# For Profit, for Good

## Developing Organizations through Service Design

Edited by Piia Rytilahti and Satu Miettinen

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## For Good

# Authors

**Piia Rytilahti** (M.Soc.Sc, BA) works as a researcher at the University of Lapland, Faculty of Art and Design. She is experienced in design research, especially regional research and development projects, technology- and design-led development projects and academic research. She is finalizing her dissertation on the social aspect of design. Her research interests are social practices, embodiment and interaction, co-creation and empathic design methodologies.

Professor **Satu Miettinen**'s (PhD) research interests include female empowerment, the role of women at the interface of art and science, methods of engaging design in the Arctic region, methods for the inclusion of service design, the participatory development of services and socially responsible ways to perform art and design. Miettinen has vast experience in leading and managing research projects, and both her research and artistic work apply design methods to develop services.

**Jaana Jeminen** has a BA in design and an MA in business economics (management). She has extensive experience in both entrepreneurship and the management of research and development projects through her design consultancy. She works as a project manager for a service design project at the University of Lapland. Previously, she managed projects for universities, regional development agencies and businesses in the private sector. Her specialities are service design thinking, co-creation and creativity management methodologies for innovation management. Jeminen constantly works with companies from various industries.

**Simo Rontti** (MA) is a service design project manager and lecturer at the University of Lapland, Finland. Since 2009, Rontti has been researching and developing technology-aided prototyping methods in close collaboration with dozens of case companies, such as Kone, Volkswagen and Danskebank. Prior to that, he worked for seven years as an in-house industrial designer at Lappset Group, which operates globally in the playground equipment industry. Rontti is also a service design entrepreneur and has helped businesses, such as those in the automotive, education and energy sectors. See more on technology-aided prototyping methods: www.sinco.fi.

**Titta Jylkäs** received a master's of art and design in Industrial Design with a focus on service design. Jylkäs has been working with partner companies as a designer and junior researcher in several research projects at the University of Lapland. She has also experience in research exchange with international universities, such as Parsons School of Design, University of California, Berkeley and Umeå Design Institute. While pursuing her PhD, Jylkäs uses a user-driven approach and focuses on service ecosystem design in the field of transportation.

**Heikki Tikkanen** received a master's of art and design in Audiovisual Media Culture from the University of Lapland. He has training and experience regarding the design and production of different forms of digital media, such as web journalism and social media, audio and video content and interactive experiences like video games. He is interested in combining broad technological knowledge with creative expression and a phenomenological understanding of personal human experiences in order to produce new research findings and business opportunities.

**Mira Alhonsuo** (Master of Arts) is a PhD candidate and works as a research coordinator for multiple service design projects at the University of Lapland. She has examined research cases in digital services, health care services as well as with different companies and organizations. Service Innovation Corner, SINCO laboratory, is her favourite place for co-designing and ideation with prototyping methods. Her research interests include service design methods, empathy, narratives, process visualization and public service development, especially in the health care sector.

**Essi Kuure** is a researcher at the Culture-Based Service Design Doctoral School at the University of Lapland, Finland. She has worked for several years at the University on multiple local, national and international design projects, and she has taught students and organizations about service design. She holds a master's degree in Industrial Design and is currently pursuing a doctoral degree at the University of Lapland. The title of her PhD is 'Designing Common Good - Reframing the Service Design Process with Communities'. Her research emphasizes knowledge and the methods of service design, social design and co-design. Kuure enjoys working with different communities and the collaborative process of designing better solutions for all. She believes that there is a designer's spirit inside all humans and that we all want to make our everyday lives easier and more enjoyable.

**Henna Marttila** (MA) specializes in service design. She comes from a small country village in Lapland. She loves to do things with her hands, like drawing and creating games, as well as fish, pick berries and hunt. Nature means a lot to her, and she respects its power and what it can offer: energy and inspiration. She is passionate about designing products and services that could help other people by improving their wellbeing and safety. She believes communication plays a big role in achieving this outcome. In particular, she focuses on developing ways for the elderly to live in their own homes for as long as they want and prepare for exceptional circumstances.

**Hong Li** is a service designer with a multicultural and multidisciplinary background. She studied Japanese Business and Culture at Hokkaido University with a Japanese Government Scholarship. She was awarded a master's of design in Design for Services by the University of Dundee, UK. Currently, Hong is a doctoral candidate in the Culture-Based Service Design Program at the University of Lapland, Finland and is fully funded by the China Scholarship Council. Her doctoral research focuses on developing and applying service design tools and methods to explore an interactive O2O communication solution that could be co-designed with users who do not use online communication mediums for various reasons.

**Hanna-Riina Vuontisjärvi** (MA) is a researcher and project manager at the University of Lapland, Finland and works in the field of public sector service design. She has participated in regional and global service design projects and training service design in Finland, Europe, Asia and North America. Currently, she is working to develop solutions for social problems such as youth unemployment in South Africa and Namibia. Her research interests include the development of tools and methods, culture-based service design, design thinking and social innovation processes.

Dr **Melanie Sarantou**'s PhD thesis investigated postcolonial Namibian craft and design identities in the areas of fashion, jewellery and textile design. Her study holistically mapped Namibian craft and design through extensive fieldwork in southern Africa. Through a postcolonial lens, the artefact-making world of Namibia is illustrated and the challenges of maintaining sustainable creative practices are presented. Sarantou's research interests include the roles of narrativity, identities and improvisation in the artefact-making of marginalised women.

**Daria Akimenko** is a Russian-born PhD candidate at the University of Lapland in Rovaniemi, Finland. Her research discusses urban art and design through interventionist practices, particularly their role in communicating personal stories and stimulating change in the public realm. In artistic field projects related to her research, she addresses the stories of urban communities that often end up living 'on the side', excluded from the common processes of urban environments.

**Piia Rytilahti and Satu Miettinen**

# Editorial: For profit, for good – developing organizations through service design

## Introduction

The publication presents the introduction of service design and its benefit to companies and non-profit organizations (NPOs) in Finland, the United Kingdom, South Africa, Namibia and Southern Australia. Small and medium-sized (SME) and large companies in the restaurant, accommodation, tourism and manufacturing industries as well software-intensive and IT businesses in Finland are the company partners that are examined in the first section. The public sector, social perspective and artistic perspective to service design are the focus of the second part of the publication.

The book is accessible to business people, and it offers a review on service design and the human-centred approach to design and innovation. A simplified model of the service design process is presented, consisting of three phases: user insight, participation and design for services. The principal aim is to lead companies, organizations and communities to service design thinking by presenting eleven service design cases in practice (Table 1.). Each of the cases proceeds according to the three phases although the cases are implemented and referred to variously. Each paper includes illustration of the service design process used in each case. Another aim of the publication is to highlight a collection of service design tools, models or frameworks from every case, each of which is tested in practice. Every case also introduces the most essential service design tool, method or framework used or applied in the case.

The goal of the book is to describe service design for good and for profit. We have collected cases from companies and NPOs that highlight how investing in a human-centred and participatory approach is leading towards value creation in the era of design for services. These case studies illustrate how different service design processes enable value-creation. We want to share insights with the industry regarding the importance of understanding the human aspects in service design, that is, empathy in participation,

embodiment in sense making and empowering people.

The technology developed in the presented cases is described as little as possible. The human-centred perspective in service design refers to more than simply assisting with technological solutions and advising individuals about how to use the devices for the desired services. In human-centred service design, a firm template for appealing services is co-created at the fuzzy front end of the design process, whereas the finishing processes such as delivery and productization follow the more technological and commercial phases of development.

## Service design cases

The content of the book is compiled into two sections: *for profit* and *for good*. The first *for profit* section includes five company cases while the second *for good* section includes six cases carried out with public sector organizations or other communities (Table 1). For each case, the publication describes the following in detail: 1) how the case with a company, organization or community is carried out; 2) the most essential service design tool or method applied; and 3) how the service design process or framework is followed.

### Value from empathy, embodiment and empowerment

Value creation is connecting service design for both good and profit. Sangiorgi (2015) writes about ways that value is created and understood and the role of service designers in configuring and understanding the value invested in the interactions between different networks and stakeholders. The paradigm of value creation has shifted from mere manufacturing to the creation of value propositions. This new paradigm involves the user in a co-creation process, where new propositions are shared and co-produced. Since product development has become increasingly knowledge-intensive, the mind-set of co-design and participatory design as non-profitable endeavours for the competitive marketplace is

| For profit case | Tool/method applied |
|---|---|
| Ruka | Agile service design sprint model |
| Lapland Hotels | Service journey walk tool |
| HumanSee research project | DIY video |
| F-Secure | Serious games for internal communication |
| Need for Speed research program | Levels of embodiment framework |
| **For good case** | **Tool/method applied** |
| MediPro and CRICS research projects | Workshop model for health care services |
| Good Life in Villages design competition | Participatory process for design education |
| Civil Safety in Municipalities project | Community radio network service concept |
| PARTY research project | Social sculpture tool/ method |
| Tullochan youth service NPO | Skill up training workshop |
| Margin to Margin research group | Art and storytelling process model |

Table 1. Eleven service design cases with the most essential service design tool/method applied.

beginning to change, even for the most technology-oriented businesses (Sanders & Stappers, 2008, p. 10).

The common factor clearly bridging both sections is the community perspective that defines the service design in all the cases; empathy building through participation and the empowerment taking place in the co-design activities is identifiable since no service design is created without involving real customer insights in the process. In addition, insight to human factors requires social action. Embodiment is the third perspective on how service design is done in practice and what human-centered service design and value creation is all about: pulling together collaboratively and socially constructed embodied knowledge in order to present and share it in a simple form. There still is much to do in terms of concretizing how multilevel the embodied knowledge actually works and how it has changed throughout the digital era of communication.

Empowerment is at the core of service designing for good. Service design is a creative process that has an empowering impact. Creative processes contribute to an individual's ability to trust in his or her coping mechanisms and psychological development in a changing environment. Continuity characterizes creative processes. Indeed, the completion of a creative process simply catalyzes the next one. These creative processes result in a creative identity that gives individuals a sense of self-empowerment and a feeling of capability and value (Vähälä, 2003). The service design process enables learning (Kuure & Miettinen, 2013), which is at the core of empowerment. In service design, learning occurs through participation, and that is another cornerstone for empowerment (Parpat, 2002).

## For Profit

In the first part of the publication, *for profit*, the following questions are asked: 1) How can customers' and users' emotions and meaningful experiences be tapped into as part of the process of designing services; and 2) How successful has service design thinking and mind-set change been in the leading information technology (IT) and software intensive companies in Finland as a result of service design interventions? From an academic perspective, this kind of collaboration between science- and practice-based research has offered a very rich platform for service design with the leading technology, software intensive and IT companies in Finland, which had not previously been familiar with service design practices.

The ambitious goal has been to apply the lean and agile model from software and IT development to customer-oriented and human-centred service design. In the for-profit service design cases, we have experimented with the human factors in an agile and lean way (i.e. accelerating the user insight phase). This is modelled as an agile service design sprint model in the first paper of the first section, 'for profit', by Rontti, where the principles of lean design thinking by Terry Pinheiro (2014) are adapted to a tourism industry case in Northern Finland. In this first paper, *Agile service design sprint model for accelerating service business*, a service design process is presented, and the case of a ski resort (Ruka) in northern Finland is examined.

Jylkäs, Tikkanen and Jeminen are the authors of the second paper in the first section. Their paper, *Customer and employee on a shared journey* by Jylkäs, Jeminen and Tikkanen, is related to the Tekes-funded research project HumanSee (Humanizing Service Experiences with Design Methods) and is focused on a case involving the largest hotel chain in Finland, whose mission and service design journey is towards a more than a hotel concept. As a result of the case, a Service Journey Walk Tool is presented as a customer-centred and experience-oriented training method for organizational personnel.

The third paper, *DIY video in service design and business*, continues with cases in the tourism and experience industry. The paper pulls together several experiments in

which videos are used in the business service development context in a. The DIY videos are powerful tools for engaging people in co-creation (e.g. they are used as audio-visual forms of storytelling when conveying authentic customer experiences from the field). The paper also explains the practicalities of making DIY videos in great detail.

The fourth case applies the agile and lean philosophy to the service design presented in the first paper. However, instead of the tourism industry context, the company context in this case is software development. In *Service design for documentation and localization in data security*, Alhonsuo, Rytilahti and Jylkäs study how a Finnish corporation developing global digital and cyber security services is serving itself internally (i.e. how the units and teams inside a large corporation are communicating with each other). As a result of this case it was noticed a growth in motivation and commitment when employees were able to participate in a process where progress was so visible and tangible, e.g. designing and prototyping an INTERNALS card game to support internal communication in the F-Secure.

The last paper for profit sums up the identity of an intensive Finnish software business. In this paper, *Value of embodiment in service design* by Rytilahti, a framework is presented for various levels of embodiment, revealing, for example, how the knowledge work of today carries many modes of embodiment that have been previously unrecognized in service design methodology. This is one of the focus areas for doing good business, not only good IT. This paper suggests that service design as a practice and as a field of research is in a central position to manage the many levels of embodied knowledge and the actors who create this knowledge in any company or any organization.
The service design processes presented in these cases are very linear. Moreover, throughout this linear, chronological and even speedy progress of the cases, there are different levels of action taking place: action by the users and consumers vs. company personnel and staff (front stage–back stage distinctions and touchpoints), co-design facilitated by the service designers and various levels of embodiment. These are also seen to occur iteratively and by taking steps back and forth.

## For Good

The first paper, *Service design for healthcare services* by Alhonsuo, begins the second section, 'for good'. In this case a workshop model is developed based on results from two research projects focusing on social and health care process development and funded by the Tekes and European Regional Development Fund (ERDF). The focus in the case is on developing communication systems for health care services empathically and ethically to support the expansion of health care ecosystems and networks, including all the relevant authorities, patients, relatives and other stakeholders.

In *Service solutions for maintaining good life in villages*, Kuure describes how the service design case approach benefits education in service design and innovation. The paper studies the Good Life in Villages design competition, which was carried out over a period of one month, and in which four groups of design and innovation students participated. In addition, the influence that the co-design and final service concepts had on the village communities is assessed. The competition was organized with non-profit organizations in the Northern Finland, supporting the development of the rural areas and inhabitants of that area. The contest sought new ideas for developing a better quality of life for the ageing population in Lapland specifically and in Arctic areas in general.

The third paper, *24 / 7 free community Radionetwork* by Marttila, is a more thorough case description involving a similar Northern Lapland rural village context. This case presents the service design concept development process of village radio (*Kyläradio* in Finnish). The paper is a case description of end-user participation with a radio technology for the development of the system. The village

radio is a good example of how the end-users of a digital service might perceive the *untouchable*, *unvisible* and thus often confusing wireless communication systems. The needs and aspirations of the end-user community serve as a basis for the development of the wireless communication system.

In the fourth paper, *Service design for participatory development*, Miettinen and Vuontisjärvi show that the development of culturally sensitive tools for empowering local people, especially the San youth in South Africa and Namibia, is one of the key aspects of co-design for services. The building of trust and involvement between various stakeholders and communities is a focus of social design. The social innovation process consists of four phases: learning, identifying, training and building, which are presented through the co-design process of a social sculpture with the San youth.

In *Service design for a social enterprise*, Li introduces a case from the University of Dundee in the United Kingdom, where her master's thesis work was focused on the development of a self-sustainable system for a Tullochan non-profit organization with the help of service design methods. Li discovered how empowering participatory *Skill up training* workshops directed towards younger citizens were successful in creating a social structure that was appealing even to the volunteers and donors.

In the sixth and final paper, *Art and storytelling as an empowering tool for service design*, Sarantou, Akimenko and Miettinen focus on art, storytelling and narrative practices as means for local empowerment. The paper focuses on a case study in Southern Australia, where these practices play an important role in local and regional development in two local communities: the Anangu Pitjantjatjara communities and the Fibrespace Incorporated textile artists' community. This case study was part of an artistic research project called 'Women Living on the Edges of the World', and it examines how service design can enable collaborative and empowering design processes with local communities. The paper presents both a collaborative service design process as well as the artistic and narrative tools applied in the communities. In the end, the paper discusses the impact of the collaborative process on the identity construction and empowerment of the communities. As a result, the paper also explores the social aspects that service design is able to address, with a particular focus on marginalized communities.

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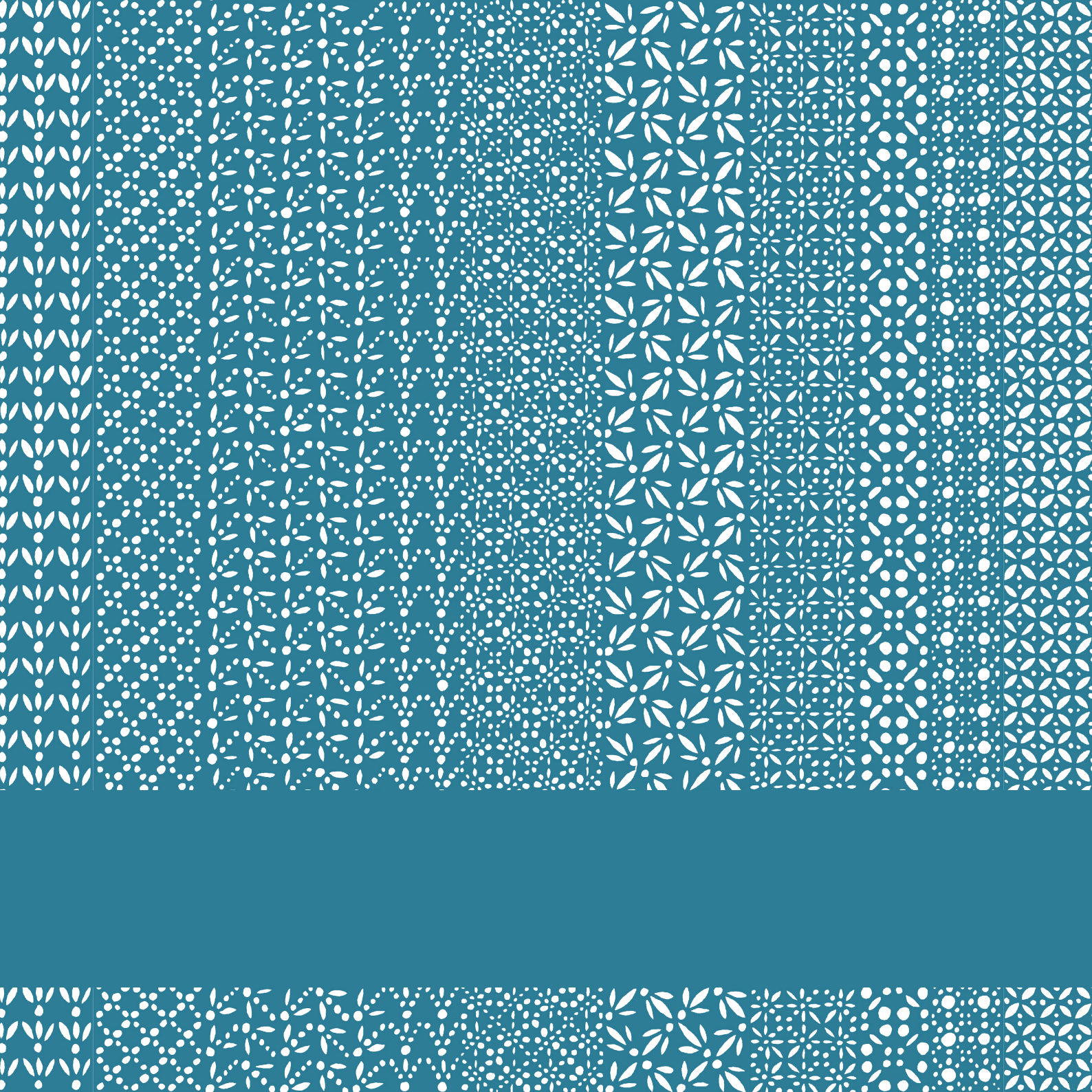

# For Profit

Simo Rontti

# Agile service design sprint model for accelerating service business: a case study on the Ruka ski resort

**Key words: service design, sprint model, SD roadmap, tourism**

## Introduction

Ruka is a ski resort built around a fell in northern Finland. Ruka has dozens of slopes and plenty of supporting activities and services around skiing and winter. Rukakeskus Ltd. (Ruka Centre in English) has 160 employees and saw 23 million Euros in sales in 2015. Rukakeskus also owns another ski resort called Pyhätunturi in Lapland. About a 140,000 customers buy a lift ticket annually in Ruka, which is about a half of all visitors. The other half spends their time cross-country skiing, buying different adventure services and admiring the unique nature of the area while still lodging and eating at restaurants in the village of Ruka, which is a lively town that has emerged near the slopes. In 2015, the board of the company updated its vision and strategy, and a three-year strategic development project was initiated. This paper presents a service design case study that was conducted as an agile sprint to study the current flaws in customer experience, generate out-of-the-box ideas and to process the results as a roadmap for subsequent development actions. The goal of the service design was to identify the success factors for upgrading the company's overall customer experience in order to differentiate it from its competitors. Another goal of the service design was to increase the share of lift ticket sales among the visitors who were already spending their time on other activities in the area. The project brief included innovating new ski-based experience concepts so that going to the slopes would be comparable to the other experience-based services, such as husky or snowmobile safaris that are popular, especially among international customers and travellers.

