

Thinking Through Making – An approach to orchestrating innovation between design and anthropology

Bas Raijmakers, Reader Strategic Creativity Design Academy Eindhoven

Danielle Arets, associate Reader Strategic Creativity Design Academy Eindhoven

Introduction

Co-creation in both ethnographic research and design is engrained in much of the design research projects at the Strategic Creativity Readership at Design Academy Eindhoven. Our projects have brought us various collaborations with a wide range of people, from citizens to professionals, in health care, transport, crafts and manufacturing. The iterative approach we use alternates between making and thinking, more intuitive design interventions and joint reflection. This allows us to use ethnographic methods during the co-creation process. Our experiences regularly challenge, for instance, the separation of design research in lab, field and showroom approaches (Koskinen et al, 2011). Rather, they are combinations of these. New relations between anthropology and design are developed in much of our collaborations with many different stakeholders. We present some of our work here to explore and discuss how anthropology and design get connected, and sometimes even merge, in new ways.

Design research at Design Academy Eindhoven strongly embeds a 'thinking through making' approach where designing and reflection go hand in hand. The 'making' includes not only objects, in our vision 'making' is also creating activities, events, services, spaces, narratives, systems, futures, and combinations of all of these. This reflects that design has moved beyond products, to services and experiences, to systems and transitions. Our 'thinking' is not only expressed by text, in our vision it also can be expressed by everything we make, from objects to services to systems to futures. We take a multimedia approach to knowledge creation, expression and dissemination. This helps to make the knowledge we create accessible beyond (academic) experts in our field, to participants in the 'triple helix' of (creative) industry, government, and knowledge institutes, and the wider public in general. Design and aesthetics are important here as a means to create impact on those we want to reach and involve.

Networked collaborations in projects with industry, government and the third sector are central to our work. Over the last 4 years we have been part of CRISP (Creative Industries Scientific Programme); an ambitious design research programme in which the 3 Technical Universities in the Netherlands (in Delft, Eindhoven and Twente), the two Universities in Amsterdam, Design Academy Eindhoven, over 50 companies from creative industries and the service sector, and the third sector collaborate in eight large design research projects. Each of the projects includes PhD researchers of the participating universities, design researchers (Research Associates) from Design Academy Eindhoven, and various participants from the other partners, from designers to health care professionals, from business developers to robot builders. The programme is partly funded by the Dutch Government who strongly believes that future economies and societies can only flourish if they are creative. The question that the Readership Strategic Creativity of Design Academy Eindhoven, as part of the CRISP programme) aims to answer is related: How can we create knowledge that enables creativity to play a more strategic role in service innovation for society and the economy, through putting "doing design" at the centre of doing research?

There is a specific form of creating networked collaborations in most CRISP projects, which includes users of the services and systems we are designing, that we call 'Orchestration'. This contains the arrangement, coordination, and management of design projects, in particular those addressing so-called 'wicked problems' (Buchanan, 1992). These design situations are so complex that they often require a network rather than a team to create, implement and deliver results. Such networks can be forged but also have to emerge from the relationships that are built between people, rather than organisations. They cannot simply be designed top down because hierarchical relations between the different stakeholders are by definition lacking in a network. A deep anthropological and empathic understanding of the networks and their dynamics is required as part of the orchestration to create successful collaboration (Raijmakers et al, 2009).

This paper explores the nature of orchestration activities as part of a thinking through making approach to the collaborative formation of issues in networked collaboration. Three design research projects from the CRISP programme, in which Design Academy Eindhoven was involved with other stakeholders, act as case studies from fields as diverse as work-related stress and mobility services for older people. All of these are related to the design of Product Service Systems (PSS). This is relevant because PSS do not have a final form that is the same everywhere, contrary to

industrial products. The delivery of services may differ per encounter between each individual customer and individual provider. Only in these encounters the service gets its final form, which is slightly different every time as a consequence (Vargo & Lusch, 2008). The important influence of a wide range of different people in not only the design and implementation but also the delivery of PSS, is a good reason to have design and anthropology operate in tandem at all of these stages.

