a suitable user-involvement method for a particular design project.

The first hurdle designers have to clear is selling a design project *with user involvement* to their clients. And based on the input of the designers, this step cannot be neglected. It's not a matter of adding a step to your project brief, it's *preaching* to get the process accepted. It is often a struggle to convince clients

of the added value of involving users. Designers reckon that not all their projects are suited to user involvement, but most of them are.

Designers try to structure the process of involving users, but quite often they lack the knowledge and experience to find an adequate process and method. The more experience of involving users a designer has, the more structured the process that takes place. Designers try to experience the to-be-designed product as users themselves, they contact users within their own network, or visit a shop to observe. Contacts with users are planned at short notice and

are often informal. As a preparation for actual contact with users, the internet is an important source of information (reports from trendwatchers, forums, representative organisations, etc.)

The discussion revealed the use of a wide range of user-involvement methods. Traditional user-involvement methods like interviewing, observation, prototyping and usability testing were the most common. Newer methods such as cultural probes, storyboards and generative techniques were used only rarely.

In selecting a suitable method, a variety of problems may be encountered. A method is often project dependant, actual contact with users is time-consuming and difficult to achieve, recruiting users is difficult, and there is often no knowledge of, and no adequate resources for, newer methods of user involvement.



For the designers, the workshop was a rare opportunity to share experiences of involving users

conclusion

"The overview of methods hanging on the wall here, that's every designer's nightmare!"
(referring to a poster made by KAIST)

To conclude the discussion: there is a need for sharing experiences. Designers have the feeling they all run into the same problems. Whenever a problem occurs during a design process, the internet is the first and main source of information. Designers not only need more information about usable methods; they also require sample cases of how methods can be implemented, as well as showcase material to prove the added value of user involvement to clients.

The insights generated during this discussion are further explained in a paper submitted for IASDR 2009 (De Lille, submitted). Based on the conclusions of the discussion, we are currently working on providing a platform to exchange knowledge and experiences of user involvement for designers.

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participants		affiliation
Irene	van Peer	Irene van Peer ontwerpen
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Patricia	Govaert	Informaat
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Joris	Baas	Joris Baas
Christine	De Lille	Hogeschool Utrecht
Femke	Glas	BNO

Wishes

Spel

Wishes
was welcome!

Spel is
what we need!

Team of 'Somers'

Strong

Security

Fear

Hearby

Ommsns

Feel

**a hospital's
main asset is
its people**

user participation in a
health care environment

Building www.abuilding.nl

Quiel Beekman

Quiel Beekman

Presentations were based on the visualisations and maps created by the participants

Ten professionals, including an architect, a psychologist, housing and real estate directors, and managers from hospitals and psychiatric institutes were invited for this workshop session. The session started with an introduction of the participants by means of a sensitising tool, which they had prepared beforehand. They were asked to share their own experiences and points of view concerning healthcare and user participation. During the second part of the session, the participants were divided into three groups. The groups each created a map based on new possibilities for user participation in healthcare. Visual stimuli were provided to improve the generative language and creative thinking.

In order to give a brief impression of the session, the most striking quotes were collected and form a jointly-told tale.



Architect (healthcare):

A lot of architects design a monument for themselves. I build for myself from a patient's perspective. There's a chance that I will end up in a hospital, care home or mental institution. That's one of life's risks, so I can better design for myself.

Director Real Estate and Housing

(psychiatric institute): *Although I'm concerned about buildings, health care concerns people.*

Psychologist/Interior designer:

Healthcare is all about freedom of choice. This freedom must be attainable for all those needing care.

Facilities Manager (psychiatric institute):

I don't know much about healthcare myself and I would really like to keep it that way. However, I do know about building and organising and bringing people together in order to get the best outcomes.

Chairman internal housing committee

(hospital): *In a hospital environment, it is all about taking care of each other on every level.*

Corporate Real Estate Manager (hospital):

Over 80% of care can be planned. If we organise and structure that well, the rest comes naturally.

Designer (outpatient clinics):

I see a hospital as a huge company that employs a lot of different people, all dealing with different factors and needs.

Corporate Real Estate Manager (hospital):

The hospital's main asset is its people. They are the ones who have to perform.