## Agile service design sprint model

The service design process followed the agile sprint model. The term *sprint* is borrowed from agile software

development and refers to a set period of time during which specific work has to be completed and a set of features is introduced. The term *design sprint* has been recently used, especially in the context of lean startup philosophy (Pinheiro, 2014). The term refers to a short period of time during which design-driven innovation processes are conducted prior to the actual product or service development stages (Knapp, Zeratsky & Kowitz, 2016). In the case of Ruka, the service design process consisted of two sprints that consisted of two co-creation workshops over two months in the SINCO lab, which is a technology-aided simulation and prototyping environment developed at the University of Lapland (Rontti, 2016),(Figure 1.). Collaborative experience prototyping is a key method for service design sprints because it enables rapid concretizing of new ideas and increases understanding of the service experience as a minimum valuable service (Pinheiro, 2014), e.g., the necessary building blocks of a service are identified for the first time. The SINCO lab also supports the agile development principles, such as a workable version of a product is more important at the fuzzy front end of the development process than comprehensive documentation is; and change may be the right response to an obstacle even when there is a plan in place (Grenning & Martin, 2001; Sauvola et al., 2016).

The first service design sprint in the Ruka service design process focused on customer insight. The purpose was to find any obstacles that might be standing in the way of a customer buying a lift ticket. Another focus of the first


Figure 1. Service design process in Ruka case.

sprint was to explore opportunities through which new value could be generated for the customers and to improve their experiences along the entire service journey. The deliverables for the first sprint included feasible instant proposals for improvement to the identified problems in the current service journey. An even more important result was a shared understanding and a mindset change among the key personnel. The second sprint focused on the ideation of advanced improvement actions to upgrade the customer's experience, as well as to generate new service concepts based on the opportunities identified in the first sprint. The service design process is illustrated in Figure 1 and the agile service design sprint model in Figure 2.

The company's contribution to the sprints was enabling and arranging mystery shopping in the actual service situation and being involved in two co-creation workshops. Before the first workshop, the service design team spent two sunny March days at the ski resort in order to understand the actual customer experience more thoroughly. The fieldwork started with mystery shopping aimed at understanding and analyzing the service as a personal experience. The team also conducted observations and ad hoc interviews among real customers. Phone interviews supplemented the customer insight data. The foremost finding was a need to clarify the information about basic skiing instructions and visualizing the overall area with all the possibilities available in the slope area: the entrance side of the resort showed only the most difficult slopes to the arriving customers, which conveyed the message that the resort was only suitable for pro skiers. Other misinterpretations and mental obstacles were also noticed, such as how a customer might consider him or herself too old or unfit for skiing, or how *ski school* was considered to be targeted toward children. All these of these critical factors blocked customers from purchasing a ski ticket.

The following key stakeholders from the company were invited to the first workshop at the SINCO lab: the manager of the Ruka area, the development project manager, the lift operations manager, the marketing manager, the ski school instructor and a sales person. In this workshops, the results from the customer insight phase were presented to the stakeholders along with concrete experience prototypes. This was done through a lifelike service simulation in the SINCO lab (instead of only presenting them with PowerPoint slides in a meeting room). For instance, the feelings of uncertainty and exoticism were prototyped through analogic role-playing, a method in which a comparable service is acted out in order to better understand the user and emotionally empathize with their experience. This is beneficial especially when the participants are too familiar with the context and target of the service design and are therefore blind to the everyday practices and issues that take place. The staff members took on the role of a customer who was travelling from cold Finland to warm Dubai. The journey was simulated in the SINCO environment where an Arab-style hotel receptionist welcomed the *tourists* and asked them to choose from a camel safari, downhill skiing on sand dunes or a quad bike tour in the desert. The exercise generated emotional understanding about certain issues, such as "*how these activities position themselves among my trip to an exotic country*" or "*how do I know how to dress and equip myself properly in these unfamiliar outdoor conditions*".

## From sprints to a roadmap

According to the feedback from the company representatives, the first workshop was a successful breakthrough phase that changed the way they understood service design thinking and the user-centered development approach. The identified development challenges were summarized as *how-to questions*, such as "*How to minimize and ease the carrying of equipment during the rental equipment pickup process*" or more widely "*How to make the ski equipment pickup process more pleasant*". The most relevant how-to questions were

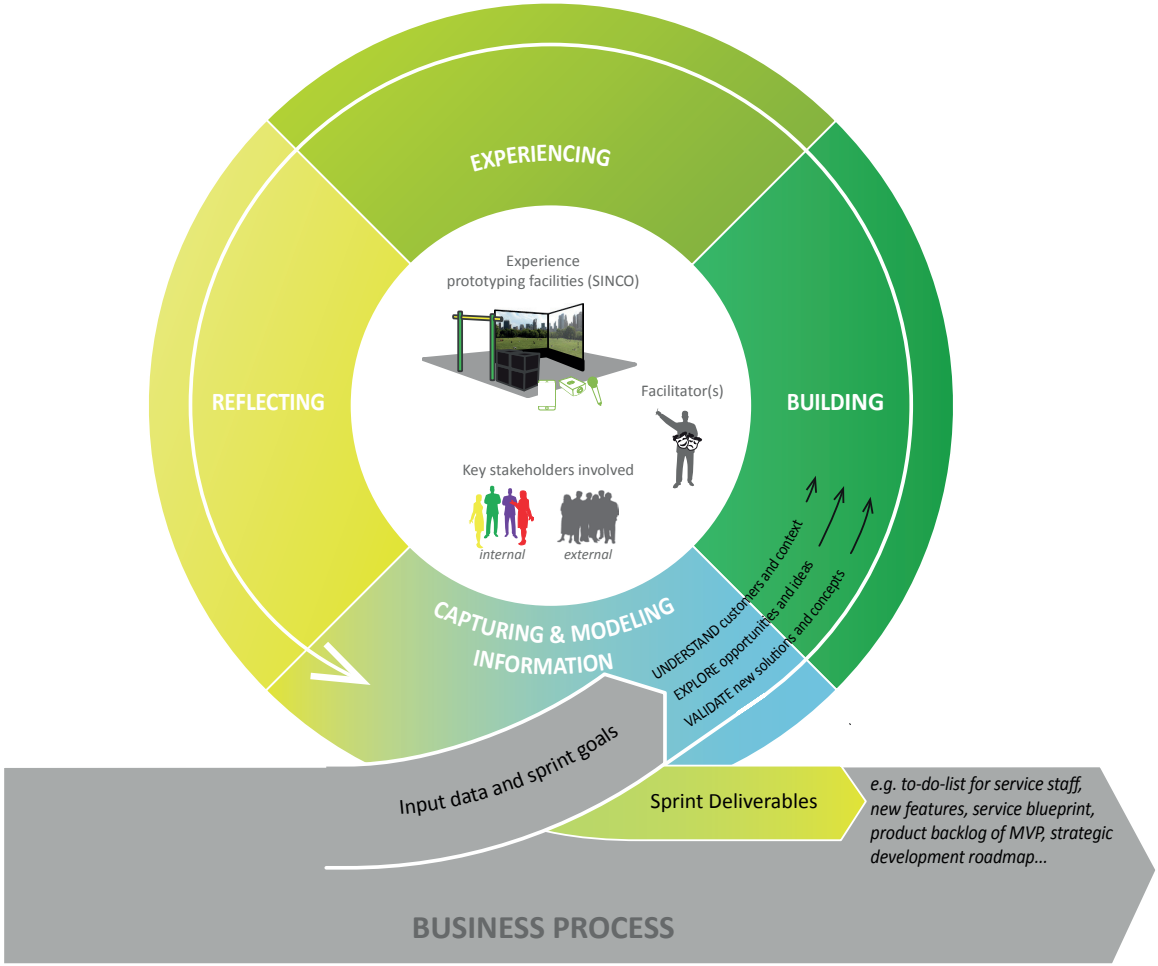


Figure 2. Agile service design sprint model.

selected with the help of the company stakeholders to be answered in the following concept development phase. The concepts were prototyped and evaluated together with the key service staff during the second workshop. Between the two workshops, the service design team generated dozens of ideational solutions to the selected design challenges.

The service design sprints had several positive impacts in the company from the customer point of view. Some of them were feasible immediately because they were inexpensive changes in customer service practices. However, redesigning the marketing and information channels involved bigger changes. In addition, a remarkable investment project on experiential and story-based service design concept implementation was launched in the company after the case was completed and followed by another development project focusing on technological improvements. The service design sprint model had proven to be a successful tool in the field of experience design and in the tourism industry.

The time scale of the service design case was two months followed by a couple of educational workshops at the company's boardroom a few months later. The first training workshop aimed to explain the discovered customer insights to the whole company with guidance on how to put these changes into practice. The second educational workshop targeted the external business stakeholders who were identified as having a key impact on the customer's holistic service experience. For instance, the local tourism association owned by dozens of local companies was discovered to play a key role in managing important touchpoints between the customers and a destination already at the front end of the service journey, such as Ruka's web portal where all the relevant information is available. Several companies in the catering and outdoor sports industries were also involved.

## Conclusions

According to the project manager of the Ruka ski resort, the timing of the service design sprint model was successful. The results of the case surpassed the company's expectations, causing positive impacts and benefits also to the continuous strategic development in the Ruka ski resort. The mystery shopping method conducted by a novice and a more experienced skier produced valuable insights because the company's previous focus had been too limited to professional and skilled skiers. The customer insight presented in the simulation workshops were seen as pivotal for evoking empathy and encouraging a change in habits around customer services. The key persons in the company became more enthusiastic, engaged and committed to the development actions, which created a customer-centered attitude in the company more generally. The service design case produced a clear to-do list and a roadmap for the upcoming two-to-three year development project in the Ruka ski resort. The company had embraced design thinking through the agile approach to service design, which was dynamically integrated into the company's overall strategic development.

Among dozens of other company case projects conducted by the SINCO lab, the Ruka case successfully accumulated insights and outlined a generic agile service design sprint model for further studies. The model reveals how service design can be integrated into any business or development process as agile sprints, each one accelerating the development of a more customer-friendly service journey. The case-specific results from the sprints may consist of a list of feasible instant development actions, new service features, minimum viable software products or identified design challenges and business opportunities that could be used as inputs for the next sprint. Experience prototyping and simulation workshops are at the core of the sprint model and serve as a platform for collaborative analysis, ideating, building and testing service journeys and transferring such knowledge to the stakeholders.

Compact service design facilitation and the committed participation of the key internal and external stakeholders are, thus, essential elements of a successful agile service design sprint.

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**Titta Jylkäs, Heikki Tikkanen and Jaana Jeminen**

# Customer and employee on a shared journey – Case Lapland Hotels, HumanSee

**Keywords: employee experience, customer experience, service journey walk, service blueprint**

## Introduction

Lapland Hotels is the largest hotel chain in Finnish Lapland with 16 locations. Lapland Hotels is one of the partner companies with University of Lapland through a Tekes-funded service design research project, Humanizing Service Experiences with Design Methods (HumanSee). The initial intent of the project was to identify the connection points between the hotel and its customers that create value for the customer and communicate the mission of being "*more than a hotel*". The core participants in the project consisted of a service design team from the HumanSee project, a key contact person from Lapland Hotels and a dedicated development team from the company, which included management and staff.

The project was constructed so that the service design team would lead the process, along with the partner contact person. The development team would be involved in ideation, development and decision-making when collaborative methods were needed. The following paper will go through the key elements of the case project to explain the methods used and provide insights into how the human factors inside the company were used as part of the development of the service design.

## Case process

The project started with a research phase to analyze the current service experience from the perspective of the hotel mission. The service design team and the recruited testers did mystery shopping at five different hotel locations, which required the team to act as customers in order to evaluate and experience the service themselves. In this way, the current service was analyzed as a journey from the perspective of a customer. The findings from the mystery shopping provided the first insights about

the state of the current service and the analysis provided direction for further research.

Additional insights were gathered through in-depth interviews and focus groups with customers about their expectations for a hotel experience. The hotel staff was also interviewed about their work experiences, training practices and internal communications. Furthermore, questionnaires were distributed to management and staff and online customer research was conducted through social media. Research was conducted in phases, whenever more information was needed to make valid decisions based on the real needs of customers and employees.

A service design team conducted most of the content analysis and the findings were communicated to the development team through participatory and co-creative methods. Instead of only making a report of the findings, the team organized a workshop where the development team was taken on a simulated *service journey walk* in the actual hotel. The simulation of service moments and different *touchpoints* made the communication of the service analysis concrete and understandable. A journey map also helped the participants to visualize the analyzed service, which supported the development.

After the first analysis and workshops, it became apparent that human factors, such as behavior, experiences and emotions, have an important role in how employees deliver services to customers. Therefore, the next steps in the project were to learn more about the working roles of the employees, as well as the training methods for new and existing personnel. The ideation for internal communication and training included workshops about meeting and training practices, as well as building a blueprint that showed the required actions, roles and practices in order to deliver the service to the customers in the right way.

## Research through multiple channels

The project used several research channels, such as mystery shopping, interviews, focus groups, questionnaires, online research and workshops to understand the current service, as well as possibilities for development. The idea to use multiple channels came from the recognition that one type of information couldn't give the full picture of the design challenge. Perspectives from all groups, including management, employees and customers, were important to gather.

Doing research with a wider lens provides a more complete image of the situation and an understanding of where the true development needs are. The first assumption in this project was that the hotel environment would be the focus of the development, but in reality the concept was much more intangible and focused on attitudes, practices, empathy and experiences. The analysis of the research insights showed that in so-called *human business*, such as the hotel industry, human interaction plays a big role in whether or not the service will be memorable.

## Employees as crucial touchpoints for service delivery

Services consist of several touchpoints that form one continuous service journey. Those touchpoints can be any sort of communication that happens between the service provider and the customer, for example, the website of a hotel, a phone call to the receptionist, a poster with information about breakfast times, folded toilet paper in a hotel room, or a face-to-face encounter with hotel staff. Even though many services are headed towards digital and self-driven solutions, this project revealed that human interaction is still something that customers expect when they stay at a hotel stay. Although human interaction is important for a memorable service experience it is also the most unpredictable touchpoint within the entire service journey. It is impossible to pre-design interpersonal

Picture 1:
Hotel employees using the service journey walk to experience services from the customer's point of view.

interactions because human behavior is not homogenous and the customer's behaviour cannot be predicted (Cho, 2011). A good encounter can have a strong positive impact in the service journey but a bad encounter can do a lot of damage to the overall experience. A large number of crucial service touchpoints can be affected by human interactions, but with clear communication and training, employee behaviour can be guided toward the desired outcome.

The customer service experience can define how a customer sees the hotel's overall service. Even if something doesn't go as planned, good customer service can save the customer's experience. Therefore it is important that an employee knows where they stand in the overall service journey as well as the role of other employees, so that it is easier to be prepared for different kind of situations that might occur. Seeing situations from the customer's point of view, for example by understanding their previous service steps, gives the employee a chance to enhance the customer's experience (Miettinen et al., 2016). This means that employees need to have a holistic understanding of the entire service journey, even outside of their own area of expertise. For example, the receptionist needs to know how a waiter interacts with his or her customers, what kinds of information he or she provides, and what the receptionist can do to make the customer's journey as smooth as possible, no matter what part of the hotel they are in. This might mean informing the customer about breakfast times and reminding them of the possibility to have dinner. As one employee said: "*Every one of us is in contact with the customer and suddenly you might need to answer questions that are not connected to your own work. You need to be able to answer that question*."

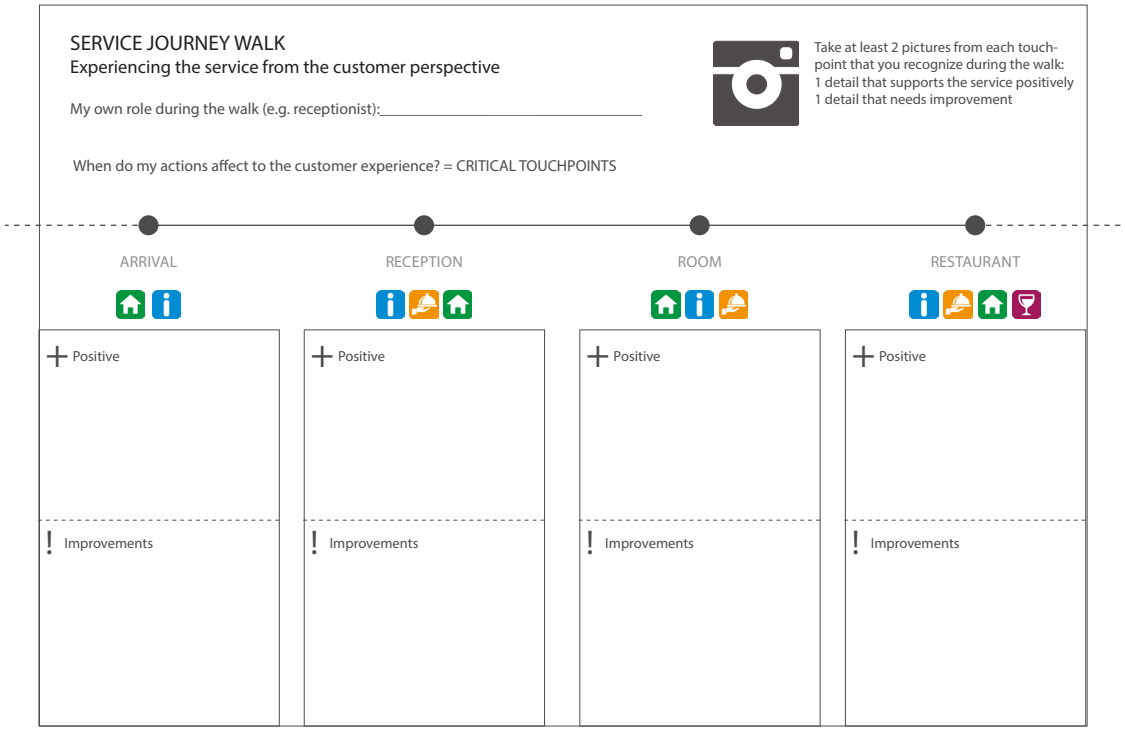
As said previously, human interaction is a challenging touchpoint to manage because the attitudes and motivations of employees affect how service is delivered to the customers. Therefore, it was noted that the employee experience was also a crucial aspect to be developed when

thinking of the delivery of a service. The comment "*Excellent employee experience passes on to the customer service*" allows us to understand that employees and customers are going through the service journey together and the value in the service experience is created in cooperation (Kukk and Leppiman, 2016). But how does one affect the employee experience? In this project, the service design team introduced several service design methods to be used for training, communication and management purposes. The service journey walk was one of them.

## Learning through practice: the service journey walk for training

The HumanSee research team developed the Service Journey Walk Tool as a learning and training method. This method can be used purely as an observation tool when a specific service journey or touchpoint is analyzed from the perspective of a customer, or it can be used as a tool to simulate different service situations in the service journey as a form of immersive training. When used for observation, the employee walks through the service journey in the actual service environment and looks at the details of the service from the perspective of the customer. Then they reflect on their own role and think about how they can enhance the customer experience through their actions.

When used for training, the service journey walk is done by a team of employees and management to simulate




Picture 2: Service journey template to support the observation of the existing service and recognize how your role affects the customer service experience.

interactions in different situations and explore how the situation could be improved. For example, a hotel check-in situation was simulated with one of the employees was acting as the customer and another person from the service design team playing the role of the receptionist. The situation was based on a real life example, but some of the details were emphasized in order to make the participants see how the situation looks from the customer's perspective and to start thinking about alternative ways to handle the situation. Instead of giving pre-prepared answers, the method encouraged employees to look critically at their everyday environment and to remind themselves of the customer's experience. This is a disruptive method that forces employees to see their everyday environment in a different light. Using real life examples to show good and bad possibilities in service situations woke the employees up to reality: "*at first you think that we wouldn't do things like that, but when you realize that these simulations are real and not just acted out, it definitely works. You start to think of your own work routines*."

Instead of using traditional training methods with long text documents, the service journey walk is a great way to teach employees about service situations in a concrete way. This is a more immersive and faster way to learn work practices because it is based on concrete doing. The way the training and learning is done affects how services are delivered to customers. The feedback about the method was that it was also a great way to bring people together and to discuss issues that don't necessarily get the attention they deserve in everyday work even though such issues may be important for delivering quality service to customers and keeping the business going.

## Blueprint as a support for communication

The hotel industry in Lapland is strongly seasonal; therefore, a lot of new employees are recruited for each season. In this context, training and clear communication from management is crucial for new working practices to be learned effectively. In order to support communication around expectations and requirements, the partner development team was introduced to blueprinting, a commonly used service design tool. The blueprint is a mapped visualization of different levels of service, including customer actions, touchpoints and interactions, service provider actions, practices and methods. "*The blueprint should present the general service attitude or 'philosophy' that concerns the actions visible to customers*," says one development team member.