Reflecting on each of the three projects discussed below led to some observations about how new relations between anthropology and design are developed in collaborative design research. These relations do not develop all by themselves though, facilitation of some sort is needed. We came to call this type of facilitation ‘orchestration’. After the three case studies we will further elaborate on what orchestration could mean, how it is a specific kind of facilitation and what the role of designers is in instigating or organising orchestration in a network.

The GRIP project - Service model generation for data-led services

GRIP as one of the projects within CRISP, deals with flexibility versus control in the design of PSS for job-related stress (Badke-Schaub & Snelders, 2011). Design researcher Mike Thompson (Research Associate at Design Academy Eindhoven) explored the designers role of visualising ideas, concepts and services (Thompson, 2014). Within the project he collaborated with Philips Design, Delft & Eindhoven Universities of Technology, and the GGZE (Geestelijke GezondheidsZorg/Mental Health Service Eindhoven) in Eindhoven.

The GRIP team started their research initiating various workshops with stress experts. Thompson visualised the process of service creation in service model sketches that allowed each of the stakeholders to discuss how they could be involved in the process of creating a PSS. By way of making these so-called Service Models, the team came to understand what they were trying to achieve and how each one of them was involved in the PSS creation. Mike Thompson learned that not only it is complicated to align the various stakeholders in the research because of various working cultures/ different languages and philosophies, but also that he as a design researcher could play an important role in drawing together the network, using his visual design skills (Thompson, 2014).

From an anthropology perspective...

..the Service Model iterations (7 in total so far) in this project offered all stakeholders the opportunity to participate in the creative process. But this does not put everyone in the role of the designer. Just as the stress expert brings certain knowledge and expertise, so does the designer. The role of the designer must be defined and explored regularly throughout the project, just as other roles (Raijmakers et al, 2012). This is an on-going process. After all, design roles are not set in stone, rather they evolve in relation to the ever changing project and group dynamics. The Service Model helped the consortium form a clearer picture of what a data-led service may entail, allowing individual partners to foresee where their personal (commercial) focus and opportunities could be. The model also helped individual partners define their own roles within the consortium and project at large.

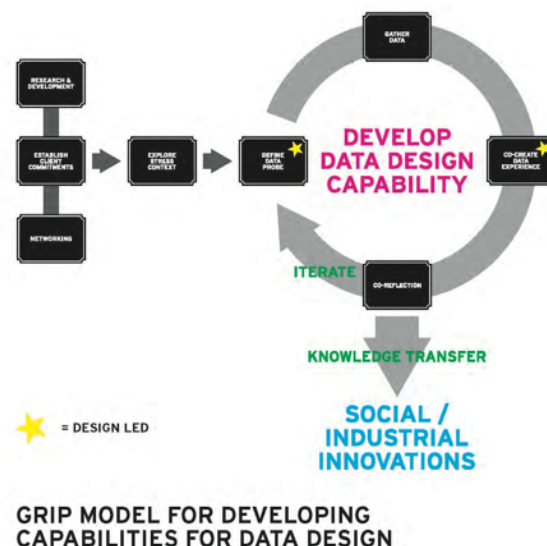


Figure 1. Service Model designed by Research Associate Mike Thompson

From a design perspective...

..the visualisation process itself appeared to be very important in this design research. A rough sketch -instead of a perfectly designed service model- proved to offer great room for discussion and was very useful as a first step towards developing a greater understanding of values by stakeholders and also clarifying the designers' role.