Architect (healthcare):

Permanent care should be weightless. The building should be as normal as possible – not institutional. Healthcare buildings should be designed with this in mind.

Chairman Internal Housing Committee

(hospital): *In order to reveal dreams and feelings, we must involve the unknown.*

Housing consultant (Health care):

We need to speed up transitions and processes, the user input meetings cost an enormous amount of time.

Corporate Rreal Estate Manager (hospital):

During the usual user-input meetings, medical managers are the main people involved. But the patients are important, too. How can they be involved? A possibility, of course, is involving the Patients' Union. There's also an opportunity for involving chronically sick patients.

Chairman Internal Housing Committee (hospital):

In the future, we expect great opportunities for involving end-users much more extensively in the design process. Applying a game as a participation method would suit our industry very well, but so would dialogue with 'strangers', new tools and playing with puppets.

Housing Consultant (healthcare):

I think that, up until now, most of our user-input meetings have resembled a puppet theatre! It often seems to be just about politics and that's a pity, because we're missing the point of the meetings, which is to provide input, not reinforce positions.

Facilities Manager (psychiatric institute):

We have to start anew. If everything turns out right, we create hope and opportunities. However, to create opportunities we need cooperation, which can lead to tensions within the current set-in-its-ways establishment.

Housing Consultant (healthcare):

What exactly are you afraid of in venturing into discussions with the current set-in-its-ways establishment?

Facilities Manager (psychiatric institute):

The culture within the healthcare sector has to be further developed in order to strive for opportunities in the widest sense of the word.

We will always have to deal with people who say: "Let's keep things as they are and as they have been for the last 40 years." With all due respect to our older colleagues, we need to focus on younger people, young managers who look at the processes on the shopfloor from different points of view.



conclusion

It's time for a change. The professionals from the healthcare sector were all positive about the methods, tools and techniques presented during the symposium morning session. They saw opportunities for implementing contextmapping in their industry.

They shared the opinion that involving not only personnel, but also patients, could contribute to an improvement in the healthcare experience. They also agreed on the restricting power of the present establishment - people not only need to be convinced, but applicable methods also have to be developed.

This can only be achieved by bringing contextmapping into use. Therefore, innovative healthcare organisations striving for change need to be approached. I hope to find them, and until then, spread the word!



participants		affiliation
Victor	de Leeuw	EGM Architecten
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Menno	Hinkema	TNO Centrum Zorg en Bouw,
Ali	Kinsbergen	GGZ inGeest
Jasper	Meijer	Albert Schweitzer ziekenhuis
Thamar	Verhaar	WeLL Design
Monique	de Wilt	Vilans
Frans	Van Loenhout	GGZ Westelijk Noord-Brabant
Piet	Hultermans	GGZ Westelijk Noord-Brabant
Maartje	Flesch	Westfriesgasthuis
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Linda	van den Hurk	Linsperience
Quiel	Beekman	4Building

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outcomes are
inspirations
about kids'
activities,
values and
preferences,
rather than
facts or ready
solutions

participatory design with
children

Mathieu Gielen

A 'multicultural' garden design as an
outcome of the participatory sessions

How can children be involved in design processes? When contextmapping and other co-design methods are undertaken with kids, these need to be adapted to their capacities and interests (Gielen, 2008). Valuable lessons can be learned from other professional and scientific areas where youth participation is more established. In the the social sciences, for example, experience has been gained in involving young people in local municipality decision-making.

In urban planning too, children are one of many user groups whose interests must be balanced with those of other groups. This session brought together these different viewpoints and experiences.

The workshop was organised with the 'Spelenderwijs' special-interest group of child-focused designers from BNO, the Dutch association of designers. For an audience of academics and practitioners mainly from the domain of industrial design engineering, three different cases were presented. These came from the areas of industrial design, small-scale urban development, and youth participation in a local municipality.

Then attendees were challenged to define their own approach to a hypothetical case. In the discussion that followed, it became clear that, however different the areas of application, many principles can be shared between the participating domains

three cases

Three speakers discussed best practices for youth participation, illustrated by cases.