The blueprint aims to present a service as fully as possible by including all the details of the required actions, methods and tools that are used to deliver the service. It was noted that each of the hotel locations had their own identity and gave guidelines that were too narrow, which made it more difficult to express that identity. Therefore, a blueprint could be created for different levels, starting with the bigger picture for the whole hotel chain and then moving on to one location, followed by an individual department, such as the kitchen or reception, and finally one specific shift in that department.

The main value of blueprinting is that it represents both the customer and the employee by focusing on how both experiences can be improved, which ultimately enhances the service experience for the customer. This kind of a blueprint helps management see the bigger picture, which allows them to better estimate the required actions and resources, thus making it easier to guide the team in their work. The blueprint provides guidelines on how to conduct the training and what kinds of information should be covered. Each manager can then personalize the training with his or her team: "*You have to consider what works in which situation*," says one manager. The blueprint should be complement by digital materials, such as videos and pictures, so that specific details can be shared in a more experiential way.

## Conclusions

This case is a fascinating example on how intangible factors, such as human behaviour and experiences, can play an important role in the delivery of a service. The service design tools – the service journey map and the blueprint – offer a way to visualize these intangible factors in concrete ways. Recognizing the role of employees as a touchpoint to deliver services makes training even more important. Since the experience of an employee is passed on to the customer, the employee can also be seen as an *internal customer* who has needs and expectations for their work conditions.

Since an employee's impact can be crucial, either in a positive or negative way, it is important to give them a holistic understanding of the service and to enable them to do their best. When employees see their own positions in the overall customer service journey through service visualizations and concrete simulations, they gain a better understanding of their own impacts. In order to support employees, managers also has to have a clear overall picture of the service in order to understand how to represent the identity of the hotel through the proposed service actions. Together with service visualization, e.g. blueprinting, and clear communication within teams, it is possible to guide the training of employees and improve the service experience of the customer.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### A Service Journey Walk -tool in a service development process

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<tr><th>Mystery shopping</th><th>Collecting more information</th><th>Service simulation</th><th>Identifying the development focus</th><th>Practises for training and communication</th><th>Service actions and roles</th></tr>
<tr><td rowspan="4">Experiencing the journey anonumously and identifying development possibilities together with interview and observation insights.</td><td>Deep interviews and focus groups with customers.</td><td rowspan="4">Observing the current service and communicating research insights through Service Journey Walk.</td><td rowspan="4">Using Service Journey Walk as a tool for concretizing customer experience through service touchpoints and therefore supporting decision making.</td><td rowspan="4">Service journey walks, easy access to the content by more engaging form, e.g. videos.<br><br>Practices for open and agile communication, e.g. huddle meetings.</td><td rowspan="4">Blueprint that recognizes the different roles of employees and their impact to the customer experience.</td></tr>
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Titta Jylkäs, Heikki Tikkanen and Jaana Jeminen

# DIY video in service design and business

**Key words: DIY video, storytelling, communication**

## Introduction

Sharing the authentic voice of a user, hearing a story, getting the feeling of an environment, following a specific process and journey, documenting your work and sharing it with others. These are examples of how a video can communicate. In the Humanizing Service Experiences with Design Methods (HumanSee) research project, a video is used in different roles as a research tool on storytelling media. Video has been used in several forms in individual service design and through those experiments we have seen that video has much unused potential in the service design process and in the context of businesses.

In this article, we share some of the key insights related to the use of a do-it-yourself (DIY) video in (re-)designing services and developing the businesses and internal working communities of the service provider. The subject has been researched before, but the DIY mentality, examined and communicated especially through the viewpoint of businesses and their employees, has not been explored that much in literature. Instead of going into the theories of a video, we want to share ideas for creating a video so that you can try it yourself.

## What is a DIY Video?

Through easy-to-use tools, devices and apps, the trend of self-initiation has expanded into the field of videos. DIY video is a type of video that can be made without professional gear and without specific knowledge on shooting, editing or creating content. Of course, it is helpful to know the basic guidelines, but the idea is that anyone who has an interest in creating video can do so. There are a lot of useful tools that can be used to create a video, but the minimum set of tools would be a smart phone with an editing app, such as Splice or iMovie. Of course the devices and software can vary depending on

what feels most comfortable and familiar for the user, and as a result, the final product may also vary. A DIY video does not automatically mean that it will be a low quality video, but rather emphasizes the fast process of making the video, which is enabled by agile tools that fit the process and the context where they are used.

When considered in the context of a business, a DIY video means a video that can be made internally without help from video professionals. Video can be used for several purposes but the main guideline is to first think of the purpose of the video, the key message and the target audience you wish to influence. Keeping these in mind, it is possible to evaluate if a DIY video is the suitable form of communication and how it could be done. Even though a DIY video might be a *quick 'n' dirty* version of a video, it should always consider the audience and their expectations. If these are not met, the video will not have the intended influence on the audience. Therefore, the use of DIY can be strongly enhanced when combined with storytelling methods.

## Reasons for using DIY video in business

Digitization and easy access to media tools have increased the use of DIY videos among individuals and groups. Using video in design has been identified as a beneficial tool in the design process (Ylirisku & Buur, 2007). Even though video is considered a powerful tool for communication, it can be argued that video is still an underused medium by businesses at least in Finland. The underuse of video has many reasons behind it. First, the rapid increase of consumers' and employees' demand for video has been caused by digitization and mobile technology. Based on the insights from the HumanSee research project, the demand for rich media content, such as video, is often greater than what companies can meet.

The second reason businesses underuse video is a misinformed attitude towards video; for instance, a belief that media professionals are the only people who can create video. This sets a high bar when talking about the quality standards for a video. Third, businesses may lack knowledge about new technologies for creating and sharing video. Fourth, there may be a knowledge gap in terms of how to create and produce new engaging content and stories in video format. This is caused by a lack of knowledge about how to create services in the form of a story or a narrative. The younger generation of employees and customers are more accustomed to this style of sharing stories than the older generation. Because of all this, the form and technicalities of creating a video may be (negatively) considered, thus making them seem inefficient in their power to communicate especially when their cost or other production inputs are considered.

The underuse of video in businesses can be tackled by introducing suitable methods to create easy and cost effective videos in an unintimidating way. There are, of course, various contexts in which video can be used, and the context itself should define how the video is used (Tikkanen, Jylkäs, Jeminen & Miettinen, 2016). We are not saying that DIY video is the solution for everything because there is still a need for high quality videos, but a low fidelity version of a video gives more flexibility in the creation and sharing of immersive and engaging content. In design thinking and service design, video is seen as a building block in the design process by enhancing the development of service or product solutions. The Agile Manifesto encourages businesses to start concretizing solutions early with low fidelity solutions and then determining what works and what does not. This minimizes the production costs and decreases the risk of failing. The same approach also works with making videos: start with DIY videos in the beginning of your process and develop the content toward the end of the process.

The benefit of using video throughout the design process is that it is evidence of the work that has been done and can be used as a strong and authentic argument for the decisions that have been made (Tikkanen, Alhonsuo &

Miettinen, 2016). A DIY video can also work as a prototype, which has its own place and time to be used and evolves over time. This way, the content remains rich throughout the process and it is always easy and fast to communicate the insights to others through a compact video.

## Video in research and development

In research, video works as a way to collect insights, define the research analysis, form hypotheses, communicate conclusions and facilitate discussion and decision-making. Video is a powerful tool for capturing the authentic voice of customers and users and sharing it internally, for example as an argumentation tool for design decisions or to evaluate the strategic direction and brand image of the company. As a form of research, videos can contain interviews, testimonials, summaries of observations and descriptions of the general environment.

Video can be used as a rich form to communicate user insights. In multiple case studies in HumanSee, the user insights were gathered and communicated through videos to the company, either as individual videos or as a part of a bigger collection of user insights, such as digitally collected personas. Video played an important role in giving an in-depth understanding of the world of the user through their own voices and by showing their uncensored action flows. In order to collect user insights through video, it is also possible to use social media platforms, such as Periscope, YouTube, Facebook or Integra, as a way to get users involved in the research process.

## Video in ideation

Although we haven't yet found a convenient way for a company to use video as an ideation tool, video has shown potential as a support for ideation. For example, a video can serve as a mood board that gives the general feeling of the solution that should be designed. For that purpose, one can use video clips from stock libraries to create a quick video that is general enough to provide a starting point for the ideation.

Video can also work as a tool to communicate a service journey and the recognized challenges that can be addressed through design. Moving images and sounds provide move live experience about the journey of the customer and, therefore, might give more value for the service journey development in the ideation phase. In this way, video aims to communicate service situations, give a frame for ideation, explain the context and challenges, show alternatives for design directions and to communicate different perspectives through the eyes of customers and users. Communicating enough, but leaving enough open is the key to using video for the purpose of ideation, so that people can fill the gaps themselves and create new ideas and solutions.

## Video as a form of communication

Video always communicates something; therefore, it is a communication tool whenever it is used. When video is created to communicate a specific message, it is important to consider the target audience. The internal audience (i.e., those inside the company) might have different expectations for the video than the external audience (i.e., the consumer). When a video is created for the purposes of internal communication, the execution can be freer because you don't need to think about the brand as much. If it is going to communicate initial ideas, completed concepts or show the overall project process, the key message of the video will also define its form and structure.

Videos can be generic, specific or challenging. Using storytelling and a clear storyline helps to meet the expectations of the audience, as well as the intended goals of the project. HumanSee developed a video storytelling tool to help build an influential storyline and to plan for effective video communication.

## How to make a DIY video

Creating a DIY video is an iterative process. It is not necessary to get the techniques perfectly right, as long as you can communicate your message to the audience and achieve the influence that was intended. In the HumanSee project, it was noticed that it is easier to approach video-making when you use storytelling tools first and create a frame and direction for your video. Also, when shooting videos in public, e.g. when gathering insights from users, you will be much more approachable when using small hand-held devices, such as a smart phone rather than a big video camera. The device itself should not create a barrier between you and other people, but rather act as a notepad and pen would.

The following steps are an example of a DIY video process that starts from an idea and, through planning and preparation, continues to shooting and editing. You can use this as a starting point for your own work and adjust it depending on the topic and needs of the video.

Plan the video

1.Define the use for the video
E.g., for gathering insights, creating mood boards, communicating ideas or documenting process.

2.Objective of the video
a. Core message
b. Target audience
c. Context where the video is used

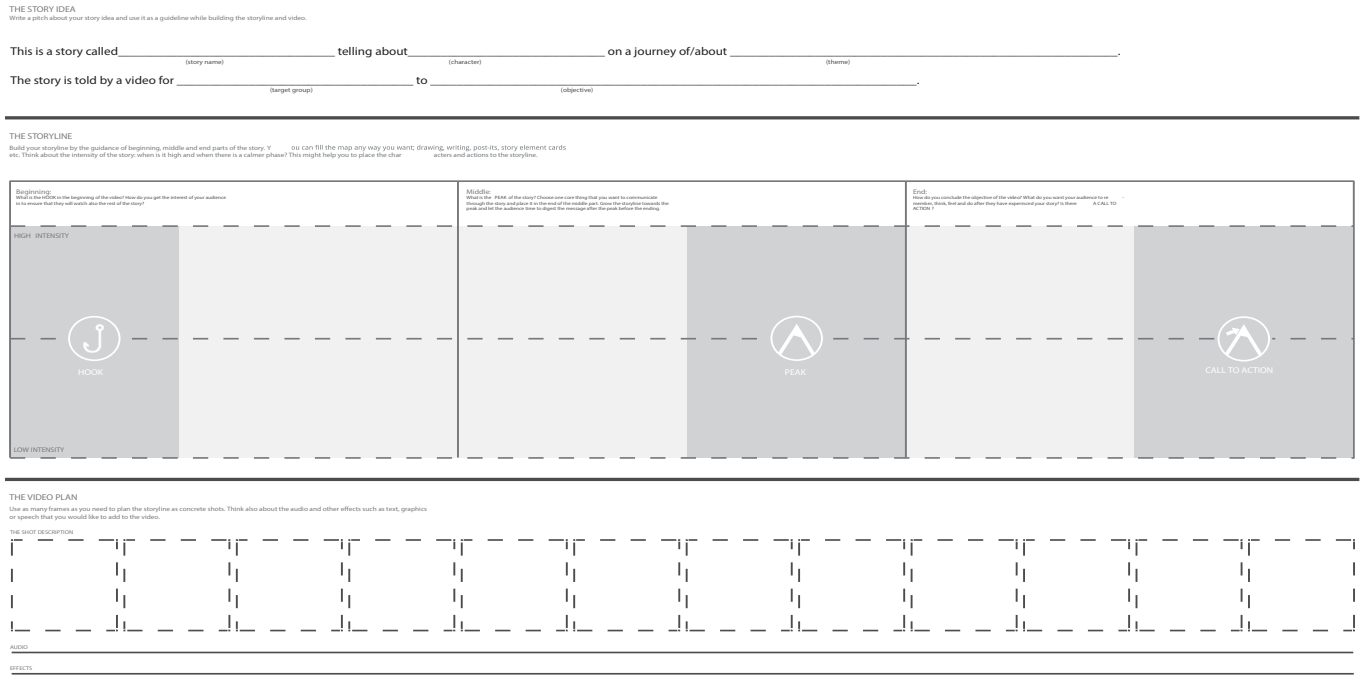


Figure 1: Example of a video planning template that utilizes storytelling and visualizes the video concept.

d. Desired outcome or impact of the video
3. Create a storyline and structure
a. Beginning: a hook that catches the audience's interest
b. Middle: containing the core message
c. End: call to action

4. Create a shooting plan
a. Actions that will happen in the video
b. Environment(s)
c. Props/objects
d. Sounds
e. Picture sizes (e.g., long shots, portraits and close-ups).

5. Identify the resources
a. People, including their knowledge and skills
b. Time
c. Tools and devices
d. Existing materials that could be used

Shoot and edit the video
6. Choose your tools
a. Examples of easy access tools: smart phone or tablet, small tripod, video editing app (Splice, iMovie or alike).
b. Examples of more sophisticated tools: SLR camera or GoPro, tripod or harness (for GoPro), editing software such as Adobe Premiere or Final Cut Pro

7. Shoot the video
a. Do a fast rehearsal with one shot or with short shots to see if the plan works.
b. Ask permission to shoot from the people involved.
c. Remember to keep your device horizontal when shooting.
d. Use varied picture sizes (long shot, portrait, close-ups).
e. Take several size pictures from each action.
f. Take short shots that are faster to edit.
g. Avoid shakiness by using a tripod as a stabilizer.
h. Try to capture natural sounds as much as possible.

8. Edit the video
a. Choose the suitable software. It's best to use something that is familiar or easy to learn.
b. Follow the storyline and the structure plan you created earlier.
c. Keep the transitions between clips simple and avoid unnecessary effects.

Picture 1: You can use a tripod as a stabilizer when shooting. Use familiar objects, such as a phone, as props to communicate your story.

d. Keep the video short
(1-3 min,depending on the intended use).
e. Use natural sounds as much as possible.
f. Use stock sounds, e.g. for background sounds, but remember to mention the credentials.
g. Record voiceover speech if needed.
h. Add texts, subtitles and graphics if needed.
i. Add end text.

Share the video
9. Distribute to your target audience through a channel that is accessible to them.

## Conclusion

Video is a versatile format of communication, as well as a creative tool. There are still a lot of undiscovered possibilities that a self-initiated DIY video can bring to the service design process and to other creative processes in the context of business. Nevertheless, it has been seen that video can bring the subjects of your design closer to the people that are involved in the process by providing rich material that communicates a story and has value for the audience. Improved communication and interaction between the different units or departments of a company can be beneficial, as can further communication with customers. Platforms, tools and devices support the creation process and enable channels for co-creation and sharing, for example through social media. By utilizing fast and co-created content through easy-to-access channels, DIY video can provide in-depth insight and more tangible understanding of customers, users and even employees. Therefore, DIY videos can provide possibilities for development and a way to engage people in the design process. It can also serve a way to improve the work environment and provide training on a new skill.


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### DIY Video in Service Design and Business

| Plan | | | | Shoot and edit | | | | Share |
|---|---|---|---|---|---|---|---|---|
| **Use case** | **Objective** | **Storyline** | **Shooting plan** | **Resources** | **Tools** | **Shooting** | **Editing** | **Sharing** |
| What do you use the video for? | Message, audience, context, impact | Beginning, middle and end | Actions, environment(s), objects, sounds, picture sizes | Skills, time, tools, existing material | High or low fidelity tools | Do a rehearsal, ask permission, shoot | Keep it simple | Distribute to your audience |

Mira Alhonsuo, Piia Rytilahti and Titta Jylkäs

# Service design for documentation and localization in data security

**Keywords: co-design, internal communication, design sprints, design games**

## Introduction

How can we develop companies' internal services with service design? This question is answered in by considering a collaborative case with a Finnish-based data and cyber security company F-Secure Corporation (FSC). The FSC has business-to-business customers and private customers in over 40 countries globally, which makes it useful for gathering knowledge on customizing services for various languages and cultures. This paper focuses on the cultural aspect of data security service development by focusing on documentation and localization team (DL team) that works for FSC Helsinki. The group consists of 13 people who offer services of documentation, i.e., technical writing, for user interfaces that are integrated in FSC's products, and localization of those documents in different languages.

The collaboration between the University of Lapland (UoL) and the FSC was developed in a business-led research and development consortia (Need for Speed [N4S]) during a three-year service design study. Service design as a multidisciplinary methodology and mindset has a new perspective to offer in terms of data and information technology-oriented systems development, one that is at the intersection of technological systems development and human-centered design methodology. Service design for projects that use the Service Innovation Corner (SINCO) laboratory at the University of Lapland has been strongly integrated into business development through qualitative and constructive design methods and always in collaboration with real company cases. Therefore, a participatory focus group on DL was extremely interesting because of a shared interest in cultural issues from both the service design team from the UoL and the DL team from the FSC.

In addition of the global range of data security and communication with customers about security products,

there are usually also challenges related to communication between various units and teams inside large companies. This case was no exception: There are similar needs that must be met in order to create an understanding of the company's products and services, e.g., through marketing. During the first case meeting both teams – the service design team and the DL team – defined a design brief on how to become more aware of what other teams inside the company were doing and how. In short, the knowledge was accumulating in silos; therefore, there was a need for more transparency, which required more easily available and clearer practices to transform that challenge.

A service design team, made up of four designers, and a researcher who made good use of multiple service design toolkits took on this challenge. The team addressed the problem in two phases: 1) user insight and 2) concept development. This case has yielded several service design concepts by identifying challenges, especially in relation to internal communication that emerged during the participatory and co-design work with the company (Rytilahti et al., 2016). These concepts include: an internal service portal, an INTERNALS card game, internal marketing material and internal service guidelines. This work was carried out through an agile and lean methodology applied to human-centered service design.

## Phase 1: User insight on different organization cultures

The time scale of the project was from June to October 2015. The information gathering and user insight phases were done in a lean and agile way where the teams were engaged in the case at a very early phase. The concept development phase was split up for design sprints, which are visualized in more detail in Figure 1.

Benchmarking was one of the tools used during the first phase of user insight. The aim was to discover the context of the applied and developed service. The target of the benchmarking was made as close as possible to the service design team, i.e., to study internal communications at the UoL. This analogical exercise with a large organization revealed the basics in internal communication. The core of digital safety at UoL was also

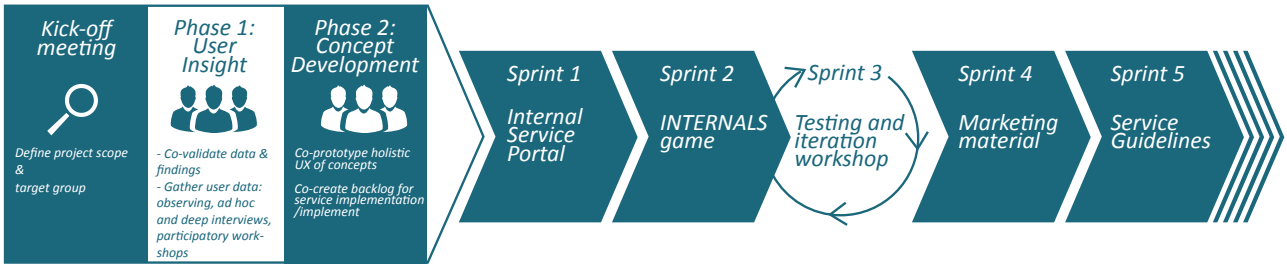



Figure 1: Service design process for DL.

similar to the systems and products offered by the FSC. Preliminary insights from the communications at UoL were concretized as visual presentations and examples for co-design purposes with the DL team.

After the analogy exercise, the service design team had a four-day intensive at the FSC to do observations, ad hoc and in-depth interviews, and participatory workshops that lasted one or two hours. The participatory workshops took place in an open-plan office of the DL team and included hands-on ideation with co-creative design methods, summarization of insights and prioritization of needs and challenges. The aim of the company visit was to understand the work of the DL team and to get a holistic though simplified view of their processes with regards to their internal services. The outcome was a service blueprint that helped everyone understand the overall service process between the teams that make up the FSC. The visit was also essential for introducing these two teams to each other and to create a basis for further cooperation between the teams.

The user insight phase was implemented through human-centered tools and methods. A central feature of this face-to-face collaboration was the possibility to introduce service design thinking to the companies in a way that allows them to apply it in practice: as tactile, concrete and co-constructive methods of transformation.