Making ideas tangible and understandable often includes visualisation, but analysis and synthesis are always an integral part of and underpinning this designer role (Kimbell, 2011). This role moves well beyond illustrating diagrams. Rather, it investigates underlying issues and pinpoints what needs to be analysed and emphasised to create proper understanding or convincing arguments through visualisations. The making of these visualisations is also part of the conversation between the stakeholders. More in general creating something that you can put on the table is very important for getting people aligned, giving them the impression that forward movement can be achieved and to drive them in that way (Rygh, 2014:57-60). Rapid co-creation in the form of quickly visualising ideas brings designers, researchers, business specialists and relevant stakeholders together to focus all their insights and experience on one value area and involve them all in a decision-making process. This cross-disciplinary approach also helps to map out what the next steps need to be (Gardien, et al. 2014).

The Grey but Mobile project - Empathic adventures into being old and not so mobile

The Grey but Mobile project started out of a shared interest in the mobility of older people. Over 12 organisations are involved in this project, in three regions. The southern region team consists of two academic research groups, from University of Technology Eindhoven and Design Academy Eindhoven, the local public transport company Hermes, and two care organisations who provide care and wellbeing at home, ZuidZorg and the Vrienden van de Thuiszorg Foundation, as well as the City Council of Eindhoven.

No particular outcome beyond improving the mobility of older people in society was anticipated. All stakeholders knew from the start this was a complex problem that most of them had dealt with before but not in this setting of stakeholders and academic design research. They set out to develop design-driven innovation (Verganti, 2009), as an alternative to technology driven or business driven approaches which several of the stakeholders had experienced did not work in such a complex setting. Design-driven innovation was however only known to the academic design research partners, not to the others.

The process that followed can be described as organising events to get to know each other better, through a series of exercises like service and stakeholder mapping around older people living in their own homes. The result was that a dialogue started up between stakeholders, between expertises as different as elderly care, transport, service design, social design, industrial design, anthropology and business. We learned that more important than defining the ultimate transport service, was to keep the conversation going and to explore and understand. When people of very different backgrounds need to collaborate, it has been noted that setting up a dialogue and keep it going is crucial to success (Sennett, 2012). Older people themselves soon became part of this dialogue via the stories they told two design researchers, Heather Daam and Maartje van Gestel (Design Academy Eindhoven) who visited them at home, spent time with them in their daily lives and experienced first hand how they got around in the city (Daam, 2014). This was recorded using photography, and film, from which several visual narratives were reconstructed as photo series, edited films, single photos with text superimposed. All of these took a visual anthropology approach (Pink, 2013) in that analysis of the observations and interactions with older people was used to structure the stories and render them communicable to the entire stakeholder group to stimulate ‘empathic conversations’ (Raijmakers et al, 2009).

From a design perspective...

..understanding the perspective of older people via this visual anthropology approach was powerful, in particular for those who had not experienced it before. But eventually we learned that experiencing the stories first hand proved to be much more powerful and empowering for designers and other stakeholders alike, even for people who work with similar older people on a daily basis. The Empathic Adventures (Daam, 2014), developed by the Design Academy Research Associates, turned the stories into an experience by way of an ageing suit (MIT Agelab, not dated) to experience how it feels to be old, physically and emotionally, but also offer the adventures that are selected from ethnographic studies with older people. These stories are replayed via an mp3 player and headphones during the adventure, and form also the basis for set tasks for the wearers of the ageing suit, such as taking the bus to do your grocery shopping.

The suit was used in workshops with the stakeholders, and made it possible to do anthropology and design on the same afternoon. Not everyone can go on an Empathic Adventure in the same workshop but some need to make observations too, to discuss these with those who experience the



Figure 2. Empathic Adventure designed by Research Associate Heather Daam

adventures first hand. Paradoxically, this approach shifts the attention away from the older people themselves, to the objects and environments they use (Redström, 2006) because we can now experience these objects and environments as the older people do. This helped greatly to get every stakeholder to do human-centred design research, as opposed to only those with a design background. At the same time, the dialogic nature of the collaboration continued, and many iterations followed where the focus was more on learning how to collaborate between stakeholders in design-driven innovation. Learning was more important than launching a new service.

From an anthropology perspective...