The case of **Ivet Pieper (Stichting Alexander)** focussed on the influence of young people on municipal decisions that shape their living environment. Amsterdam city council's policy has shifted from keeping a small group of young troublemakers off the streets to developing the potential of all its youngsters, and it is planning five new multifunctional 'talent centres' for this. Young people cooperate with architects in developing the interior of these centres, a process that is facilitated by Stichting Alexander.

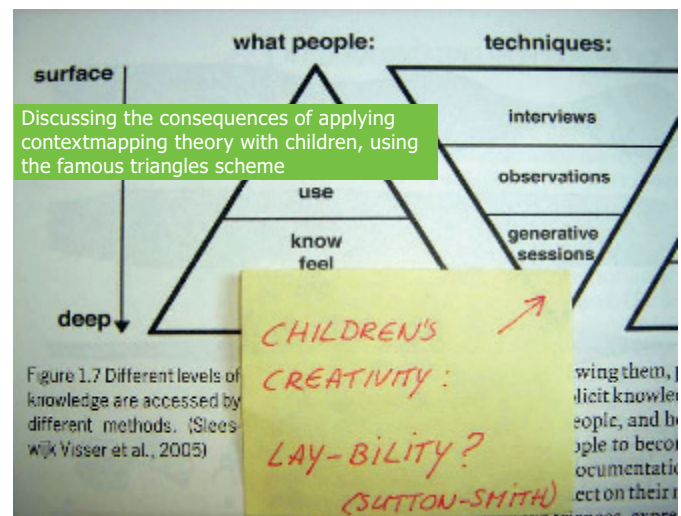
Tips and tricks for similar undertakings were presented by Pieper. First and foremost, it is important that the participating kids are stimulated by activities. So, instead of holding long and boring meetings, take them on a bike ride to inspiring places, triggering discussions on the spot. Furthermore, it's important to respect the expertise of all the parties involved. Young people can indicate what their world of experience is, and what their concerns are. The architects are responsible for generating

concepts that embody appropriate qualities, and young people can evaluate them best.

It's important to keep the focus on content, rather than involving children or young people in a possibly slow and confusing political decision-making process, in which they all too easily lose insight and interest.

Pieper recommended the book *Participatory Workshops* (Chambers 2002), which is full of practical advice and examples.

Tilde Bekker (Technische Universiteit Eindhoven) presented the case of Sunday Forest Funday. The focus of this student project was to enhance the outdoor play experience, with an intelligent play object, for children aged 8 to 10. This project made use of the 'kid reporter' method (Bekker



et.al, 2002), in which kids make the content for a newspaper together. Kids interview each other, make photos or videos of locations, sketch solutions, etc. The design researchers facilitate these activities and create a newspaper out of the contents that the children produce. Although this method requires a lot of facilitation, preparation and after-care, it has some great advantages, the most important being that it makes use of a variety of skills and intelligences. By calling upon 'multiple intelligences' as defined by Howard Gardner, a richer outcome is generated, and the process is more inclusive: each child chooses a medium suiting his or her own skills best. Outcomes are often inspirations about kid's activities, values and preferences, rather than facts or ready design solutions.

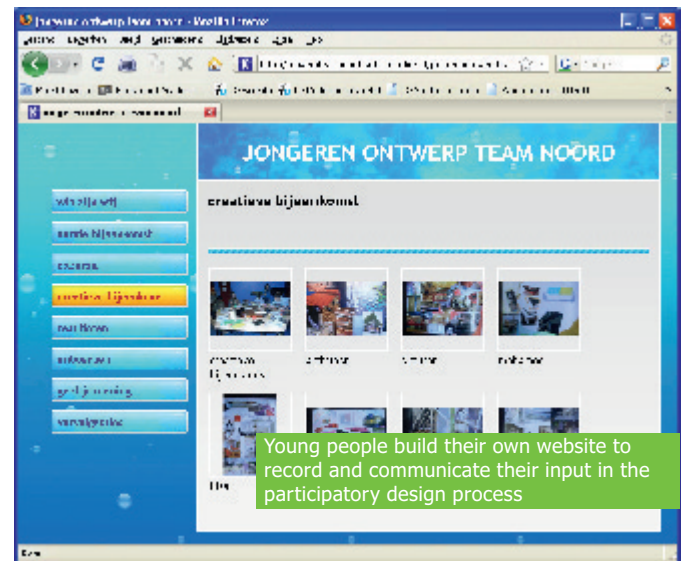
Peter Veer of Alterra, a research institute at Wageningen University, studies how urban greenery can contribute to the integration of various immigrant groups in society. His case focussed on the redesign of the urban green spaces in a neighbourhood in Bos & Lommer, Amsterdam. Within participatory design in urban planning, inhabitants are often approached as though they were one coherent group. Veer stresses that this is not the case, and that it is often necessary to first invest in community building, before the actual theme of green areas in the environment can be addressed. Children play a special role in this: their outdoor play brings parents of various backgrounds together more easily. But their concerns are often overlooked in the decision-making process; children are then reduced to the noise-making occupants of possible parking space. It helps if adults start by thinking back of their own youth, before deciding on children's opportunities