## Phase 2: Concept development sprints for multi-channel communication

The concept development was conducted through agile design sprints. Knapp, Zeratsky and Kowitz (2016) have defined a sprint as "*a focus on individual work, time to prototype, and an inescapable deadline*," which helps to work more effectively. Other key ingredients include the people involved in the project for solving the challenges at work they prefer. Knapp presents a five-phase structure for a sprint: 1) problem definition, 2) sketching competitive solutions, 3) choosing the best ideas, 4) building realistic prototypes, and 5) testing prototypes with the customers. Sprints are an agile framework that makes sure development processes stay effective (e.g., Knapp et al., 2016; Geuy, 2016; Direkova, 2015). It also follows lean methodologies where the focus is on continuous innovation to create successful businesses through a minimum viable product (MVP) and/or minimum valuable services (MVS). These two terminologies refer to a fast-paced design approach, where the MVP or MVS is tested with real users and, depending on the feedback, can be either be developed further with some improvements or changed into something totally different. (Ries, 2011).

The first sprint focused on ideation and generating a service catalogue called the Internal Service Portal where the teams inside the FSC could learn about each other expertise and offer services to each other. The second sprint co-created a visualization of the present and an eligible service journey based on the existing means of internal communication. The result was an ideation of a serious game developed for internal communication purposes. Both of the ideas, the service catalogue and the serious game, were tested in the third sprint in order to gather feedback from the other teams at the FSC. The fourth sprint focused on visualizing novel ways to do internal marketing in the company. The fifth sprint gathered all of the material and put it into the FSC Service Guideline. The following case description demonstrates in more detail how service design and business can work closely together in an agile way to produce solutions that can be put into practice quickly.

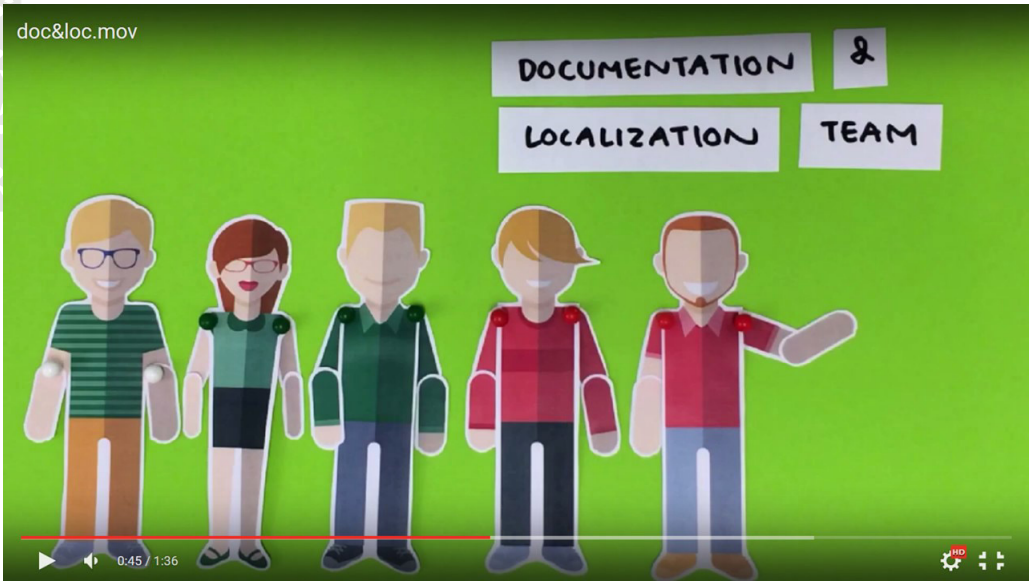
The primary challenge identified by the DL team was the creation of an Internal Service Portal that could serve as a platform for service requests and service delivery inside the company between the DL team and their customers, i.e., the other units in the FSC. So far the teams were using established communication channels such as e-mail or telephone calls for service requests and other internal communication purposes. From the service design

perspective, the assumption is that a unified platform for requesting services could increase efficiency because the features so far available only for DL services would be publicly transparent. The portal was designed as a team-specific application so that each member of a certain team could access the portal, view the service request history of the team and make service requests on behalf of the team. The team-specific structure was identified as a way to both personalize the knowledge and expertise accumulated in teams and to convey and communicate the knowledge more efficiently inside the company.

Because of the actual need to develop the Internal Service Portal, this part of the case was allocated most of the resources available in the service design. The concept of the Internal Service Portal focused more deeply and in more detail on communication between a few teams: the DL team, marketing, internal startup, research and development (R&D) project-based learning and R&D incremental LD. The very first version of the concept was a rough paper prototype that was quickly developed into a digital viable mockup and then uploaded into an application that transforms mockups into prototypes (Marvel). The prototype was tested with teams many times at the FSC and via Skype before the third sprint where final testing took place in a workshop.

During the second sprint, the design team ideated a card game called INTERNALS (Picture 1) to improve internal communication and demonstrate internal services. The serious games approach is a well-established practice to motivate and encourage people to co-design. The *F-Secure documentation and localization* edition of the game is a detailed description of the expertise of the team and a productization of that for an internal service. The game also works as an introduction to the work of DL and, thus, serves an icebreaker for beginners joining the DL team at the FSC. The in-designed aim of


Picture 1. INTERNALS game designed to support internal communication in the FSC.




Picture 2. Marketing the DL team internally at the FSC.

the game is also intended to introduce a service design approach through how services are done in practice within a team. The INTERNALS game is designed to be played by the DL team with their customers. Even though the topics are specified to DL services, the game can be played by anyone following the instructions.

The development process of the INTERNALS game started at UoL, where the first ideas were tested with quick mock-ups. In total, the INTERNALS game went through three main iteration rounds of testing with the DL team and gradually worked towards a simpler format.

The third sprint was an intensive co-creation workshop where the results from the first and second sprints were tested and iterated once again. People from the DL team and other units at the FSC participated in a half-day workshop and gave feedback on the service concepts. The tested concepts were MVSs and MVPs and were not intended to be real product development outputs. Instead, the aim was to show alternative solutions for internal communication at the FSC. In practice, the workshop consisted of simultaneous testing sessions of the MVSs and MVPs with different teams and ideation sessions. In the latter practice, the design team facilitated a tour where the employees walked around the FSC building and ideating both small-scale internal marketing campaigns with stickers, mugs and cups, as well as campaigns targeting external visitors. The aim was to quickly concretize the ideas and see them in the real environment. It was mutually agreed to stay at the surface of the concept rather than worrying about the actual implementation of it.

The fourth and the fifth sprints focused on actions that were familiar to marketing communications. In the fourth sprint, marketing materials and a campaign for internal purposes were created based on the mass of materials collected during the case so far. The idea for an internal marketing campaign came from the DL team. There was a need for a more stable presentation about the knowledge accumulated

by the teams inside the company. Therefore, the marketing message was built around a simple description of the work that the team(s) were actually doing. The marketing campaign was designed to be dispersed through multiple channels, such as with flyers and stickers for a short-term campaign and an introductory video by the DL team for longer-term use (Picture 2). Marketing is then situated both in public and private spaces and is able to target visitors who don't always know what kind of work is done inside such a large company. The same material could also be used as an example for the other teams who want to explain their team's work and knowledge to outsiders in an approachable manner. The fifth sprint focused on collecting all the material co-created during the service design case and putting it together in the Service Guidelines (26 pages), which presented the whole process in a chronological order starting with the customer insight phase.

The aim of the sprints was to divide the complex and multi-level design process into smaller tasks, which made the 5-month research process more structured, not only for the design team but also for the DL team. Creating the sprint plan with the DL team helped to achieve a common understanding about the needs and aims for the entire service design case. It also pushed the DL team to support and provide feedback for the service design team almost in a real time. Short Skype meetings were scheduled once a week, just to check out the current situation and ask if any focal questions had emerged throughout the week. The co-design approach and engaging with the service design work during the early phases of the case were noted as prerequisites for a successful case collaboration.

## Conclusion

In addition to the agile and lean sprint approach, the service design case for data security in DL focused on cultural issues around communication, in particular how the principles of being agile and lean are applied from the service design point of view.

One of the prerequisites for a successful case was the commitment to the case by the participatory DL team. Furthermore, the knowledge the company's team possessed was enough for participation, and there was no need for a *prolonged analysis of company practices*. Also, the face-to-face collaboration during the multiday workshops in the team's open-plan office supported faster progress.

In contrast to a neatly engineered service system, this paper presents a slightly *messier view of services*. The card game, for example, was a prototype constructed with a service design mindset, illustrating that service design ought to be even *less designed and more assembled from fragments of practices, institutions, life-styles and networks inside the organization* than before. In particular, the value of prototyping as an action of *building to think* seemed to contribute not just to the process development of the team, but also to the more general thinking from the organization's point of view. Also, as a result of this case, we noticed a growth in motivation and commitment when employees were able to participate in a process where progress was so visible and tangible.

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Piia Rytilahti

# Value of embodiment in service design: the case of a Finnish software business

**Key words: service design, levels of embodiment, value creation, process model**

## Introduction

We are humans. We have bodies. Bodies move. Bodies are located in places: offices, conference rooms, around coffee tables, technology buildings, manufacturing facilities, northern and southern or western and eastern parts of countries or continents, and finally across the globe. Bodies need to move between places to gain the embodied knowledge discussed in this paper.

However, the Internet with zillions of digital services is making it possible to achieve embodied movement and knowledge without physically moving the body from place to place. This is the key to understanding what embodied value is all about: bodies need not enter all the available places in order to gain embodied knowledge. Embodiment is also meanings interpreted based on the experiences one already has, e.g., from similar or opposite places, items handled, or literature read.

Another example of an embodiment view is how people see major differences between the traditional physical work and the work of the digital age. The difference is not so tremendous when you think about it as embodied practices. People still move through physical spaces (take steps, make gestures, laugh, lift a coffee cup, eat, etc.) during the workday, but they also reason and make sense of abstract things through embodied perception.

There still is much to do in terms of concretizing how multilevel the embodied knowledge actually works and how it has changed throughout the digital era of communication. In addition, knowledge rooted in the many levels of embodiment and expressed as verbal meanings requires social action to emerge (Gallese & Cuccio 2015; Gärtner 2013). This is something that is endogenous, i.e., designed into human action and

reasoning. It is also what human-centered service design is all about: pulling together collaboratively and socially constructed embodied knowledge in order to present and share it in a simple form.

## The processes and levels of embodiment

The main question answered by this paper is, "*How can a company's real identity value be assessed?*" The following is a description of various Finnish software companies based on a semiotic analysis(1) of a few service design case studies that were carried out in the context of the need for speed (N4S) research program(2) :

*"F-secure is a solid and trustworthy Finnish companion in a world where cyber attack threats are a reality and ransomware infections are becoming an epidemic. Ericsson is a Swedish innovator who empowers all of us in a mobile world. Bittium is not yet as known as the two other, but as a northern company it is a persistent and honest partner that offers slightly rougher solutions to mobile communication problems."*

If a company is interested in creating value for its customers, including the end-users, it will require insights into its social and cultural values, which are not easy to measure with numbers. Value is not only a brand image, but also the people who tell the customers what the company stands for. According to this paper, this information and knowledge is constructed through multilevel embodied practices especially inside the organization. But where and how to find these embodied practices?
*"[I]f you haven't started, you haven't finished. If you're not prepared to start, you can't start. If you're repeating the process, then it's occurred before. If you're in the resultant state, you've been through the main process" (Lakoff and Johnson 1999, p. 176).*

This quote describes metaphorically one view of embodied knowledge. It is an intelligible view of embodiment that is a very basic model of human comprehension about how *things take place in time* based on a bodily basis of thought. This is how the body and actions shape the abstract mind (ibid.).

Service design, development and innovation activities are procedural in this sense. Business and company strategies are a way of thinking of the present and future through metaphorical process models. Certain service design cases completed at the SINCO lab(3) at the University of

(1)The contribution of this study is thus on preliminary features of the Finnish software business culture through a multiple user study, i.e. a service design experiment and a user study implemented with three large software-intensive companies in Finland. In all three cases, the aim is to help make the company's current development and innovation processes more transparent and develop them through service design intervention. The cases are implemented through a service design-focused collaboration between the companies and the research organization during 2014–2015. The data consisted of three specific designs for service cases, including a themed user group (n=15), single-user (n=15) interviews and the field dairies edited by the service designers and researchers (n=5). The participants were selected based on their motivation and commitment to participate in exploratory service design studies. This was a qualitative study with the grounded theory approach applied to gather fresh data until no new insights emerged or new properties were revealed. There were also ethnographic methods and approaches utilized as we examined two single culture-sharing groups, i.e. companies, with interviews, observations and service design sprints.

(2) This study is based on research collaboration in the Need for Speed (N4S) research program funded and managed by Strategic Centers for Science, Technology and Innovation (SHOK), DIMECC Oy, which was established to reshape digital economy development in Finland. The N4S-consortia consists of 36 partners that are a multilateral mixture of digital products, services and solutions providers, as well as research organizations that are experienced in solutions, methodologies and technologies for innovation, such as in software engineering, systems and development, as well as service design in Finland. The University of Lapland contributes to this consortium from the service design perspective.

(3) SINCO is a service prototyping laboratory at the Faculty of Art and Design in University of Lapland, Finland. SINCO also represents a holistic hands-on approach to service design, co-creation and user-experience-driven innovation activities. See more: www.sinco.fi.

Lapland (UoL) with Finnish IT-companies have applied one kind of process model called the Double Diamond Model, which was developed by the British Design Council (2015, 14). This model is a business innovation tool that offers a framework for design processes and includes four phases: 1) discovering insight into the problem, e.g., through behaviour-led design research; 2) defining an area to focus upon, e.g., through creative workshops and idea generation; 3) developing ideas and solutions for the problem, e.g., through culture thinking and design; and 4) delivering solutions that work, e.g., through prototyping, selection and monitoring. These phases aim to design a solution (a product or a service concept) by defining the relevant problem in the situation (case, event).

Human cognition structures can be smaller and bigger events, such as service design cases or innovation processes, according to Narayanan's general structure of events, which includes twelve phases (Figure 1):

1) Getting into a state of readiness

2) Initial state: whatever is required so (that) the event is satisfied

3) Start: the starting up process for the event

4) End of start: the end of the starting up process and the beginning of the main process

5) Main process: the central aspects of the event. According to the case studies analyzed, the main processes are the collaborative workshops with the company's people involved.

6) An option to stop

7) An option to resume

8) Possible interruptions: disruptions of the main process

9) Possible continuation or iteration: the perpetuation or repetition of the main process

10) A check-in to see if a goal has been met

11) The finishing process

12) The final state/resultant state: the state resulting from the main process

Secondly, Gärtner (2013) has categorized six views on embodiment: brute, physiological, lived, intelligible, situated and social. The first two focus on biochemical and neural systems and locating knowledge as a *rational mind* mainly in the brain. Brute embodiment views the body as a source for stimuli or as a computational information processing system, while physiological embodiment focuses on the body as a neurobiological body (ibid.).

Lived embodiment is a phenomenological approach that

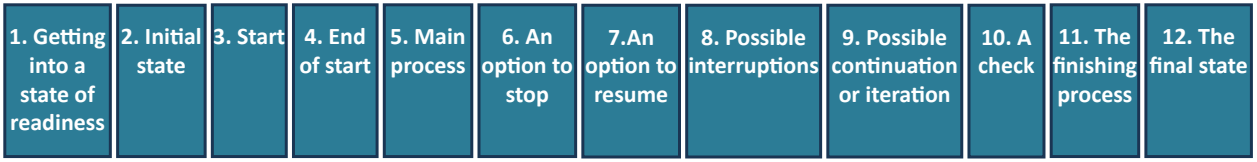


Figure 1. General model of events and processes (Narayanan according to Lakoff and Johnson, 1999).

| Level of Embodiment | Embodied knowledge | Embodiment tools in Service Design | Examples in N4S |
|---|---|---|---|
| Lived Embodiment | Being a lived body, a body that knows through sensing with the sensorimotor system. (Phenomenological approach) | -SINCO and service experience prototyping<br>-Bodystorming and Drama<br>-Empathy and feelings | -Fire fighting –simulation in Bittium case about public defence & authorities.<br>-End-users as 'body workers' |
| Intelligible Embodiment | The bodily basis of thought is metaphorical i.e. how the body and actions shape the (abstract) mind. (Cognitive linguistics approach) | -Service Design Process models in general: Double Diamond etc.<br>-Stakeholders mapping | -Waterfall model<br>-Continuous deployment<br>-Silo effect<br>-Agile and lean principle<br>-SD Sprints in Bittium-case |
| Situated Embodiment | Situated cognition and affordances stress the interaction with the material environment here and now. (Ecological psychology approach) | -Closeness with interaction design and usability issues in design.<br>-Service touchpoints<br>-Serious Play: Lego's etc. | -Digital service concepts for internal communication<br>-Digital service platforms<br>-Case Doc&Loc in F-secure |
| Social Embodiment | Disciplined, structured and structuring body is participating in social practices. (Social practice theory approach) | -Practice-based research; Culture-centred SD.<br>-Service Design Expertise; Communities of Practice | -CoPs are'Knowledge workers': SW engineers, consultants, designers.<br>-Case Ericsson in Innovation activities |

Table 1. Levels of embodiment attached to service design (adapted from Gärtner, 2013).

explains how humans as sensing and moving bodies live through experiences. This is also a starting point for experience prototyping in service design (Table 1). However, collaborative and participatory service design at the UoL is firmly focused on the next two views on embodiment: intelligible and situated embodiment (Kuure and Miettinen, 2013). The intelligible emphasis in the previous view is on the bodily basis of thought where the semi-virtual service stage of SINCO offers an environment for service experience knowing and learning (Gärtner 2013, 344).

The situated embodiment view stresses the interaction with the material environment and its affordances here and now, i.e., the environment side of the body-environment relationship. This kind of service design approach is a tool that can increase understanding of how embodiment is actually present in more complex human settings, such as organizational contexts that incorporate staff experiences with physical and social affordances that are available at work. SINCO is many cases used for service prototyping of novel settings (affordances) when designing for services.

## Social embodiment view in service design

The situated embodiment view in service design focuses on *the here and now* (Gärtner 2013, 346). In the future, it will focus more thoroughly on social aspects of embodiment, i.e., how the same physical, material and environmental affordances are enacted differently by many agents coming from various milieus, such as from those from different areas of expertise or teams inside a company. A more extensive conception of embodiment and embodied knowledge is needed when there has been a transformation from a context of manual work, such as tourism, nursing or fire fighting towards work that requires symbol processing, such as science, engineering and consultancy (Gärtner 2013, 346).

An *identity* or a *habitus* of software engineering as a practice, or innovation and development, or service design as a practice, are distinguished from each other based on their functions, aims and the structure of the work, such as agile, lean or continuous deployment processes. They are also distinguished from each other based on the content of the work, which is socially constructed and includes joint histories between people working together for longer periods of time. Studies focusing on how fast and fair people are able to reach this level of social embodiment in a transformation culture faced by many businesses including the software business are extremely interesting.

Two notions presented in this paper were the result of a study that discussed the value of embodiment in service design. The first notion is to widen the concept of embodiment to the social level, including human-to-environment interactions and human-to-human interactions. In the social embodiment view, the focus of an event such as a workshop, a service design process or an innovation process is generally to reflect on embodied reasoning between people. The second notion suggests focusing more thoroughly on the main process instead of the final state of the event or the development process. Therefore, a technology product or a digital service concept developed in a design case is not the most salient point according to the social embodiment view. Instead, from the human-centered perspective, the social embodiment that takes place during the main process (phases 5-9 in Narayanan's model) when participants collaborate with each other on a shared understanding, even on a shared vision, contains essential knowledge of what sensible services and processes are made of.

Service design offers tools to gather knowledge from any social event. According to the participants, the most gripping results became blueprints that illustrated the current working and communication practices, customer journey maps, stakeholder maps, and prototypes for situation-specific experiences – all of which are efficient tools for sharing socially embodied knowledge, i.e., how the bodies of the knowledge workers' also create social practices that are relevant to the functioning of the whole company.

## Conclusion

Service design is a human-centered approach to value creation. This approach was studied from the embodied perspective, a practice of design that combines the various views of embodiment in its methodology, for example in a digital and software intensive business. The social embodiment view is a novel approach in service design. It has, so far, remained quite invisible behind the common conception of knowledge work with an intelligible status. This paper suggests that service design as a practice and as a field of research is in a central position to manage the many levels of embodied knowledge and the actors who create this knowledge in any company or any organization. Gärtner's (2013) six views on embodiment offer a theoretical basis for service design to analyze how abstract reasoning is rooted in embodiment in different processes in service design, as well as innovation

and development. Words and numbers are often misinterpreted, over-interpreted or under-interpreted and there may be contradictory views on what the data are revealing. The embodiment view at all levels – brute, physiological, lived, intelligible, situated and social – offer a novel approach for the development of service design tools and value creation focusing on the human factors.