..we wanted to tell the stories of the older people in a different way, to make them more actionable and integrate them in a co-creative design process with stakeholders, most of them not designers but healthcare workers or managers. Interestingly these healthcare professionals were largely familiar with the stories but had not experienced them prior to embarking on their Empathic Adventures. Their 'adventures' offered them a new perspective on the services they provide to older people and how these could be complemented and improved. During the process the design researches learned

that when given a platform such as the Empathic Adventure, the knowledge of the care professionals (nurses) comes forward in the design process, and that following this with a co-design workshop, the managers and leaders are able to connect to these insights through the same stories and create new ideas for the organisation to implement (Daam, 2014).

The PSS101 project - Value Pursuit

In a third CRISP research project, titled PSS101, we also came to understand the important role of designed interactions in aligning various stakeholders as well as getting ideas across. This research project is a collaboration between research institutes University of Technology Delft and Design Academy Eindhoven, health care organisations Zuidzorg and VanMorgen, industrial companies Océ technologies and Exact, strategic consultancy Connect to Innovate and design research studio STBY. The aim of this project is to develop a framework of methods, techniques and tools that improves concept development and communication between all those involved in design and development, across industries.

Design Researcher Karianne Rygh (Design Academy Eindhoven) designed the Value Pursuit (Rygh, 2014): a workshop tool for aligning expectations and goals amongst stakeholders, by structuring conversation in three phases of input: Expectations, contributions and struggles, categories that are related to the common goal of the workshop.

The Value Pursuit consists of a game board and small pawns, comparable with Trivial Pursuit. Each player has to clarify his or her expectations towards the intended collaboration in PSS creation, and the struggles they have in providing such a PSS by themselves, as well as what he or she can contribute to the collaboration network.

The workshop tool allows the designer to moderate a conversation in the network and clarify the various roles within it; roles that are usually not very well articulated. By making the struggles, contributions and expectations in the network more explicit, the Value Pursuit unpacks the often complex and blurry view of a network, and makes the network understandable for every individual operating within it. The individuals drive the network and by uncovering each others needs in the stakeholder network, it becomes easier to know what to contribute to the network and what to get from it.

From an anthropology perspective...

..it is interesting to see how Value Pursuit helps to instigate change within the network, because once it becomes clear to all stakeholders involved how they relate to each other, they can start building bridges and realise ideas that were previously not very well expressed. Through the Value Pursuit workshop tool, connections are made between certain stakeholders' struggles, and other stakeholders contributions. These connections of seeing how one can benefit from each other creates the starting point for new relationships and provides a reason (a value) for why that relationship should/could exist and what it can bring to the exchange of resources within the network - ultimately making the network more sustainable.

The Value Pursuit was for instance used in a workshop with the province of North Brabant in order to explore how stakeholders can collaborate in new ways in order to develop a new Provincial Water Plan for 2016-2020. The regional government of North Brabant, responsible for developing the plan, invited other stakeholders to a round-table discussion and exercise in aligning expectations and goals before the development of the new plan. Whilst previously the responsibilities were concentrated on a few key stakeholders, the making of water policy and its execution will now be spread over a wider number of stakeholders. How will they collaborate in a network and what new relations between the stake-holders can be established? The Value Pursuit tool provided a clear overview of the network, the issues to be debated, and the expectations and agendas of the different stakeholders involved. A key insight from the workshop was that the Value Pursuit tool assumes that propagating openness and transparency is good, which is not necessarily true in all policy making, in particular when negotiation is necessary (Rygh, 2014).

From a design perspective...

..the Value Pursuit supports designers in connecting people (stakeholders) beyond their own disciplines and organisational silos, and then brokers collaborations between them. Once such connections are established, designers have the ability to instigate change through introducing new insights, opportunities and ideas in a tangible form, creatively and positively disrupting traditional methods of presentation and communication (Rygh, 2014:57-60).