conclusion

In the closing case, which focussed on involving 'problem youth' in the redevelopment of a city square and park to suit their own, but also each other's needs, the participants contributed with many interesting approaches, such as having the different

groups (adults, children, teens) make designs for each other, or working in pairs composed of different user groups. Such steps can improve the mutual understanding of each other's needs, and will help in the acceptance of the design eventually implemented.

Other recommendations included: starting the participatory process only when the results are to be implemented in the short term, to avoid discouraging participants; always providing quick results in the form of feedback or preliminary improvements; never making promises that you can't keep - for instance, when doing dream exercises, emphasising their fictional character; and building on the known history of the area to enhance the inhabitants' shared feeling of pride. While some of these ideas are only applicable in projects where there is direct cooperation with the actual future users of the design, many suggestions could be of value for all the professional areas present at the workshop, indicating that we can indeed learn a lot from each other.



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participants		affiliation
Tilde	Bekker	TU Eindhoven
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Fenna	Blomsma	TU Delft
Ana	Cengic	Designstudio van Ginneken
Fenne	van Doorn	TU Delft
Karien	Dommerholt	Windesheim
Lisabeth	Duivenvoorden	Kennisnet
Mathieu	Gielen	TU Delft; BNO Spelenderwijs
Suzanne	van Ginneken	Designstudio van Ginneken
Judith	Huting	Gemeente Buren
Esin	Isik	TU Delft
Pascalie	Karthaus	TU Delft
Ronnie	van Kempen	Independent designer
Pleun	Lauwerier	TU Delft
Evita	Ooms	TU Delft
Deger	Ozkaramanli	TU Delft
Ivet	Pieper	St. Alexander
Jildou	de Raad	MetrixLab
Margit	Schuster	ZonNet
Janienke	Sturm	TU Eindhoven
Erliati	Sukirman	TU Delft
Rob	Tuitert	Yalp
Peter	Veer	Alterra



The workshop discussions involved some tough talking

of course, as
a designer
you are
responsible

responsible design:
beyond ethical discussions

Ingrid Mulder

We cannot get around the fact that emerging media are influencing our daily lives; sometimes positively, sometimes negatively. Unfortunately, all too often it's the disadvantages that are magnified in the public debate. The increased media embeddedness not only influences our daily practices; it also affects our values. Whereas in the early days of camera surveillance people feared for their privacy, nowadays the public is merely amazed when camera pictures fail to show enough detail to catch criminals. Obviously, the design of emerging media affects human values; however, whether the interplay of design and human values can contribute to our wellbeing or not is not a straightforward question. Current value-sensitive design practices encourage ethical discussions, but although these are valuable, human values deserve attention early in the design phase as well. The aim of this tie-in session was to explore this sensitive design landscape and open the discussion as to how human values could be included in a truly human-centred design process - and in so doing, further responsible innovation. People were invited with experience in psychology, social science, ethics, industrial and multimedia design, as well as in designing for public space. In total, 12 participants from academia and R&D departments, as well as from smaller design initiatives, took part in this afternoon workshop.

human values

'Well, values are universal'