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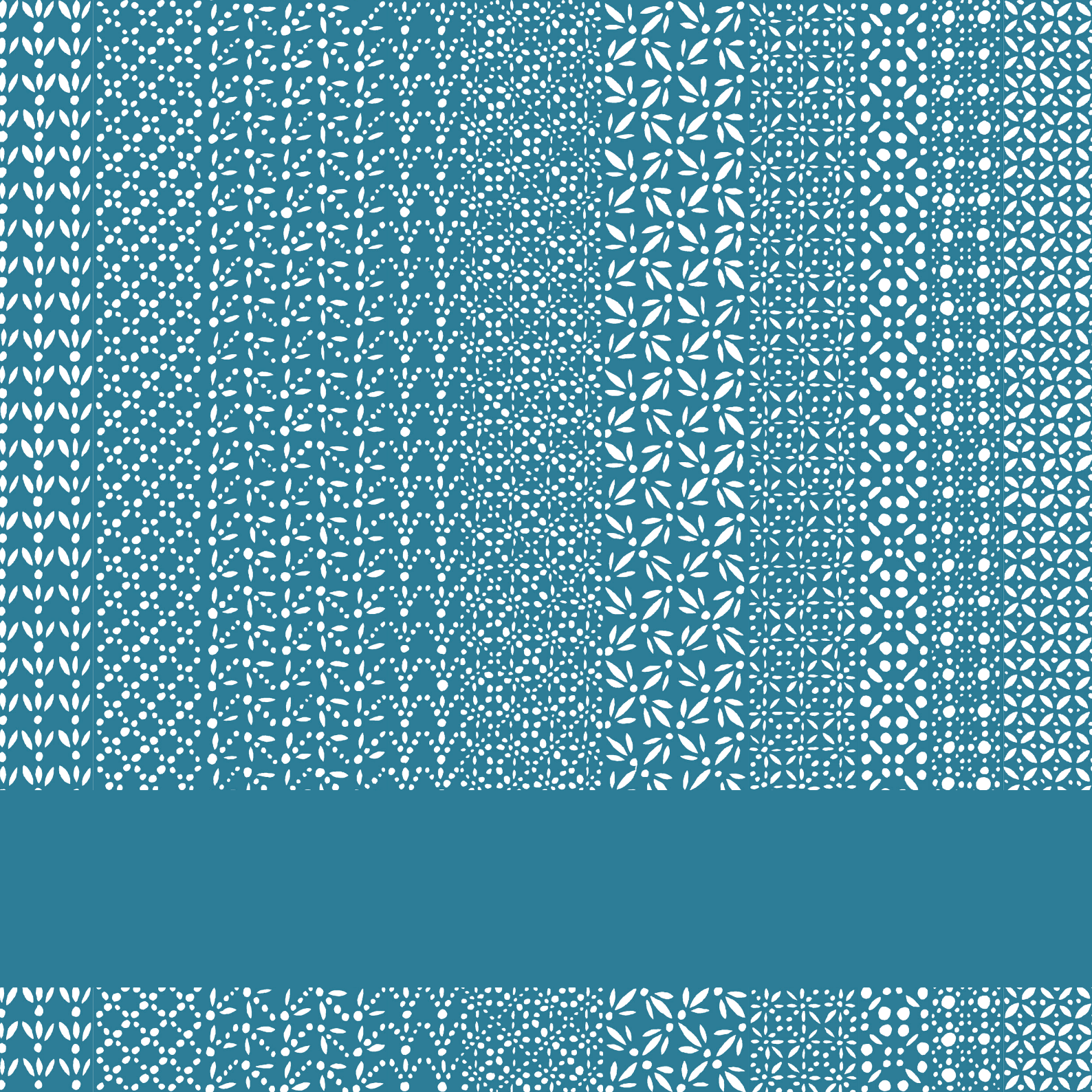
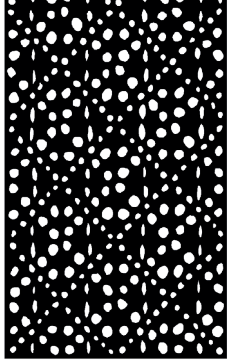


# For Good



Mira Alhonsuo

# Service design for healthcare services

**Keywords: healthcare services, service design, service platform, communication**

## Introduction

This research paper focuses on service design for healthcare services. It presents three case studies conducted during two different service design research projects MediPro and CRICS (1). These case studies discuss how to create a service design project for future healthcare services in Lapland, how service design can be used to improve communication at an emergency policlinic at Lapland Central Hospital, and how to improve home-based healthcare in South Africa with the help of service design tools, especially participatory workshops.

This paper considers healthcare services to be a platform for healthcare professionals and specialists, service providers and actors, administration and management and, last but definitely not least, patients and their relatives to work together. The healthcare platform connects multi-level processes. In addition to the human-centered processes, the platform is operated and managed by different information and communication tools, as well as lots of different technologies, such as offline paper-based systems. The platform also contains various concrete touchpoints, such as care facilities with operational information systems with various user interfaces, most of which are not digitally available or even systematically documented. The healthcare platform must be modeled according to different individual patient-needs. Existing technologies should function as a supporting tool for

(1) MediPro (Practices, Processes and Products for Medicine and Healthcare) was done in 2012-2014 and on-going CRICS-project (Critical Communication, Safety and Human-centered Services of the Future) is continuing project for above mentioned, both focusing on social and healthcare processes, its communication and also simulation pedagogy. Projects are funded by Tekes (Finnish Funding Agency of Innovations) and European Regional Development Fund (ERDF).

communication and information-sharing inside the hospital. However, technology is often not designed to support healthcare practices in hospitals, which creates a stressful environment for professionals. One reason is that there are challenges associated with operating a healthcare platform. Sometimes the processes and tools are not even designed for the healthcare environment or the multilevel human processes that are involved in this environment. When there is a perceived need to change (i.e., to speed up processes or make communications more effective), time and tools are needed to help people adjust, such as tools for co-designing the present environment so that it can become a more complex ecosystem.

There are a lot of things to consider when designing efficient communication processes for healthcare professionals in an emergency policlinic or better healthcare services for patients in hospitals. Because of this complexity, multi-level processes are challenging to locate and design. The service design approach applies process-based models that use design tools to make things more clear and understandable. It also utilizes co-design methods, which means creating and developing existing or new services with users, as well as visual tools and concrete prototypes to clarify processes and ideas (Kimbell, 2009; Segelström, 2009).

## Service prototyping for improved healthcare communication

The research and cooperation with healthcare and service design at the University of Lapland started during the MediPro project (2012-2014). This was a joint research project between the Faculty of Education and the Faculty of Art and Design. The research project investigated and developed technology-supported service processes, especially the use of the Terrestrial Trunked Radio (TETRA) telephone in the social and healthcare sector. The service design research team developed social and healthcare processes and the project was conducted in cooperation with Cassidian Finland and Beaconsim (TETRAsim), the City of Rovaniemi, the hospital districts in Lapland, Northern Ostrobothnia, Western Ostrobothnia and Middle Ostrobothnia, the Universities of Applied Sciences of Rovaniemi, Kemi-Tornio and Middle Ostrobothnia.

The aim of the research project was to understand the behaviors and activities of emergency polyclinic workers, such as doctors and nurses, during their normal working processes. The research revealed communication and information gaps among these groups (Alhonsuo, 2014). The research was done mainly in the emergency department of the Lapland Hospital District, while some interviews and benchmarking were done at the Oulu University Hospital and North Karelia Central Hospital in Joensuu.

This case study followed and adapted the basic steps of a service design process, where the first phase is to understand the needs and challenges of the context. This data was gathered using design probes (Mattelmäki, 2006) and realized through small questionnaires distributed in a break room in the emergency policlinic. This kind of self-documentation is a good way to collect information in a hospital setting. The questions, which were written on a small piece of paper, were easy and quick to fill out during a short coffee break. Other relevant methods were short interviews and observation sessions that provided an overall picture of the process, ranging from small details to larger aspects.

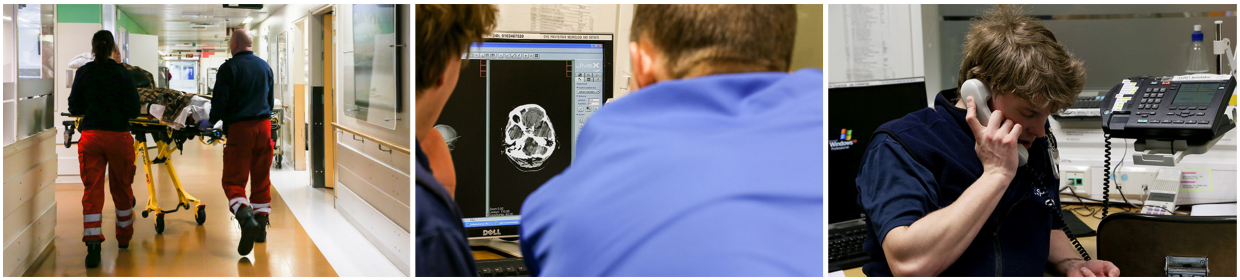
The second phase in the service design process is usually ideating and concretizing using co-design tools with the participants. Usually these are two separate phases but in this case, we combined ideation and concretizing into one workshop, which was held in the Service Innovation Corner (SINCO) at the University of Lapland. The participants were professionals from the emergency polyclinic. The aim of the workshop was to create new customer-centered solutions for the most challenging parts in the customer journey,

both from the patient and the healthcare personnel points of view, such as emergency situations where there are more than two patients. Ideas were generated through service prototyping, which was essentially role-playing different scenarios in the SINCO-environment. Service scenarios with different ideas and roles were played several times through so that the ideas and solutions were iterated more than once in the scenario. After a few service design iterations, the challenge was solved by consensus. The last step of the service design process is implementation. In this case, the participants presented the solutions to the problem to each other.

The outcome of this case study was a visualization of the communication process for the emergency policlinic that presented the challenges, needs and ideas identified in the workshop. It also proposed new tools and methods for gathering data, transforming it through service design methods into solutions, and finally implementing new service concepts in the healthcare sector. Moreover, the case study initiated a research interest towards service design and its possibilities in the healthcare sector.

## Future healthcare services in Finnish Lapland

The CRICS-project (Critical Communication, Safety and Human-centered Services of the Future, 2016-2017) will continue the service design research collaboration described above. In addition to the Faculty of Education at the University of Lapland, the partner organizations include Airbus Defence and Space Ltd. (Cassidian Finland), Beaconsim Ltd., the City of Rovaniemi and the Hospital Districts of Lapland and Mentura Group Ltd. The research project will investigate and develop crisis communication between public authorities and the social and healthcare sector service providers. It will create better products for customers' needs and novel service concepts for more effective processes in the healthcare sector. The CRICS research project focuses on human-centered healthcare service development both from the end-user (i.e., the



Picture 1. Observing the emergency policlinic communication process.

patient) and the healthcare professional's perspectives. The case will end in winter 2017.

Future healthcare will focus more on home-based healthcare services, especially in the Finnish Lapland. There are indications that the amount of time spent in the hospital could be minimized if social assistance, other potential services and technology were more user-centered, especially before falling ill (or being struck by an accident) and in the recovery phase. This is challenging in many ways, including geographic distance, weather, seasonal conditions, network communication, technology problems and limited, diminishing resources. Services need to be designed for the user so that help is there when it's needed and the technology is reliable and user-friendly. The aim of this project is to identify the needs for future healthcare services and to determine how we can support at-home services and what kinds of methodologies and tools can help to investigate these research areas. In other words, what are the right questions to gather understandable and valid data from the stakeholders?

The starting point for this research was the creation of a holistic understanding for the existing healthcare process in the Lapland Central Hospital. This was done mainly by interviewing healthcare professionals at every phase of the nursing process and organizing a workshop that included three separate patient scenarios: a patient with a hip fracture, an apoplexy (a patient with a stroke in the brain) and a patient in terminal care (the most ethically challenging scenario). The outputs were visualized versions of existing customer journeys. New scenarios were also ideated with a simpler version of the patient's journeys. These visualizations served as a starting point for the next step where the focus is on the patients. After understanding both the healthcare professional's working processes and the patient's journey in different health scenarios, the next step is to organize co-design workshops with the most important stakeholders for each case. In these workshops, the main notions and ideas that emerged from the first phase co-design will be tested in the SINCO-laboratory. This is an iteration round before the ideas are adopted in the real hospital environment for testing.

This case will offer novel service models for future healthcare in Finnish Lapland. Support comes from both the technologies and the communities involved in the process. The case will also develop a service prototyping environment for the healthcare environment. This is accomplished with an action research approach, which is achieved by observing and testing different methods to concretize different ideas, technology solutions and more complex processes. The main research question from the service design perspective is how to merge all the research information gathered in the CRICS project 1 with the design for the healthcare services in a prototyping environment.

## Developing a workshop model for healthcare

Part of the CRICS research project was a three-month research mobility project at the Cape Peninsula University of Technology. One of the outcomes from this three-month fieldwork project was a workshop model for collecting valid data from different processes and viewpoints relevant to the service design. This workshop model was conceptualized during three fieldwork periods in underserved communities in South Africa. The stakeholders were community nurses, caregivers, physiotherapists and social workers in a home-based care centre, as well as house mothers in child care centres. Home-based healthcare in South Africa comprises basic healthcare and help with everyday tasks supported by semi-trained healthcare professionals. Basic human services, such as being present for sick people, are an essential part of the South African healthcare system.

Home-based healthcare is essential in small communities where hospitals are far and few between and people suffer

from ailments such as tuberculosis, HIV/AIDS and drug and alcohol problems. Childcare is another crucial issue. Services include coordination and ensuring proper care in the health and home environments in the communities. However, those providing home-based care in South Africa are struggling with similar challenges to those in Northern Finland: long distances, network problems, language barriers and weather conditions, as well as communication problems between healthcare professionals. All of these issues make services too complicated to access when needed.

The aim of the workshop model is to first clarify the current processes, needs and challenges from the customer perspective. Second, these needs and challenges are addressed through task-focused methods by creating new approaches, i.e. services or mobile applications with the help of the prototyping tools. The workshop model uses the service design approach, which means that some pre-information data is needed and is usually collected by observing and interviewing the end-users of the service. Basically, the workshop model contains four main phases: 1) fieldwork, 2) an understanding workshop, 3) a prototyping workshop and 4) a testing workshop. There were some small divergences between the approaches and methods in the workshops due to resources, time limits and existing circumstances (Figure 1).

Service design is crucial when developing healthcare services because its human-centered approach addresses very sensitive subjects. Service design can make sense of complex, multi-level processes and ecosystems, while bringing people together in a co-design atmosphere. As a participatory approach, service design provides the tools to start a conversation about personal experiences and creates an environment to share stories. Visualizing working processes in a big way, for example by drawing on a large canvas on the wall, is effective for pointing out gaps and dead ends in communication and missing links within stakeholders. Visualized processes also work as a platform

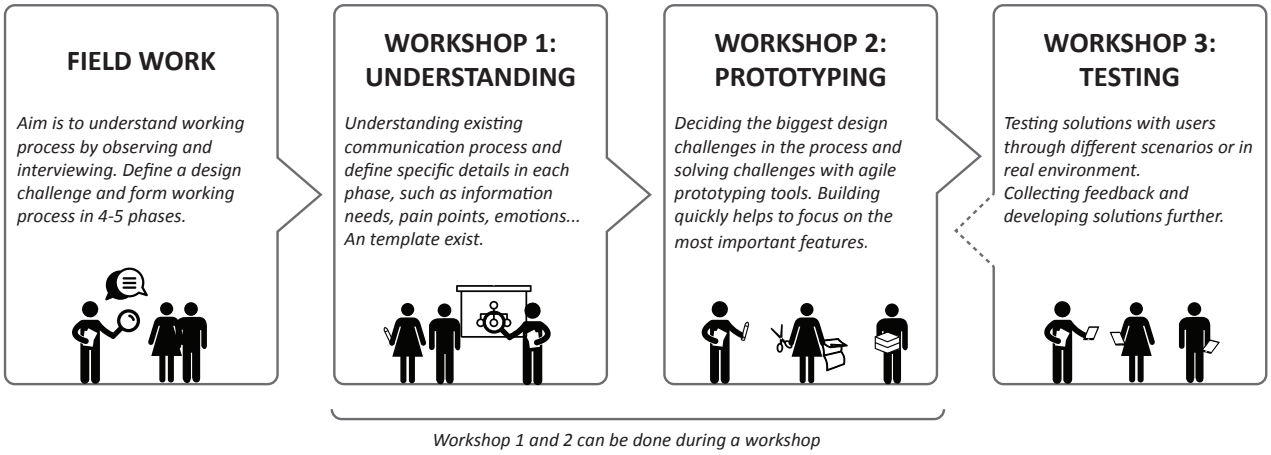



Figure 1. Service design workshop model for healthcare.

for common discussions and sharing insights. Finally, a prototyping workshop with hands-on exercises sums up and concretizes the findings for a shared end result.

## Conclusions

These case studies focused on different healthcare services from different perspectives. The first case study – developing an emergency policlinic communication process – followed the basic structures of the service design process. There was enough time to focus on each research phase and plan the next steps carefully. This was an excellent starting point for cooperation. The second case study, which focused on future healthcare services, is still ongoing and challenges researchers to zoom out on the whole hospital service journey. New methods and well-structured co-creative workshops are necessary because time is limited with healthcare professionals and patients. The third case study – the workshop model for home-based healthcare – generates a structured template for developing services and communication technologies. In the end, the workshop model became a template for any kind of design challenge.

The first two case studies are related to the SINCO environment and prototyping with role-playing and drama. The workshop model in the last case study used basic paper prototyping tools. Concretizing services with the body and building mock-ups by hand make ideation enjoyable and fun. This is a common language between all participants and an intensive way to gather better results. The SINCO environment offers a playground for testing new creative ways to combine multi-level processes with different stakeholders and technologies without forgetting emotions and empathy. There are various tools for hands-on working and role-playing. This kind of environment suits the early phase of ideation for healthcare services. It is a neutral environment where stakeholders do not have to face hierarchies, barriers, rules or limitations. It's a room for creative thinking. Iterating and testing low-tech prototypes and scenarios don't cost anything and participants can freely suggest their own solutions, which can have an influence on transformational change (Miettinen et al., 2014). The next phase, testing, should be done in a real hospital environment where different ideas have a chance to fit into reality. This combination of SINCO-led ideation and the real environment will be investigated in the second case study.

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Essi Kuure

# Service solutions for maintaining good life in villages

**Keywords: participatory service design, design competition, design education, design 4.0'**

## Introduction

This paper presents the results of and knowledge obtained from the Good Life in Villages design competition. It was a part of the 2015 Arctic Design Week, which was organized in Rovaniemi, Finland. The contest sought new ideas for achieving a better quality of life for the ageing population in Lapland and the Arctic region. Service concepts that applied the principles of service design—open innovation, participation, a holistic approach and creativity—were created. The aim of this paper is to pragmatically report the process of the Good Life in Villages competition and the results of the short but intensive collaboration between local businesses, students, villagers and design companies. This paper analyses the competition and presents a description of the participatory service design process, including how students and villagers participated in co-design.

Design as a field has been moving from *design 1.0*' traditional design and *design 2.0*' products and services, which focus on differentiation from competitors, towards the design of organizational or social transformations, which focus on enabling change. With this shift, the scale, complexity and uncertainty of design tasks increase. VanPatter and Pastor (2011) call these more advanced types of design tasks *design 3.0*' and *design 4.0*'. In 2005, they argued that all these four dimensions are necessary and will remain so, but that, unlike design education, the outside world no longer focuses on designing products and services.

The competition served as a platform for educating participants. The task was to develop a multidisciplinary solutions for four villages. This offered the opportunity to teach and learn about the participatory service design process as well as the complex task of developing solutions for multifaceted societal challenges. This experience is important for design students since participatory

development is becoming a more common practise in Finnish municipalities. Jäppinen (2015) found that both young and old individuals are eager to participate in the improvement of their surroundings. In the cases she studied, service design was used. She found that such an approach makes citizens' conscious and latent needs visible to designers and enables the creation of novel ideas. From this point of view, it is important for future designers and developers to understand design practices used in the public sector as well as in smaller communities.

## Starting collaboration

The Good Life in Villages design competition focused on identifying ways to maintain a good quality of life for individuals in small villages where the number of services such as post, groceries and bank is declining using the participatory service design process. Preparatory work was done in December 2014. The competition was held from January to February 2015, and the follow up meeting and conclusion and research phases of the competition occurred from March 2015 onwards until the other outcomes was reached such as the final student reports or EMEA SABRE (Superior Achievement in Branding, Reputation and Engagement) Awards nomination in 2016. The competition was held in four villages in Lapland, namely Autti, Juujärvi, Oikarainen and Hirvas (1). Four groups of students from different disciplines created solutions with the villagers.

New ideas and solutions for the challenges faced by citizens in remote villages are needed because of aging populations, centralization politics and distance from resources. The unemployment rate is higher in Lapland than in other regions in Finland, and young people are often forced to work and live elsewhere. During the competition, the participatory service design process, in which students and local citizens designed solutions together, unified different stakeholders.

The idea of the competition was to allow student groups to work with different villages. In order to make this happen, a coordinator and three teachers from the University of Lapland and Lapland University of Applied Sciences adapted the competition to a course and developed a procedure for students to apply. Students were accepted based on letters regarding their motivation as well as the amount of study credits (ECTS) they had collected. Twenty students were invited to participate in the competition. A significant amount of time and preparation were needed in order to facilitate the competition.