In the case of the Value Pursuit, the designer can take up the role of a 'naïve' outsider looking at a company, a PSS or the network with a different perspective than the stakeholders operating within it. In this way, designers can help determine who are the most relevant actors to include in a workshop, what activity would best trigger meaningful responses and what tools should be used to

achieve this. Designers can make abstract things tangible. To do so, they have to know the processes within an organisation as well as the routines, behaviour and mind-sets of people (Rygh, 2014)



Figure 3. Value Pursuit designed by Research Associate Karianne Rygh

Discussion

In reflecting on these three projects, and others in the CRISP programme, we came to understand that designers play an important role in orchestrating networked collaboration, at many stages of PSS design. Typical for this type of design is collaboration between large numbers of stakeholders, often from different organisations or separated departments within one large organisation. Moreover, people, their roles and their affiliations are bound to change during the course of a typical project. The complexity of the wicked problems that are often addressed by the PSS is mirrored by the complexity of their stakeholder networks.

Designers are often well positioned to play a crucial role in such situations and networks. Karianne Rygh designed the Value Pursuit tool to provide a visual overview of existing and potential connections and relations between stakeholders that empowers them to structure, clarify and strengthen their conversations on collaboration. Maartje van Gestel

and Heather Daam designed the Empathic Adventure to turn stories from older people into first hand experiences of stakeholders that allow them to co-create their PSS together. Mike Thompson visualised seven iterations of a data-led Service Model to make conversations about potential collaborations between stakeholders tangible for all involved. In each of these combined design and anthropological activities we see a form of 'orchestration'.

The designers move beyond mere facilitation by intervening with something they have made, something that is a result of their analysis of the collaboration between stakeholders they have observed. Orchestration can be seen as a special form of facilitation that is still supportive and responsive, but also intervenes and provokes. These interventions can help to create a new stakeholder network, and once it is created turn the network into a sustainable process where all involved feel that they have a clear role that evolves, and where there is a certain level of trust that makes it possible to replace people within the network (Rygh, 2014:57-60).

Especially in long term PSS design projects, the networked collaboration itself will change and possibly grow over time. This requires continuous maintenance of the network as we have seen in all three projects described here. Stakeholders must become familiar and learn to feel comfortable with a design-driven approach that takes more time than simply identifying a problem that 'users' have and creating a solution the business can provide. In PSS design, in particular for wicked problems, understanding the 'users' and developing the business happen simultaneously, since they are both part of the same co-creation process that keeps iterating itself. As dr. Lu Yuan, the project leader of the Grey but Mobile project, recently expressed in an interview with the first author, this process is best visualised as an infinity symbol circling around the 'users' on the left and the business on the right. Orchestration, then, becomes a continuous movement. And the role of the orchestrator is to keep the movement going, keep the conversation between stakeholders going, by intervening whenever necessary with activities, adventures, visualisations or whatever else a designer may want to create and contribute to this purpose. This continuous movement is however not a purpose in itself. It leads to "blueprints and artefacts along the way [which are] designs towards the final

design” (Kimbell 2012). All three projects discussed here create such ‘artefacts along the way’ that served as interventions during the design research. What other examples of combined design and anthropological interventions and tangible artefacts might help us better understand orchestration as an activity?

Finally, we also have made an observation about the position of the orchestrator within a networked collaboration. This is often an in-between position, a space in-between, described by Trinh T. Minh-Ha as "the interval to which established rules of boundaries never quite apply" (T. Minh-Ha, 1992). These liminal spaces constantly challenge set structures, and hint at shifting away from seeking a solution to a pre-defined problem, to interventions on behalf of the designer (Leret et al, 2013). From this position, designers engage in the co-evolution of a multidisciplinary project from different angles, by understanding the different aims and needs of the different stakeholders and collaborators, like anthropologists do. We have seen that at the in-between position, design and anthropology can collaborate to become interventionist together. But what does it take to arrive at that in-between position and adopt the role of orchestrator?

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