What are human values? In short, those beliefs and emotions which make us human. Human values are universal, and at the same time cultural and personal. Who is against human values such as honesty, peace, love or solidarity? These are the foundations of our society. However, continuing the discussion it appeared that things are not that

clear-cut. Personal preferences, priorities or concerns might make a crucial difference. People are different, priorities are inconsistent and concerns might be latent or shifting. Especially when emphasising the relationship with design, complexity increases: the debate is not just about what values are, but about how we can use those values to design for desirable situations.

landscape

Current design approaches go beyond usability and economic worth, and increasingly address moral discussions. Value-sensitive design is an approach that encourages moral discussions in relation to the development of products and services (Miller et al, 2007): for example, how questions of privacy, control, or informed consent should be addressed. The emphasis, however, is more on facilitating the moral discussion of how products should fit within organisations (or in society), and solve value tensions between multiple stakeholders. On the other hand, people want products and services to deliver added value in their daily life contexts. Consequently, designers aim to design beyond usability and for emotions, in order to design pleasurable products. Whereas the first emphasises values tensions involved in the design process, the latter explores the values of products and services. Theories related to human values and design are mostly descriptive and not explanatory. No specific tools and techniques seem to be appropriate to incorporate human values into the design, especially when starting with the earliest phases in a design process. Methods refer to an approach and are rarely helpful in guiding designers to include human values in the design process.

towards responsible design

'This is way too hard'

In this workshop we tried to explore the landscape of human values and design, aiming not to find 'the answer', but to come closer to a better accounting method for human values in design processes, especially at the fuzzy front end. As with contextmapping, human values refer much more to the rich experiences people have, to societal relevance and cultural interpretations. Rather than human-computer interaction, we looked at the way we interact with each other via the products and services we use, and the effect these have on people. As the discussion was on various levels, emphasising the individual, all stakeholders or even society, several examples and design practices were put on the table to get grips with this unexplored territory.

A wheelchair can be designed as a pleasurable and aesthetic product. Starting from a disabled child's values might result in a special bicycle where he or she can sit surrounded by colourful cushions, that might be the envy of other children.

We concluded that the design space for responsible design could be defined by directive values on the one hand, and potential disruptive values on the other. As emerging media are increasingly influencing our worlds, the role of designers is changing as well. The discussion is not about whether designers are to blame for how the use and interactions encouraged by their products affect our lives; rather, it stresses the need for methods of identifying and addressing value tensions during the design and implementation of interactive technologies, as well as being aware of the sensitivity of the user: responsible design through value-sensitive designers.

'Of course, as a designer you are responsible'

'In fact, you just make what the client requests'


conclusion

The workshop brought together design researchers, developers, practitioners and students from academia and industry concerned with human values and design. The topic we addressed was clearly complicated, and obviously we had various perspectives available. The products and systems we are developing are increasingly value-sensitive. The design process - and the designers - need to be much more value-aware. Although mutual understanding was growing during the tie-in session, it appeared quite difficult to articulate the common ground and to define the next steps to take. The workshop ended with greater awareness and more questions to solve.

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Participants discussed how to be 'educated and naïve'

the importance of 'educated naïve' in BoP

contextmapping and
design rural areas in
the base of the pyramid
domain

**Annemiek van Boeijen
& Vikram Parmar**

Understanding the context in rural areas in the Base of the Pyramid domain (BoP) is a difficult task. Designers have to bridge a cultural gap (Van Boeijen, 2008) and probe local contextual factors that drive the acceptability of any product or service in a rural context (Parmar et al, 2009). In particular, they should understand “the system of shared beliefs, values, customs, behaviours and artefacts that the members of a society use to cope with their world with one another, and that is transmitted from generation to generation through learning” (Hofstede, 2005). In two hours, three sessions were conducted with ten experienced designers working as entrepreneurs, researchers and a cultural anthropologist. The aim of the workshop was to identify new design tools and approaches for contextmapping in the BoP context.



workshop set-up

In the first session, participants were asked to reflect on their past work experience in the BoP context, and suggest three 'do's and 'don't's that a designer should consider before conducting contextual design research. The focus appeared to be on the positive 'do's, stressing that contextmapping is about 'doing' and 'experimenting'. The second session was 'the sensitising session', where two products, designed specifically for the BoP domain, were presented: the Nokia phone for heavy usage conditions in India (Nokia, 2009) and the Van Hemel Baby Incubator for rural areas (HEBI, 2009). The examples triggered interesting discussions about business and economic models and how the product design process considered contextual factors. In the third session, two questions were introduced:

Design challenge: What are the different ways in which multinational and research organisations can conduct contextmapping to obtain insight into critical socio-cultural, technological, economic, and political issues that influence the adoption process?