## Working together

The first meeting between the coordinator, teachers, students and representatives of the villages was held at the University of Lapland on the 14th of January 2015. During that meeting, the aim of the competition was explained in detail and representatives of every village gave a short presentation about their villages' needs. After that, the student groups met the representatives. The teachers and coordinator prepared the student groups in advance to make sure that there would be three university students (two from art and design fields and one from the social sciences or education) and two students from the University of Applied Sciences (which includes various fields

(1) The competition was funded by Kemijoki Oy, a Lappish hydropower company, which is the most important producer of hydroelectric power and related services in Finland. Kemijoki Oy launched the competition as part of their 60th anniversary celebrations. It was produced and coordinated by Tahkokallio Design+, a design thinking and strategic design company located in Rovaniemi. Teachers from the University of Lapland and Lapland University of Applied Sciences supported the students. When the concepts were finalized, four design companies from the Helsinki region, Design Studio Muotohiomo, Palmu, Diagonal (now called Hellon) and CreaDesign, were invited to Rovaniemi to support the student groups during the final 24 hours of the competition. Hill+Knowlton, an award winning communication consultancy, was part of the core team. Their responsibility was to help unify ideas and ensure the international visibility of the competition.

of study, like gerontology and information technology, IT). Each group included students with different talents, levels of education and backgrounds. At the kick-off meeting, there was a short introductory lecture about participatory service design.

In order to develop advanced and complicated design tasks in an educational setting, it was important to connect the tasks to real life. For VanPatter and Pastor (2011), the educational change involves moving from simple setups to more complex ones with many stakeholders, a need for large-scale shifts, high complexity, undefined challenges, and a need for a sense-making of the whole situation. This kind of design process usually starts with an unclear situation, not a well-defined design brief. The goal of the competition was to allow students to learn through doing. Thus, during the competition, students were allowed to present novel ideas and experiment and were supported through sparring for design and innovation. Significantly, the competition only loosely described the end result, and villagers, not companies or municipalities, were considered the most important stakeholders.

Students were tasked with working with villagers to develop a design solution to overcome the challenges of the village they were assigned to. The participatory service design approach was used to generate ideas for services or experiences that would benefit the villagers in the future. After the first meeting at the university, all student groups started working directly with their assigned villages. Students and villagers created their own plans of action and meeting schedules. All of the student groups visited their villages before the next checkpoint meeting, which was held on the 4th of February 2015.

During collaboration, the students focused on five service design principles: focus on the user, co-creativity, sequencing, evidencing and a holistic approach (Stickdorn, 2011). During their first visit to the villages, the student groups held workshops to learn more about the everyday

Picture 1. Workshop and participants in Autti Village. Pictures: Antti Raatikainen.

lives of the villagers. At Autti, students had villagers sit at five different tables, where a student facilitated discussions about the citizens, services, benefits and downfalls of Autti (Picture 1). Students also asked villagers to think about their best memories of Autti as well as its strengths and future threats. At Juujärvi, the first workshop occurred during the villagers' biweekly meeting. At Oikarainen, students began by interviewing villagers about what they would consider a high quality of life and what challenges come with living at Oikarainen. The fourth student group visited Hirvas every week of the competition. First, they concentrated on getting to know the villagers. They used a map of the village to discuss and map villagers' homes as well as services and activities available in Hirvas. During the second workshop, they facilitated an activity, 'Dream Hirvas', in which villagers and students brainstormed to identify solutions and services that could and should be implemented in Hirvas.

After the first visits, a checkpoint meeting was conducted with all the student groups. At this meeting, a lecture about developing cities through participatory service design was presented and students got sparring for service design. Before this checkpoint, most of the student groups had already analysed the results of the first workshops and had developed multiple ideas. In every village, villagers and students discussed the best options for moving forward. In some of the villages, residents voted on which ideas they would like to refine.

Different kinds of design frameworks started to emerge in each village. In Autti, the focus was on keeping the village lively through tourism. In Juujärvi, although the design challenge to maintain services available in the village was clear, it took a while for the group to choose a design, which was titled *Power Team*. In Oikarainen, the chosen theme was helping neighbours, and in Hirvas, a combination of many ideas was chosen, titled *Village living room*.

Picture 2. Teams finalizing their concepts with design practitioners during the final phase of the competition. Pictures: Antti Raatikainen.

## Concepts for maintaining good life

All the student groups met between visits to the villages and discussed their findings, analysed the results and planned the next steps and workshops. On the 18th of February, five weeks into the competition, the final phase began. All the student groups were given 24 hours to finalize their design solutions. Design practitioners from four different service design companies located in Helsinki were flown in to help the students reach their goals (Picture 2).

After the 24 hours, student groups presented their concepts to a jury for evaluation. The jury consisted of local, national and international design professionals as well as a representative of Kemijoki Oy. All the student groups presented their solutions on the 19th of February at the Arctic Design Week seminar. Each group's presentation took 12 minutes.

The Autti team won the competition (Picture 3). The Oikarainen team received an honourable mention, and the Juujärvi and Hirvas teams presented functional service concepts . The winning team portrayed Autti village as *a hidden treasure* and focused on getting passers-by to stop and experience the village. In the summer, 1,500 tourists pass Autti, which is not visible from the road, each day on their way to a waterfall at¬traction (Dowdy, 2015). The team designed a *treasure map* of Autti with which visitors can explore the nature, culture, agriculture and leisure opportunities of the village. This map created a new story for the village of Autti that tells visitors in an easy-to-understand way Autti has to offer. The chairwoman of the jury, Professor Satu Miettinen from the University of Lapland, stated that the Autti team's service concept was chosen as the winner for three reasons: 'I*t genuinely gives a voice to the villagers, can be realized and has potential for further development. The concept can also serve as an example for other villages and help them to find their own hidden treasures*' (Toimiva kaupunki, 2015).

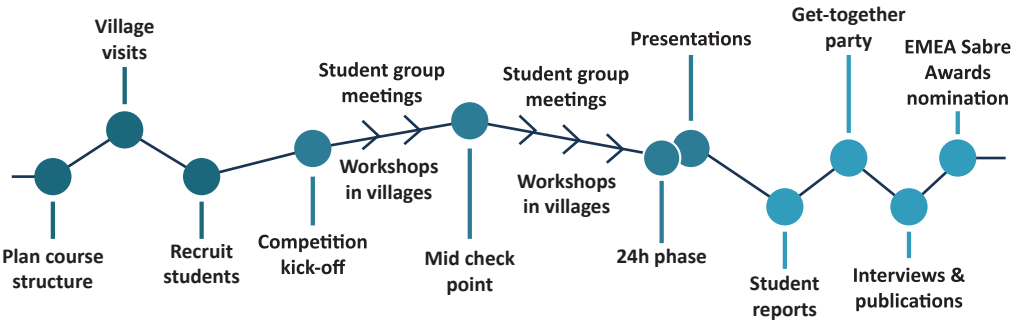
Picture 3. The final presentations at Arctic Design Week 2015 and the celebrations of Autti team. Pictures: Antti Raatikainen.

It was agreed that all the resulting service concepts could be freely used and developed further. After the competition, all the student groups reported that they felt like the workshops and collaboration acted as *a kiss of life* in all of the villages. In Autti, the winning concept has been taken further. During the summer of 2015, a prototype of the map was presented at Autti Village Market Days. Feedback was gathered, and the co-created tourist services continue to be refined.

## Conclusions

The competition taught students how to work in a multi-disciplinary team. For every group, it was important to create connections with other group members as well as the villagers in order to work efficiently. Most of the student teams reported that they felt lost and did not know how to continue at least once during the competition. Some of the students felt anxious about the end result. The theme, to design solutions to improve villagers' quality of life, was

**Participatory Process for 3.0 and 4.0 Design Education**




| 6 weeks | 5 weeks | From March 2015 onwards |
|---|---|---|
| **Before the competition** | **During the competition** | **After the competition** |
| **Build connections** | **Support collaboration and experimentations** | **Gather learnings** |
| Co-develop a new kind of course structure between higher education organizations and stakeholders<br><br>Develop a model of how course is run with stakeholders and outside experts | Equip students with ways and methods to cope with messiness and complex challenges<br><br>Embrace the real life connection of learning<br><br>Support sharing of knowledge not expert roles<br><br>Aim to spar not to teach<br><br>Set goals that can lead to new and unexpected results | Aim to develop course model further<br><br>Gather experiential knowledge from different stakeholders<br><br>Refine course plan to fit to real life needs and future working conditions |

not a simple task, but all humans can somehow relate to it; we all want to pursue a '*good*' life. In spite of the challenges, which the coordinator and teachers believe were educational, all the teams stated that they learned a lot from each other as well as from the villagers.

It is fair enough to say that the process of the competition pushed different stakeholders out of their comfort zones. Specifically, students spent five weeks discovering how their expertise can help them design for levels 3.0 and 4.0; educational institutes had to engage in collaboration to develop a new structure and method of teaching for this course and design companies do not usually participate in cases such as these. During the competition, the companies' role was to spar students for innovation, but of course every company wanted to help their assigned concept win. Kemijoki Oy funded the competition, but allowed the villages to develop whatever they felt was important for them. This is not usually the case in a business-, time- and money-driven society. Through this approach, Kemijoki Oy gained knowledge about what people living in their region value.

Four different service concepts that take into account local knowledge were developed during the competition. The competition received international publicity as the results were presented at Arctic Design Week 2015. During the week, journalists from the Financial Times and the Guardian visited the villages and published articles about the competition. The Good Life in Villages design competition was also one of the finalists in the Community Relations section of the 2016 International EMEA SABRE Awards, which recognizes superior achievement in branding, reputation and engagement.

The way that the competition was built is unique because it acknowledged the deep knowledge that villagers have about their life and surroundings, which can serve as a foundation for the participatory service design process. For students, the competition was a valuable learning experience and showed them how they can build and sustain participation through a common goal. Many of them reported that they felt close with the villagers after the two months of collaboration, although they were strangers when they started. To achieve this outcome, students and villagers had to listen, meet and work together. These might sound like simple things, but the results and lessons could not be achieved easily only by attending in the classroom discussions and lectures.

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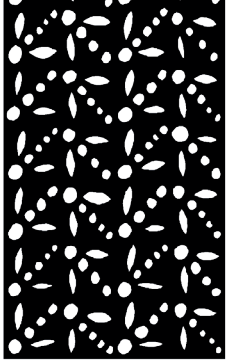

**Henna Marttila**

# The 24/7 Free Community Radio Network: designing safety with the help of scenarios and storytelling

**Keywords: service design, communication, safety, wellbeing**

## Introduction

Exceptional circumstances, such as electricity failures and the fall of mobile phone and public authority networks, will always be reasons to be prepared. Preparing for exceptional circumstances adds to people's wellbeing and feelings of safety. Communication is fundamental in emergency conditions. Awareness of the state of community in the *village* has an essential impact on people's feelings of safety, and such feelings increase people's wellbeing.

The "*Development of Wellbeing and Civil Safety in Municipalities*" project (2012-2014) began to design backup communication systems for when normally used communication systems won't work. Development began in Posio, a municipality of Lapland, Finland where approximately 3500 people live.

The user group for the communication system was first thought to be the authorities and radio amateurs. Later, it came obvious that here was one unidentified essential user group: the villagers. In the spring of 2014, The Finnish Innovation Fund Sitra (SITRA) organized a workshop, where a backup communication network was developed. Radio amateurs, representatives of organizations, the Finnish Communications Regulatory Authority, the Ministry of Transport and Communications and the Finnish Broadcasting Company were invited to the workshop. The result was a positive feeling and the message "*Remember to test and try different backup systems!*"

SITRA's workshop provided more hope for the design project. The communications system received new ranges and the villagers were adds to the user group. The service design case continued with a smaller group consisting of radio amateurs, authorities and villagers. At the end of the design work, a system called the 24/7 Free Radio Network was created that was suitable for everybody.

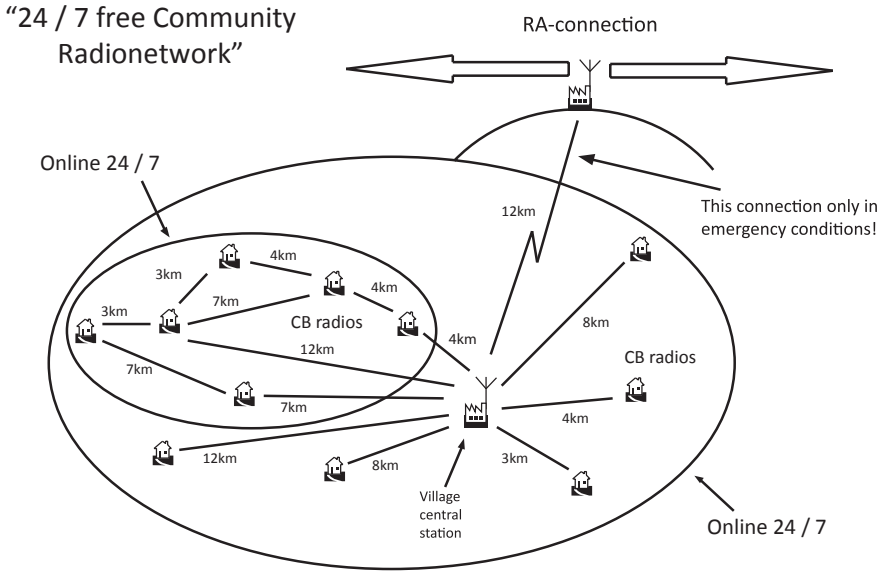


Figure 1. The 24/7 Free Radio Network.

Service design provides various tools and methods for design work. In the communication system project, the main tools were scenarios and storytelling. Co-creation with authorities, radio amateurs and villagers also helped facilitate communication between experts. Service design provided the tools for observing the empathic traits of wellbeing and safety in the village. With the help of the service design, the 24/7 Free Radio Network communication system became more accessible for all.

## The 24/7 Free Radio Network

The 24/7 Free Radio Network is a communication system for villages. It can also support communication between authorities when their Terrestrial Trunked Radio (TETRA) network is down. The 24/7 Free Radio Network is the official name of the system. In exceptional circumstances, the village's leading central station can be connected to the RA-Radio station, which is managed by the municipality or the authorities. In Figure 1, there are two 24/7 village radio networks communicating with each other. The other villages have their own leading central stations. In exceptional circumstances this leading central station is connected to the municipality's or the authorities' RA-Radiostation. In this article, the system is called Village Radio, which is a translation of the Finnish name *Kyläradio*.

Village Radio is built using CB- or PMR-radiophones. The villagers have their own radiophones, which are so-called home stations. These home stations form a communication circle inside the village. Every village usually has its own central station to communicate with the authorities and other villages. A noteworthy advantage of such a system is that it is free of charge.

Using a radiophone requires some degree of knowledge, especially with the RA-phones, which can only be used by radio amateurs. There is no annual fee to use the radiophones since the only payment is for the home station equipment. Radiophones work on a *one-way principle*

where one person talks and the others listen. Anyone on the same channel can hear the discussion. Therefore, in order to get involved in a group discussion, you only have to be on the same channel with the other listeners.

In all of its simplicity, the Village Radio is the village's own social network. It is interactive radio where you can talk or just listen. It brings safety to everyday life. With the radio, villagers are able to give or receive help, for example, by offering the neighbor a ride to the supermarket. If there are power failures or floods that close the roads, it is still possible to get information on what's happening. Figure 2 presents an exemplary scenario where the Village Radio was used: granny needs help with the snow and asks for help over the Village Radio. Jantunen hears her request and offers help.

The main power for CB- and PMR-radiophones comes from batteries and backup batteries. They're not connected to the tele-operators' network or the TETRA network because they use public bands and antennas. Because of these properties, it is possible to communicate with radiophones for almost a week even if there is no electricity or if the normal communication networks are down. Of course, the time depends on how much you use the radiophones and the batteries.

## Participating community

A wide stakeholder group was involved in the Village Radio service design case. Authorities, radio amateurs and villagers brought knowledge from various viewpoints to the case. Co-creation was the most important resource for designing communication systems for all to use.

Planning started with a first joint meeting to clarify the basics of co-creation for creating a backup communication system for small villages. In the next phase, calculations, visualizations and strategies were done to determine the structural options and how everything would be managed

"I would need some help. My yard is covered with snow. Granny"

Granny. I will come to help. Jantunen"

"Coffee and cake are waiting for you in appreciation. Granny"

"Clear."

Presses the tangent to the bottom and says the message.

Jantunen answers to granny.

Granny answers and finishes the conversation part.

Jantunen finishes the conversation.

Stays tuned, if there is coming an answer.

Figure 2. Snow scenario.

at the end of the service design process. In this phase, all of the understanding and knowledge needed for the case was gathered. It was also important to keep the needs of the users in mind.

The main workshop was organized in Posio where a wide range of stakeholders lived. The service designer's role was to facilitate the workshop by leading the participators to design practices and thinking. Co-creation was led with the aim of a service design solution for exceptional environmental circumstances, such as a snowstorm where power fails and snow blocks the roads. There were plenty of ideas about how a backup communication system could be used in similar situations.

## Co-creation with scenarios and storytelling

Visualization was one of the main tools used during the service design process. Almost every idea was visualized or concretized in order to maintain simplicity. Usually there was a big paperboard to draw and write thoughts and relationships. The result wasn't immediately nice; the board resembled a messy storyboard with diagrams. However, the visualization helped the participants understand what ideation is about and to follow the service design process. Visualization was also an efficient memory tool. It helped the participants catch up to the current phase of the service design process even if they were not able to participate in every meeting and workshop.

A scenario is an illustrated presentation of a single event or several events. They are usually hypothetical illustrations of the service and its different stages (Stickdorn & Schneider, 2011). With the help of illustrated scenarios, the designers and users can perceive what the communication system might offer and how it could be used for different situations. Scenarios are also commonly used in contingency planning. Stories bring realism to design when added to the scenarios. The stories are fictional, but they contain the main features from the real situations. Therefore, every created story and scenario is a possibility in real life. These discussed exceptional circumstances and situations were easy to identify and were personally imagined. They brought more features of empathic design where the focus is to identity with the users. In empathic design, it is important to understand how users see, feel and experience a product or service (Koskinen et al., 2003).

With scenarios and storytelling it is easier to speculate what might happen. It was also possible to combine the rough paper mock-ups for the Village Radio with the communication transmitting. Scenarios illustrate how the communication system works in practice and in social situations. Stories color the scenarios and bring a sense of a real experience.

The *what if* and *5 whys* methods brought depth to the design of future preparedness. In the *what if* questions the participants were challenged to think about what might happen in the future. This helped the participants to think further into the future. The *what if* question helped the participants observe exceptional circumstances until even the tiniest details were considered (Stickdorn & Schneider, 2011). In the *5 whys* questions, the participants were asked *why* five times starting from a simple question, such as "*Why would you close the radio?*" and proceeding to ask *why* five more times. The *5 whys* method provides understanding on why users do certain things, a well as their reasons for doing so (Stickdorn & Schneider, 2011).

The answers from the *what if* and *5 whys* questions were also drawn on paper. The answers to these questions were added to scenarios that were also written down close to the connected points for clarification. Sometimes the scenarios looked like a messy map with different paths in every direction. At the end of every service design meeting, the scenarios and stories were updated and illustrated more clearly. The illustrations were digitized as final drafts, which were even more final. With the paper versions the modifications were easier and faster to make and update,

and they allowed the group to proceed without the availability of certain technological equipment.

Animated scenarios were also made during the service design process. These were only created digitally. Little sketches were made on paper but the main part was created using PowerPoint software. The animated scenarios described communication using the Village Radio in different situations. They also showed how to communicate with the Village Radio. Radiophone communications have some important basic rules that are good to know in order for communication to remain clear. This is especially important in emergency situations. Animated scenarios are also handy and more accessible in communications education.

## From "the goods" to a Village Radio

At the beginning of the design process, there was a goal that the villagers' community and safety would be strengthened through the backup communication system. One of the main purposes of the design process was to find benefits that older people could receive from the radiophone communication system. The result was that the Village Radio was be an actual option for older people to live longer in their own homes. It has been found that if older people know how to use a product or service, it will also be suitable also for everyone else. These are also the principles of design for all (Fisk et al., 2009).

The advantage of the Village Radio is its ability to be tailored the need of the users and villages. The Village Radio is based on older technology, so there's no need to create anything new to implement it. It's ready to build when you buy the equipment. The history of the older technology dates back to the 1950s and 1960s when the first shortwave radios and phones were developed. Therefore, the functionality and technology of the radiophones have been used and tested for quite a long time. This allowed for different testing experiments during the design process.

Service design means making an intangible service visible and concrete. Different service design tools, such as scenarios help to concretize intangible things, such as villagers' communication. The service designer is in a position to interpret and convey other designers' and engineers' messages to the end-users and in a way try to create a common language with the help of visualization. This is helping the users understand what kinds services or products they might need in order to benefit from them.