Design problem: If you have to design a product that supports lower and middle-class women in rural and semi-urban India doing their laundry, how would you as a designer approach the product development process effectively and efficiently?

findings

The findings from the workshop have been grouped into four points:

1. The designer plays an important role in facilitating the contextmapping process by transforming field findings into design insights. Additionally, some participants highlighted the strength of industrial design in amalgamating knowledge from multidisciplinary sources. One group pointed out that contextual research is not about gaining user and context insights or defining the design goal, but building sustainable relationships to create a suitable context for business development. The group suggested a four-phase approach including:
 - a. Making critical decisions before exploring the BoP context: identifying local partners including key decision-makers;
 - b. Preparing an execution plan: identifying meta problem and a strategy to approach it (what role is the design going to play?);
 - c. Executing the plan: analyzing and experimenting in the local context;
 - d. Reporting: sharing and communicating the results to serve both application and cooperation.
2. It stands out that sensitising (Sleeswijk Visser, 2009) the designers as well as the users is important. The attitude and behaviour of the designers seem to be crucial in a successful contextual design research task; having an open mindset (willingness to understand and accept the mindsets of other people), being aware of ones own cultural background and personal values, being critical of individual interpretations (e.g. by local experts, interpreters), and being curious and careful.
3. Activities that help to collect rich and reliable information are not very different from the ones we already know from contextmapping, although some aspects need extra attention, such as the consequences of illiteracy, low/non-existent

education levels, and the different roles of gender and hierarchy in local societies. The research should include a comprehensive problem analysis involving the local intended users and experts, NGOs, governments, and decision-makers. One participant referred to participatory research methods from social sciences (Wageningen University, 2009).

4. One of the tips for managing the communications and relationships is to write observations (including non-project related aspects) in a personal diary on a daily basis to use as inspiration at a later stage. Furthermore, build on expectations, permission and reciprocity (e.g. prepare your gifts; some cultures do not accept money). When designing for the BoP context, there's a lot to learn. To do so, we need to be open (unaffected or you may say 'naïve') regarding 'what we do not know'. And even when our knowledge is increasing we have to stay consciously naïve in order to be sensitive to 'the things we do not know that we do not know'. As one of the participants stated, when researching the BoP context the designer should stay 'educated and naïve'.

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so far, a barren terrain

bridging the worlds
of hospital safety
management and safety
by design

Adinda Freudenthal

It would be logical for industry to systematically improve medical products by learning from what happens when they are used. Unfortunately, such a continuous learning cycle, linking hospitals to industry, does not yet exist. Worse still, safety and quality systems in hospitals are in their infancy: only a few Dutch hospitals have a structured system. Therefore, we would like to start developing a communications procedure to link hospitals, industry and academic industrial design, in order to create a continuous cycle for quality improvement in medical devices. This workshop was a first attempt to explore possible methods to start this mission.

We invited medical professionals, medical (quality) researchers, academic industrial designers and ergonomists, organisation safety experts, and psychologists. The session started with an explanation of a concrete organisation safety method. The results of contextmapping studies, and some resulting designs, were then presented by industrial design students. It was remarkable how contextmapping widened the scope of attention to the actual nature of the topic we were studying: one of the designs showed feasible possibilities for automatically cleaning equipment. From this starting point, the participants, from medical and other disciplines, recounted anecdotes about problems, psychology, investigation and behavioural aspects. All of this contributed to our quest.

Although patient safety is an important issue, very few hospitals have a structured safety management and quality-control system in place. Healthcare professionals tend to focus on medical practise and organisation to prevent avoidable damage. They do not aim at providing suggestions for (re) designing equipment, as hospitals have no control over design. Manufacturers of medical equipment are responsible for equipment design. Post-market surveillance is supposed to respond to problems encountered in work by improving devices, and such surveillance is obligatory by law. Yet in 2008, the RIVM (Dutch public health institute) found, in an investigation concerning infusion pumps, that less than 25% of the examined industries conduct

'active surveillance' (actively gathering information from the field). Methods such as contextmapping remain a predominantly academic exercise, or are limited to the pre-market phase. This illustrates the lack of connection between safety management in hospitals and device improvement systems. In this workshop, we tried to find ways to connect *organisational safety management to safety by design*.

We applied a risk management tool (which has already been used in hospitals) to the condition: 'inadequate compliance to hand hygiene protocol'. Besides the normal organisational measures, we also aimed at proposing product changes. By doing all this with a multidisciplinary team, we hoped to

identify bridges between organisational safety and safety by design, so enabling a broader, more global view of both the problem and the potential solution space.

Our ten invited participants had expertise in risk management, quality research in hospitals, medicine, nursing, (cognitive) psychology of professional work (eg aviation/ surgery/ ICU nursing), industrial design of medical equipment, and ergonomics.

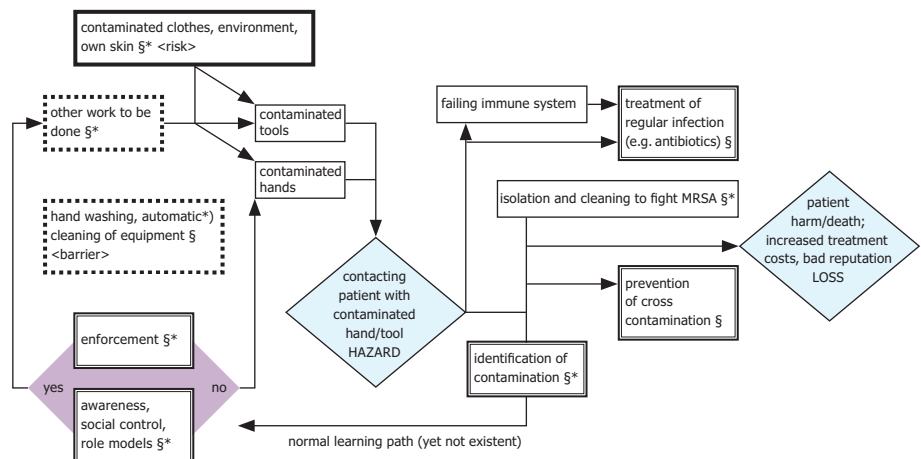
the bow tie

The risk analysis method we used is called the 'bow tie'. This method centres around identified hazards. If all the hazards in the hospital are analysed, and their critical controls and barriers are

The first attempt to bridge the two worlds.

The model, based on a bow tie, actually centres around two hazards (contamination by hand, or by touched tool). The sequences of controls and barriers are replaced by some kind of network, also including tasks, behavioural factors, learning loop and decision points (y/n), reflecting the multiple disciplines present: cognitive psychology/design, etc. By means of further investigation, such as through contextmapping, the details of factors and networked structure could be clarified.

§ = *organisational improvements possible*
 * = *product improvements possible*



identified and managed, then the hospital should be safe. In the middle of the bow tie is placed the selected hazardous event. To the left, the bow tie shows the many possible sequences of controls and barriers; factors that either increase or decrease risk are noted. The hazard develops if one chain of barriers is broken (causing an incident). The aim is to change the organisation so that the chance to break the chain of barriers is as low as possible. To the right are the measures taken to control or mitigate the consequences of an incident.

We started from the hazard: 'hand related contamination of patient'. One of the researchers reported that hand washing according to protocol (washing before and after every interaction with a patient) would take at least two hours of an eight-hour shift (Gawande, 2007). This is unworkable, since if the nurse obeys, he or she will not get other important work done. The figure (page 59) indicates several influential factors, as well as measures, which came up in the discussions.