With the help of co-creation and common resources, it is possible to see significant improvements. This is true in any situation. Interaction and service design offer design tools to access emotions, values and experiences. These elements also boost a community's confidence. With the help of service design, people acquired the Village Radio more easily because it became more approachable. If you want to design products or services that improve wellbeing and safety, you have to design them so they are easy to use. This was one of the main reasons why the users of the Village Radio participated in the design work. The empathic design and service design approaches brought significant value to the design of the Village Radio, especially in this case where a traditional and one might even say outdated communication system was designed to work today. As a technological platform, the CB- or PMR-radiophone may seem a bit of cold. As a service, it should be approachable and more pleasurable. The importance of empathy was emphasized in the Village Radio design because the communication system was expected to bring more wellbeing and safety to peoples' lives and also strengthen the communities living in the villages. Wellbeing and safety are experiences that are based on personal feelings within communities.

## Conclusion

Radiophones are still commonly used for communication in disaster areas such as during the 2004 tsunami in Thailand. The concept of the 24/7 Free Radio Network is an exemplary case of a service design that uses pre-existing hardware. It is both an ecological and socially sustainable system. Sometimes newer devices, such as tablets and mobile phones, are perceived as difficult to use by older people because they offer a generous number of services and options that are not familiar to these users. People also have lots of habits that can be hard to give up. The problem might be how to learn new ways to use products and their various features.

A service like the 24/7 Free Radio Network can, at best, combine the public and volunteer sector. Ideally, it would also increase young people's activity. They could bring new ideas and perspectives to the design of safety services. The Village Radio demonstrates how important it is to add the meaning of a value to a product or service. A growing interest in service design indicates how empathy and business are getting closer to one another.

The co-creation methods used in this case consisted of various ways of visualizing communication. Articulation and literal interpretation were used to support illustrations whenever possible. The visualizations also helped to examine every feature and possible weakness of the system. Scenarios and storytelling made it possible to observe the whole technological and social system of village communication more holistically. The service design challenged the current ways of thinking and doing and provided tools to design in new ways. It gave more approachable and easy ways to co-create where participants' opinions and ideas were noticed. It also provided a feeling that one was able to influence the design and, thus, be creative.

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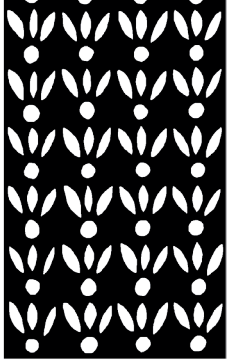

Hong Li

# Service design for a social enterprise: the “Skill Up” workshop

**Keywords: service design, self-sustainability, non-profit organisation (NPO), skilled learning journey, young people**

## Introduction

This paper presents a service design case in relation to social innovation and change. The forces(1) behind the case aim to support 15 voluntary sector organisations within Scotland in their journey to become better by design (BBD)(2). BBD aimed to develop and apply service design methods to help these 15 organisations understand their users and identify their present situation, while redesigning their future situation to become potentially as self-sustainable and without over-reliance on traditional funding streams.

The author conducted this work as her master’s thesis at the University of Dundee, U.K. The author Hong Li worked directly with Taylor Haig to carry out the BBD project. The intent was to support Tullochan, an NPO that delivers a wide range of youth services to communities in West Dunbartonshire. Similar to other NPOs, Tullochan faced many challenges that resulted from cuts in traditional funding streams and hoped to transform itself into a self-sustainable service system.

West Dunbartonshire is one of the most marginalized areas in Scotland where local young people are less likely

(1)The forces are: Big Lottery Fund, a non-departmental public body responsible for distributing funds raised by the National Lottery for good cause money to community groups and charitable projects around the UK. See: www.biglotteryfund.org.uk. Young Foundation, a non-profit, non-governmental think tank based in London specialized in social innovation and striving for inequality. See: http://youngfoundation.org/. Taylor Haig (trading name Thrive), who is supporting organizations and communities in innovation, change and service design. See: http://taylor-haig.agincourt.radiatecms.com/.

(2)See more at: https://www.biglotteryfund.org.uk/betterbydesign.

to pursue further education or full-time employment. The users in this project were local young people aged 18-22 who were ready to leave school to pursue further education, employment or training. We focused on those who were currently at risk of becoming disengaged from education, employment or training for various reasons. The aim was to uncover the challenges associated with empowering local young people to enhance their employability and succeed in their lives.

Tullochan hoped to create a training academy to empower local young people through employability skills training. Tullochan's initial idea was to make a capital investment in a large property to operate as a training hotel where young people could improve their employability in a real-life work environment. Tullochan would use the profits from the hotel to achieve self-sustainability. Evidence from existing examples indicated, "*the level of social enterprise self-sufficiency is based on financial objectives, the type of enterprise, and its maturity*" (Vincent Dawans & Kim Alter, 2009). It was unlikely that Tullochan would achieve complete self-sustainability due to the high risk, high start-up costs, slow turnover and lack of hotel management experience. Instead, a low risk, low cost and effective pop-up approach was suggested.

Therefore, this case focused on using existing resources to redesign and refine the service. A "*Skill Up Training Workshop*" was designed as a service system for Tullochan to make full use of its existing resources and collaborate with local schools, communities, organisations and governments. This was an interactive approach that provided the local youth with a skilled learning journey that took them from being an observer to a facilitator.

## Think big, start small

A capital investment in a large property could be a heavy load for a small NPO like Tullochan. Making full use of existing resources to redesign and refine the service was suggested as an alternative. Tullochan had already successfully developed many programmes around West Dunbartonshire, and also had a long-term partnership with local schools. It was decided that it would be effective to capitalize on these existing resources to achieve sustainability at the initial stage, which would then allow them to achieve self-sustainability.

A pop-up approach was identified during the observations as an affordable and efficient way to increase involvement and awareness from the public. A pop-up event is a short-term commitment to a business transaction that helps to reach potential audiences including users, funders, donors, volunteers and collaborators in a single event. Compared with managing a hotel, the pop-up approach is a low-risk, low-cost option that is flexible to changes in the market. Mobility is another appeal of the pop-up approach. Boasting long-term benefits with short-term commitments, the pop-up approach could be used as an efficient approach for Tullochan to engage with the public in order to raise awareness, provide self-promotion, fundraising and collaboration. Additionally, this approach could be used as an empowering tool for local youth to discover what the service business was about and to build confidence by exhibiting the skills of the youth when working with the pop-ups and facilitating them.

## Empathy building and service prototyping

*"I love learning but I hate the one-size-fits-all education system, it just doesn't fit me."* (A workshop participant, 2014).

A Dream Bottle workshop was conducted where the participants used a variety of playful elements to represent the present and the future. This activity aimed to spark insights, build understanding and encourage storytelling by uncovering the local youth's needs and aspirations.

The gap between the dreamy future and the present was

evident for some of the participants, while others remained unaware of their future goals. This reflected how important it is for young people to take one step closer to their dreams with the help of empathic (service) design tools, and to support them in overcoming challenges. It is unlikely that all of the young people living in West Dunbartonshire will find a job after the skilled learning journey, but the journey might help them to experience the real-world work environment, while building confidence, improving employability and taking one step closer to their future careers.

The Dream Bottle workshop encouraged the participants to share their personal stories. A common storytelling method in service design was used to build empathy with the local young people. Workshop participants with different backgrounds were inspired to co-create a common persona that incorporated all the valuable characters from their personal stories. "*Even though the personas themselves may be fictional, the motivations and reactions they exhibit are real*" (Marc Stickdorn, 2013).

The second event was a Pop-up Sushi Making workshop. The prototype was used as an interactive tool to test the valuable findings and insights gathered for the final design. The workshop was carried out in the University of Dundee and aimed to discover the value of the pop-up approach, as well as the impact of engaging young people with easy-to-learn skills.

The workshop was highly interactive and most of the participants found that making a piece of sushi was not as hard as they thought it would be. During the workshop, the participants showed their passion for foreign cultures by asking questions about Japanese culture, sushi and Matcha (Japanese green tea). They also shared their own experiences, gave cooking tips and showed positive thinking and self-encouragement. This implied that the learning process should be planned in an interesting, interactive and easy to understand way because learning a new, easy skill can help boost self-confidence and self-esteem.

The workshop was totally free of charge, but some participants insisted on making donations and even offered job information regarding a local sushi bar. This confirmed that the pop-up approach is easy, fast, relatively low-cost and efficient way to create public engagement with a high degree of self-promotion. In addition, an interesting theme could result in word-of-mouth references.

## Final design of the Skill Up Training Workshop

The Skill Up Training Workshop was a redesigned service system that allowed NPO Tullochan to make full use of their existing resources and pursue new opportunities while relying less on traditional funding streams. The workshop was an interactive approach that provided local youth with an engaging experience for a skilled learning journey and allowed them to become facilitators rather than staying in the observer position.

Young people could sign up for the Skill Up Training service by participating in a pop-up event and arranging a meeting with a mentor who would help them arrange "*a taster week*". During the taster week, the youth could customize their own learning with a learning package, choose from more than ten different workshops, confirm their learning package and start the twelve-week training program. The service system is designed to work in partnership with local businesses and communities; therefore, it provides a real-world practice platform and job opportunities. As a final task, they were asked to set up a graduation pop-up event as a facilitator using the various practical skills they learned during the training. Ultimately, they graduated with an achievement certificate, reference, CV, and new confidence.

A service blueprint (Figure 1) was used as a visual design tool to outline the process of how the Skill Up Training Workshop works from multiple viewpoints: 1) the user, young people aged 18-22 living in West Dunbartonshire, 2) the service provider, Tullochan and 3) the public, including

donors, funders and volunteers. It helps "*to ensure that all the different elements across all touchpoints are not designed in isolation. The blueprint leads to the design specifications for each touchpoint and acts as a way to orchestrate them all*" (Andy Polaine, Lavrans Løvlie, Ben Reason, 2013).

The service blueprint presents five phases in the journey: awareness, joining, use, leaving and continuing the Skill Up Training (see the figure above). The left section (vertically) displays both lines of interaction and visibility to the end user, and the line of interaction and visibility with the other stakeholders backstage.

This service was beneficial to both the local youth and NPO Tullochan. For the youth, the Skill Up Training service provided an interactive learning experience that was different from traditional education by focusing on learning practical skills for employability, such as CV building and participating in a job interview. In short, it gave them opportunities to experience a real work environment. For Tullochan, the service system resulted in better marketing and branding efforts to help promote the organisation, recruit volunteers, generate funding streams and engage with the public through pop-ups and local collaboration.

Since one method does not fit all people, the Skill Up Training Workshop has more than ten options to choose from. For example, the *Print One of a Kind Shoes* workshop is open to everyone and offers basic IT skills through 3D printing in simple, affordable and tempting ways. Empowering young people through 3D printing and giving them chances to sell their work at a pop-up event is noteworthy, but further development is needed so that the workshops can respond to their changing needs and allow them to customize their own learning packages. All of the workshops were designed to work in partnerships with local businesses and communities.

As a direct and effective approach for public testing, a Facebook page was created to present the Skill Up Training Workshop to the public and especially to potential users. Facebook is one of the most popular social networks for young people, so it helped to support communication amongst service providers, users, and the public. Positive feedback collected during research implied that social media is more cost effective than a marketing campaign when launching a service intended for youth. It also provides a platform for testing and broadcasting content to a wide range of interested audiences.

A functional Skill Up Training Workshop website was also created to test the service. The website used a storytelling approach to gather feedback. It provided an interactive platform that allowed audiences to experience some of the important phases of the service. Users were able to navigate the contents of various workshops to stimulate their interest in learning or join the service by signing up for a face-to-face meeting with a mentor. A review page was also provided where users could share their experiences in the workshops. Additionally, the website could be used as a media site for fundraising and volunteer recruitment, and the donors and volunteers could also have easy access to the service.

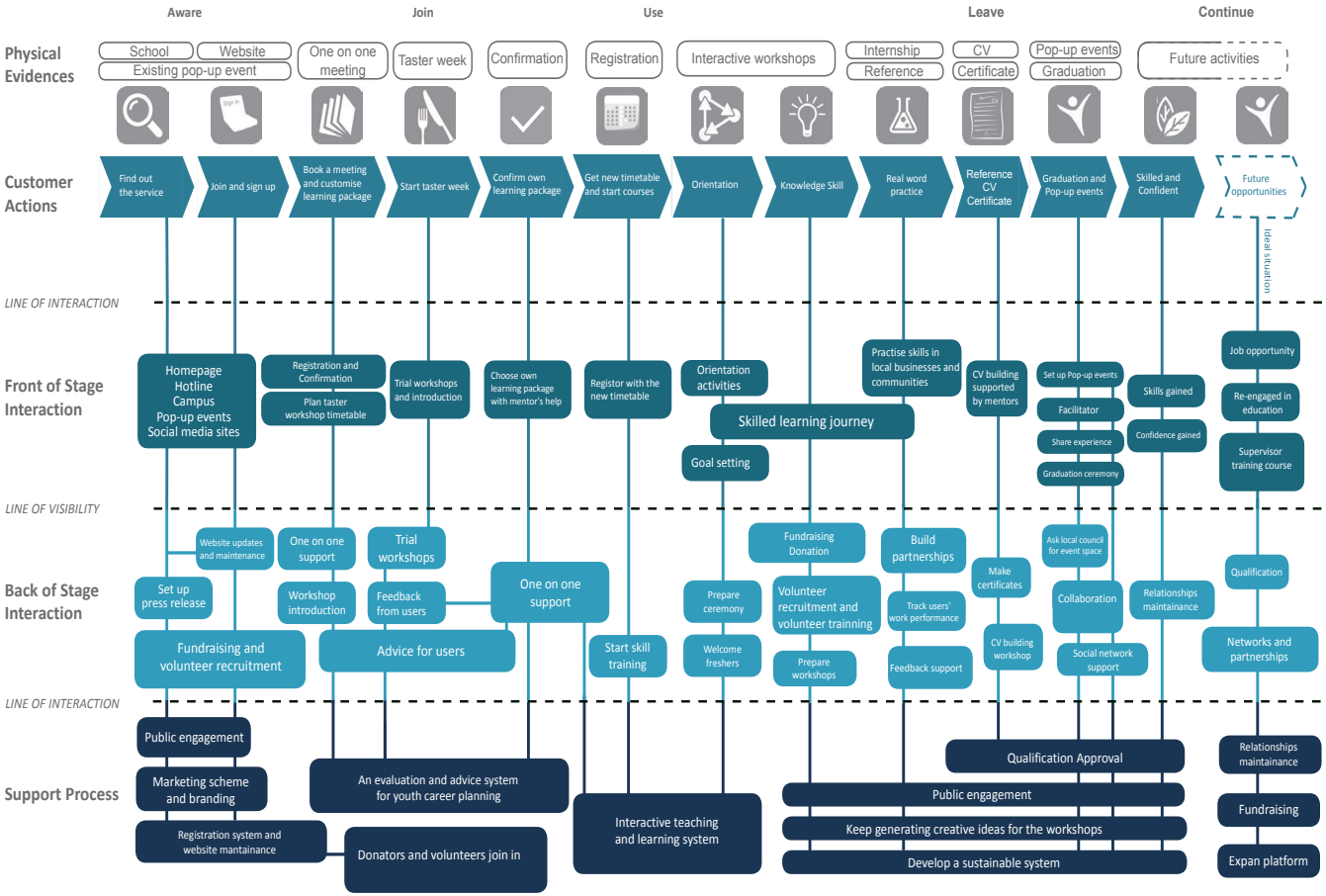


Figure 1. A service blueprint

## Conclusion

*"[B]reaking the training academy into pop-up bite-size classes and workshops has been highly commended as it means the organisation can try and test the ideas, the young people can choose the workshops and create a bespoke training programme suited to them and with the young people going on to help deliver future courses the whole service of the academy remains sustainable…"* (Karen Lyttle, Service and Communication Designer of Taylor Haig, 2014).

The Skill Up Training Workshop was the beginning of a self-sustainable service system for the NPO Tullochan. Compared with making a capital investment in a large property, it was an affordable approach with lower risks and barriers that would achieve both social and economical sustainability for the service system, while continuing to pursue new opportunities to rely less on traditional funding. The workshop model also made full use of existing resources by collaborating with local people, schools, communities, organizations and the local city council. Public engagement was of utmost importance in the service system. It was also an interactive approach that provided the local youth with an engaging experience that took them on a skilled learning journey from being an observer to a facilitator. However, the Skill Up Training Workshop must be continually updated and refined if it is to remain relevant over time. More software and hardware could be adapted and added to the service system to enable the small-scale service system to transform into a larger scale self-sustainable service ecosystem in the long run.

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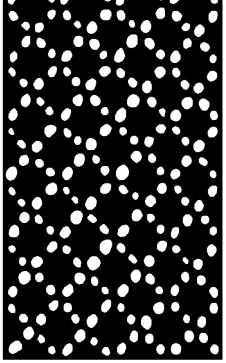

Satu Miettinen and Hanna-Riina Vuontisjärvi

# Service design for participatory development

**Key words: social design and innovation, participatory development, empathy, empowerment, innovation catalyst, transformational change**

## Introduction

Service design methods played an important role in a Horizon 2020-funded research project called Participatory Development with Youth (PARTY). The project focused on service design to create empathy and in-depth understanding of the circumstances of the San youth from the South Africa in order to improve their positions in African communities. The project aimed to engage both the youth and their stakeholders in a service design process. The youth drove the empowerment process, which was enabled by the service design. Participatory development that included youth and their stakeholders in the planning and dialogue was immensely important. This kind of participatory approach enables youth to take a leading and active role in the project activities, which enables them to share decision-making power and take part in the design process.

The PARTY consortium included stakeholders from the European Union (University of Lapland, University of Leeds, Paco Design Collaborative) and Africa (South African San Institute, Cape Peninsula University of Technology and Namibia University of Science and Technology). The project aimed to empower San youth to participate in a more equal and democratic society. Located in Namibia and in South Africa, San youth experience high rates of unemployment and a lack of opportunities to participate in society. This project responded to the need to change the circumstances and local dynamics for the San youth.
The PARTY project has a strong ethos that aims to improve livelihoods through service design methods. Miettinen (2006) describes social design as strategic thinking that facilitates discussions between cultural traditions and the market economy. He stresses the importance of developing ownership and profitability. Miettinen (2007)

later edited a book about social design in practice to illustrate how to implement policy and good practices around social design in practical settings. The book linked the development of crafts, social and design education with new models to improve local design development. Both publications stressed the importance of considering 1) economic development, 2) policy development, 3) strategic management, 4) contextual understanding of the development setting, 5) a sense of ownership and commitment when working with social design and innovation and finally, 6) design systems that make up the core of social design. Based on the findings from the PARTY project, cultural understanding should also be added to this list. There is a very strong link between social design and cultural studies. Cultural studies create understanding by defining the cultural phenomena and social design makes sense of the phenomena as a development issue using sociocultural understanding to improve livelihoods (Miettinen & Vuontisjärvi, 2016).

This paper discusses the participatory development process developed in the PARTY project through several service design workshops with consortium members and local stakeholders. One of the main outcomes of the project was the creation of a local network that enables collaboration with the help of service design. The paper focuses on describing how the participatory service design process is accomplished, as well as analyzing one of the case studies implemented during the project. This case study took place in South Africa in 2016, using the method of creating a social sculpture, which is an artistic method used to catalyze transformation in a community. The case study was implemented with Khoisan youth in Upington in the Northern-Cape area of South Africa.

This paper answers the following questions: How does the service design process increase the social inclusion of San youth? What are the possibilities and limitations of service design when creating empathy and understanding with indigenous San youth?

## Participatory development process

Service design was used as an innovation catalyst in this project. An innovation catalyst is a person or a process that triggers and enables transformational change. In the case of the PARTY project, the San youth needed support to gain a positive self-image. One of the main goals for the project was to discover ways to enable the San youth to look at themselves from an opposite perspective in order to support their self-actualization. The service design methods shifted the project from an expert-led design process to a community-led design process. This enabled the youth to assume leadership roles and define the activities that they wanted to be engaged in. This shift also allowed the researcher to work more closely with the community. This kind of positioning helped to identify development tasks that were based on communal needs.
One of the most important objectives of the PARTY project was to support the youth to develop skills, critical awareness and wellbeing. This happened by following a participatory development process where service design helps youth find positive solutions to their challenges, perhaps related to low self-esteem, life management or identity building. By involving the youth in the social development process, new ideas and needs led to more human-centered solutions and sustainable outcomes as individual engagement and ownership increased throughout the process.

The service design process in the PARTY project was realized through several workshops that were planned and implemented together with the youth, the PARTY project facilitators and other organizations, such as local non-governmental organizations (NGOs). There were many gaps between the dreams and aspirations of the youth and their realities. New visual tools were developed during the project and applied during the workshops. For example, the youth created portfolios that focused on their skills and professional identities with the help of visual tools, which helped them to envision their futures

and plan their careers. The steps seemed smaller when the youth concretized them using visual means and then applied them through learning practical skills.

The participatory development process has defined a new role for stakeholder organizations as active catalysts for change in communities and the broader socio-political environment. In this project, NGOs act as maintainers and communicators because they are already working with communities and the public sector. Change agents can also be active individuals from the community that have a strong engagement in the development process. These catalysts for change play a significant role in empowering others in the community. Planning and implementing the transformation process by empowering participants leads to awareness of critical factors and increases one's ability to manage life at both the personal and community levels. One of the findings of the PARTY project was that an increased sense of personal empowerment supports the community and produces and maintains further participatory processes.