Probably the factors with most impact on control and barrier failure are conflicting goals (such as time versus safety) and lack of motivation and/or safety awareness. For instance: the

nurse might get no feedback on post-operative infections, so he or she never perceives a contamination risk relating to her or his behaviour. This means that the most effective way of learning is not in place: the normal acting-checking feedback loop. Possibly, there are technical means to change this – perhaps by identifying contamination much faster, and thereby connecting it to a distinct team (or even person) responsible, or by revealing any lack of cleanliness with ultraviolet light.

conclusion

We identified how the bow tie can be linked to product development: both to the left and to the right, measures can be identified for operational, product and management changes. But more importantly, the relationship between these measures becomes clear. Some measures are conditional – they are the only barrier. Others can be considered as contributing together with other aspects. By establishing the related structure between the work activities, measures and behavioural factors, the proposed changes can be judged. Besides analysing situations and proposing solutions, we need to identify ways to actuate collaboration between hospital management and industry – so far, a barren terrain.

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epilogue

www.contextmapping.com

Contextmapping has been alive and kicking for a good five years (actually, the term was coined in 2003 in the MSc report of Froukje Sleeswijk Visser, whose PhD thesis “Bringing the everyday life of people into design” formed the occasion for the symposium and the booklet).

Back in 2003, we had had only a few case studies to work on, apart from Liz Sanders’ large, but largely confidential, industrial experience. A first milestone was the 2005 CoDesign paper “Contextmapping: experiences from practice”, which provided a description of how such a study was conducted, with a level of detail that provided both structure for academic researchers and guidelines for practitioners who want to try the methods. From there on, four PhD projects tackled what we saw as main problems in the area: Froukje Sleeswijk Visser focused on communicating user experiences to design team, Carolien Postma on developing techniques to tackle social contexts, Helma van Rijn taking on the challenge of techniques to give designers empathy with understanding for difficult-to-reach user groups such as autistic children and elderly with dementia, and Christine de Lille exploring how the techniques can be adapted to fit the needs of small and medium enterprises (SME’s).

Other colleagues, such as Mathieu Gielen, Adinda Freudenthal, and Annemiek van Boeijen, are also exploring and applying the techniques in their research, connecting it to their experience and expertise.

The aim of the projects will remain double-headed. On the one hand recognizing and understanding the general structure of the process and techniques. On the other hand keeping the research directly relevant for practitioners.

more...

For those who want to find out more, several sources are available.

www.contextmapping.com

is a website maintained by the contextmapping group at ID-StudioLab. It contains announcements of upcoming events, an annotated overview of papers published by the group, and pointers to the field.

[symposium morning program on video](#)

The morning program, including the presentations of Liz Sanders, Jacob Buur, Froukje Sleeswijk Visser, and the 10 graduates, can be viewed on the TU Delft collegera website. A link is provided on the contextmapping website (look for 'symposium 13 May').

['key reads' to get an overview of contextmapping](#)

An explanation of the method

Sleeswijk Visser, F., Stappers, P.J., van der Lugt, R., Sanders, E.B.N. (2005) Contextmapping: Experiences from practice. *CoDesign*, 1(2), 119-149.

Case studies, principles, and guidelines on communicating user experiences

Sleeswijk Visser, F. (2009) *Bringing the everyday life of people into design*.

Three example IDE graduation projects using the methods

Stappers, P.J., van Rijn, H., Kistemaker, S.C., Hennink, A.E., Sleeswijk Visser, F. (2008) Designing for other people's strengths and motivations: Three cases using context, visions, and experiential prototypes. *Advanced Engineering Informatics, Special Issue on Human-Centered Product Design and Development*, vol 23, page 174-183.

Overview of contextmapping in education at TU Delft

Stappers, P.J., Sleeswijk Visser, F. (2007) Bringing participatory design techniques to industrial design engineers. *Engineering and Product Design Education Conference, NewCastle*, 117-122.

Drafts or full versions of these can be found on the contextmapping website.

At the symposium day, 'alumni contextmappers' set up a LinkedIn group (Contextmapping Alumni DUT); we expect this to develop into a practitioner community in 2010/2011.

[more to come](#)

Liz Sanders and Pieter Jan Stappers have been working on a book about generative design research techniques. The book, aimed at researchers, practitioners and students will present case studies, guidelines for conducting studies, and underlying theory. It is planned to be available Fall/Winter 2010. For follow-up news, see www.contextmapping.com.