## Creating a social sculpture with the San youth

In September 2016, we had the opportunity to work with a group of indigenous San youth from the Upington San Language School. The social sculpture is a method of art that is used to intervene in society. It is a catalyst for transforming communities, as well as their histories and values, through the celebration of art. The social sculpture method is about transforming ordinary things into something special and can be understood in many different ways by the community. In the case of the PARTY project, the posters were a way to transform the local community and deliver the message of the San youth (Picture 1). This method is about using art to develop a generation of shared ownership and wealth. Communities are aware of the transformation along the way because they are driving the process. Finally, the social sculpture method focuses on listening rather than talking because listening creates empathy.

In the Upington workshop, the youth drew posters with a message they wanted to share with their community. The group was invited to think of a message that was important to them and that they wanted to share with their community and future generations of San youth. While some of the participants drew their posters, others documented their messages with video. These recordings worked as a cultural probe for the stakeholders to increase their understanding of the San youth. The messages were strong in both the posters and the videos: "*Never look down on anyone, unless you're helping them up!*" "*Alcohol destroys*", "*Stop child abuse!*" The youth presented their posters after they were finished drawing them. The following day, we all walked together as a group to set up the posters in the nearby Rosedale community. The youth selected the final locations for the posters. Some posters presented strong topics such as "*stop child rape, they are leaders of tomorrow!*" Since these messages were too controversial for the youth to explain in public, it was safer to install the posters as a group.


Picture 1. Creating a social sculpture with the San youth.

The social sculpture has two levels: the first is about personal empowerment and expression and the second is about intervention at the community level. At the personal level, the youth needed to process and choose the topic that was important to them and figure out how to visualize it. Working simultaneously with the video probe was also important because it allowed the youth to share their messages with an audience. In this case, the posters were tools for the San youth to have a voice and share it with the community. The act of intervention, physically walking to the community with the San youth and setting the posters up was liberating, collaborative and fostered togetherness with a joint message: "*Do good for yourself and for our community.*" After the poster intervention, the youth prepared a performance around their messages. The performance was a play with four acts that described how abuse and drugs were involved in their lives, directly or indirectly. This was an important ways to process the messages and realize their meaning at the individual level. Planning and performing the play provided the opportunity to discuss the topics together and go beyond the individual level.

This was an empowering, collaborative and artistic intervention. The social sculpture method worked as an intervention. The posters enabled the youth to share their messages with their community. The posters also gave the youth a tool to intervene in a culture where child abuse, alcohol and other drugs are a problem and highlighted the importance and appreciation of San culture. The social sculpture method enabled the work with the San youth to occur and scaled-up their message in the surrounding community.

The participatory design process enabled us to identify and work with a group of San youth. The local stakeholders in Upington stressed the importance of a long-term commitment with the youth group, as well as a clear work plan and co-ordination. The social sculpture method is particularly useful when working with grassroots

Picture 2. Building the social sculpture in the community.

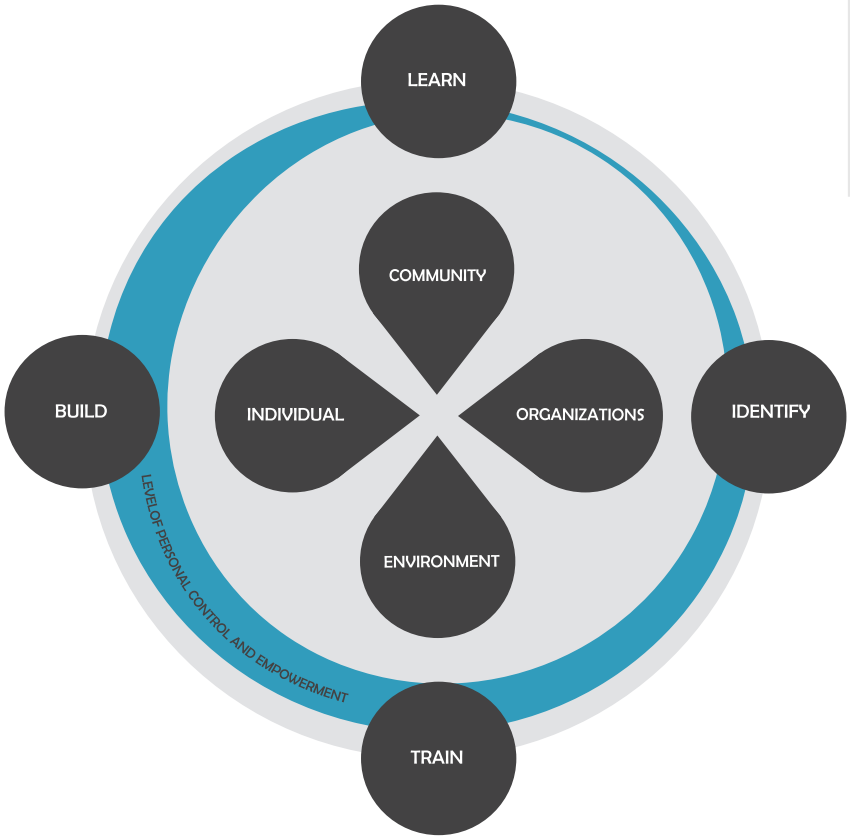


Figure 1. The participatory development process.

communities that have this set of needs. The next phase would be to develop this working method into a tool that enables communication with local administration and other stakeholders. The Upington case study worked as a learning platform for the San communities. The social sculpture was empowering learning about one's own social context in the Rosedale and Upington communities. The working method also helped to identify the local stakeholders and the collaboration procedures and processes that would most appropriate to engage with them. The next phase would be to build and train a sustainable stakeholder network.

## Conclusions

The PARTY project has identified a four-phase participatory development process: learn, identify, train and build (Figure 1.) The learning phase is critical when attempting to understand the ecosystem of individuals, communities, organizations and environments as a social innovation

ecosystem. Active individuals outside of the community have an important role to play in empowering individuals. The community workshops and art-based activities enabled many practice-based learning processes, such as peer-to-peer learning between individuals and stakeholder organizations, around various developmental issues.

During the identification phase, these change agents can increase critical awareness and wellbeing, as well as enable the community to identify, communicate and strengthen its social innovation ecosystem to find initiatives and resources that can proactively solve local challenges.
The training phase is essential for concretizing and planning the steps to solve the development issues that the community has raised. Community-led design creates an equal and open platform where the issues and barriers raised can be transformed from problem-oriented challenges to solution-oriented opportunities.

In the building phase, the role of local organizations is vital when looking for sustainable ways to share, communicate and maintain the solutions or suggestions of the community. The local organization has a specific role to play as an amplifier of these goals, and it can also act as a test arena. Since local organizations work in the socio-political environment, their processes and structures operate at both the regional and state levels.

The participatory development process can increase a community's sense of empowerment and level of personal control. It can also increase their power to produce and maintain participatory processes independently. This can only be achieved when all four phases are planned and implemented through the service design ideology and by taking into account all four phases listed above.

Service design enabled the PARTY project to work at two different levels. The first was a strategic level where service design was used to enable the empowerment process. The participatory development process embraces different stakeholders and communities in a social innovation process where four phases – learn, identify, train and build – play a significant role. On the second level, service design is used in workshops with the stakeholders and community members to activate the participants and to help them to discover the lifetime goals through practical engagement and doing. These two levels work together to enable change.

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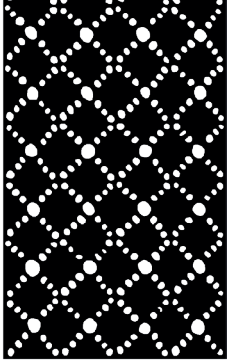

**Satu Miettinen, Melanie Sarantou and Daria Akimenko**

# Art and storytelling as an empowering tool for service design: South Australian case study

**Keywords: empathy, art, storytelling, social design, service design, empowerment**

## Introduction

In October 2016, the Margin to Margin research group carried out two art and storytelling workshops with the Anangu Aboriginal communities of South and Western Australia and the Fibrespace Incorporated textile artist group of South Australia. Women artists and craft-makers from the various communities predominantly participated in two intensive art-making and data collection workshops of less than one week each with an emphasis on narrative processes as service design tools.

Challenging roles, such as being single mothers, primary household income generators and family caregivers, became apparent in both groups, whether they were remote or regionally based. The women resorted to art and craft-making as a means to cope with hardship, gain empowerment and improve self-realization. The remotely based Anangu Aboriginal communities face additional challenges as a legacy of Australia's colonial past, resulting in complex political entanglements. The workshops aimed to build empathy with the participants by presenting a platform for dialogue to render audible the stories and artistic processes from outback Australia.

"*Empathy refers to the capacity of understanding the situation of another person – that is, understanding his or her definition of the situation and the symbolic universe in which elements of the situation become meaningful and shape actions*" (Rughiniş & Humă, 2014). The capacity for empathy can be cultivated through daily social and educational interactions (ibid), and as a key concept in the workshops' methodology. Thus, empathy is associated with understanding and contextualizing the user's needs and experiences in service design.

Empathic design recognizes users as a rich design resource, while encouraging designers to immerse themselves and appreciate the user's experience, perspectives and emotional responses to products and services (McDonagh et al., 2002). Several design tools have been developed to create empathy and user insight. Gaver (1999) employed cultural probes that create empathy and help to contextualize the user experience. Mattelmäki et al. (2014) revisited the concept of empathy that was deployed in design research during the 1990s. Experiences, emotions and meaningful everyday practices were studied to stimulate innovation and human-centered solutions. Empathic design is based on design practice because it is an interpretative approach to creating new solutions in users' lives.

This paper explores the front-end, or the initial stage, of service design processes that use artistic and narrative tools to build empathy, capture participants' experiences and create understanding of the local context of the workshop participants: the Anangu Aboriginal women in Fowlers Bay on the Far West Coast of South Australia, and the Fibrespace artists in Port Augusta, South Australia. Three different methodological approaches were utilized to create understanding and empathy:

1) Life story mandalas, which are a collaborative artistic process that enables women to share their life stories with participants using textile art as an enabling medium;

2) Participant interviews to learn, document and analyze the marginalities and experiences of participants from these diverse communities;

3) Video and audio documentation to share and digitally document participants' life stories.

Meeting women from the edges of the world was an empowering process for the group of researchers. After one year of intense planning sessions facilitated through Skype meetings over several continents, the anticipation came to an end when the researchers met the remote and regional communities in South Australia. A commonality that was soon revealed was that hands-on art and craft-making connected these women from diverse backgrounds and locations. Working together and using the artistic tools for sharing life stories was an empowering narrative mechanism because it incorporated the empathic design approach that the researchers had adopted.

## Life story mandalas as a tool for self-reflection and sharing of life histories

In the preparatory phase, discussions centered on the importance of cultural exchange with the local Australian groups. Thus, the concept of life story mandalas emerged as a means to share life histories and meaningful experiences. This tool was previously employed in a workshop context in Inari, Finnish Lapland, with a local women's group that included indigenous representatives. The use of this tool proved successful in that situation because it enabled the group to share their life stories and histories in a meaningful and effective way. This was the rationale in employing this artistic method in South Australia.

The women's life stories were captured by visualizing important periods in their lives using different colors, symbols, drawings and text on cotton textile circles with acrylic paint (Picture 1). The visualizations signified important periods or single years in the women's lives. Most of the visualizations started in the middle of the cotton circle, typically from birth to the present moment, not dissimilar to the rings visible in a cut tree trunk. Each participant's life mandala was stitched together in a continuous line. The line of mandalas was then installed in a three-dimensional spiral that represented the women's life stories, creating an interconnected web of narratives (Picture 2).

The mandala making enabled the women to process their life stories in two significant phases. The first was to use the visual tool of painting while conceptualizing and representing significant events in their life stories. The second phase included verbal sharing and storytelling. Some groups painted their mandalas while listening to others' stories, while some participants worked more individually and shared their stories either with the facilitating researcher or with the videographer-researcher in the group. This enabled two processes: 1) the painting and sharing in a group facilitated peer-to-peer learning environment, and 2) individual self-reflective work enabling the processing of personal stories. The video or audio recording of the individual mandala stories shared with others was an important tool for rendering audible the voices of individuals.

The empowering effect of sharing life histories and events rendered audible the stories of the participating women. Sharing stories facilitated learning from one another, while visualizing a life story is a self-reflective tool for understanding personal histories and circumstances. As an example, one of the Aboriginal artists discussed her personal growth since the birth of her child, which transformed her life from long-term drug addiction towards becoming a successful artist and a responsible mother. Another artist discussed the tragedy of the Maralinga nuclear testing that harshly affected the lives of many Anangu Aboriginal people. The Aboriginal communities living in and around the Maralinga area in the 1950s were displaced from their Country to facilitate British nuclear testing. Listening to these stories created both empathy and understanding of the marginalized position of these communities. The mandalas were a medium to share difficult life histories and the shared empathetic responses from the workshop participants facilitated the creation of a safe environment for the women who shared, listened and empathized with these life stories.

Life story mandalas are a participatory and expressive

Picture 1. Process of making life mandalas on cotton textile circles with acrylic paint.

artistic tool used for creating empathy and understanding the historical, political and geographical context of individual participants. The Fibrespace artists and the researcher-artist group from Finland created a life circle mandala installation in Port Augusta at the Platform Gallery, which also helped to build empathetic understanding amongst the participants.

## Participant interviews, storytelling and digital documentation as a point of connection

A problem commonly encountered when stepping into communities is how to understand them and their activities in the field. By adopting an ethnographic methodology angle, the behavior of individuals can be observed within their own environments. This is achieved through maintaining diaries, understanding relationships, and recording narratives, among other activities. In this case study, the activities of art, craft and making practices, and the textiles themselves, such as raffia, cotton, wool fibers, yarns and textiles, created a familiar environment that stimulated shared participation.

The ethnographic approach focuses on studying the real-life settings of participants in personalized, inductive, dialogic and holistic ways. Following the ethnographic methodology, the researchers aimed to learn from the participants with the objective of understanding their cultural and contextual environments through mapping frameworks, while bringing their own personal cultural backgrounds, life experiences and narratives to the research and art activities. The ethnographic practice is essential to service design processes because it enables a holistic understanding of the research contexts.

By giving the participants an opportunity to share in the art making processes, both the participants and the researchers were empowered to share on equal footing through narratives. Connectedness was enabled through equal participation in art making and shared storytelling. In

Picture 2. Installation of the three-dimensional spiral made from the life mandalas stitched together.

this way, the participants had the power to shape ongoing mapping processes through their narratives, which were captured during the interviews conducted in familiar physical work environments.

Sixteen women were interviewed during two South Australian workshops. All interviewed participants were makers. Some of the women identified as artists, while others identified as craftspeople or makers. The duration of the interviews, between ten and thirty-seven minutes, depended on the individual's narratives and their activities. Some participants found it easier to share their narratives while the making processes continued, drawing on these processes to instigate storytelling. Many participants were confident in their art making environments, which allowed storytelling to occur effortlessly. Additionally, the research team envisaged accomplishing empathic design processes and connectedness amongst participants through the textile and tactile environments that were familiar to the participants.

In addition to the above-mentioned interviews, video and audio documentation supported all of the processes of making and storytelling throughout the two workshops. The importance of documenting personal stories is manifold. On the one hand, it allows for the expansion of time, space and audience of each individual story, that is, for its preservation in time, ability to travel and reach out through space and to wider audiences, with the help of digital technology. The idea of having a conversation with other makers living on other edges of the world empowered a lot of the participants to share their stories and messages. The moment of capturing a story enables meaningful sharing, as it *draws on the intimacy of the small camera and one person crew* (Kalow, 2011). And, finally, the mere action of dedicating a certain time and space for documenting the story contributes greatly to the creation of a platform for empathy.

Apart from the sixteen above-mentioned interviews, twenty-two stories describing the life cycles depicted in the life mandalas were video and audio-recorded. Nine additional stories were documented and supported by physical artefacts as a part of a storytelling intervention carried out by one of the researchers. The number of episodes of art and craft making captured on video and audio exceeds one hundred. Part of the material was processed immediately resulting in a series of *visual journal* entries. The bigger part of the documentation is yet to be engaged with, both artistically and in the context of broader research.

## Framework for creating empathy

The process of building researcher-participant empathy in the case studies are similar to the framework for empathy in design practice introduced by Kouprie and Sleeswijk Visser (2009) who discuss the changing relationships between designers and users in different phases. In their paper, these scholars compare empathic design practices with established psychological frameworks for empathy in four phases: discovery, immersion, connection and detachment (Kouprie & Sleeswijk Visser, 2009).

This useful framework is parallel to the Margin to Margin researchers' experiences; however, the researchers focused on the front-end of service design in which empathy and understanding assists in identifying challenges that need addressing. The first three phases of Kouprie and Sleeswijk Visser's framework are important, but in the South Australian workshops these phases were not distinct or separate, but rather overlapped and merged with one another. The group's involvement in the ethnographic approach led to an empathetic understanding, reflection, analysis and deeper involvement with the workshop participants as opposed to a diametrical detachment, the final phase proposed by Kouprie and Sleeswijk Visser.

During the discovery phase, the first encounters with the groups included informal introductions between the

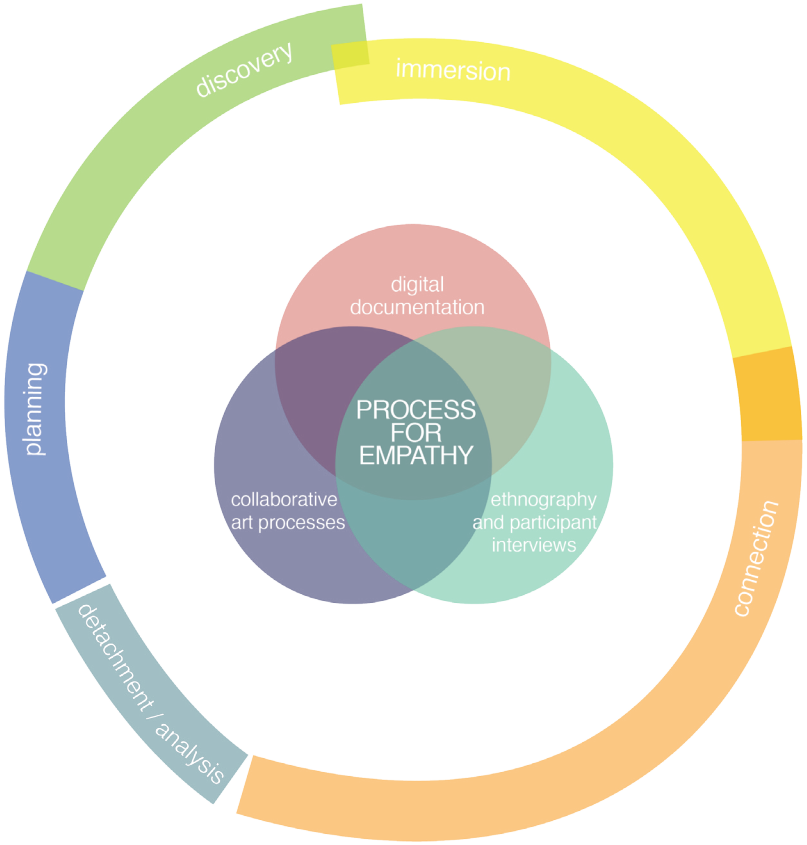


Figure 1. Visualization of the process of creating empathy.

facilitating researchers and the participants. In this phase, the researchers inhibited their roles as facilitators to allow the emergence of a bottom-up approach. This resulted in the Anangu Aboriginal women introducing the researchers to a significant location and a cultural ritual, while the Fibrespace artist group introduced the researchers to their annual brainstorming process. With both initial introductions, traditional food and various forms of textile art played significant roles in forging links within the groups, thus enabling the immersion phase. This phase occurred by introducing participants to cultural probes in the form of the life mandalas that facilitated learning.

Individual and collaborative art making processes – where mutual observing and sharing artistic processes and techniques enabled deeper familiarization between the researchers and the participants – were guided by the narrative function, which facilitated immersion. This took place through weaving baskets and felting. Learning these techniques enabled the group to work

together and create personal relationships with each other, while also facilitating learning from one another. The making activities stimulated discussion and the sharing of skills and knowledge. The cultural probes, craft making, storytelling processes and participant interviews, where the participants elaborated on their work and life challenges from their perspectives as both artists and women, revealed personal narratives. Clearly, the immersion and connection phases of the framework merged in this case study.

In various ways, the detachment phase in the South Australian case studies was experienced differently from the psychological framework for empathy proposed by Kouprie and Sleeswijk Visser. Detachment phases are complex and require sensitive exiting strategies to promote sustainability and avoid negative impacts on the intervention. Facilitating researchers often find themselves in positions of withdrawal for the purposes of reflection, analysis and monitoring purposes. This was borne out in these case studies as the researchers distanced themselves from the intense empathic experience in order to process the body of research and artistic data and share the outcomes with broader academia and artistic communities through research papers and exhibitions. Follow-up workshops, artefact making and representation in Finnish and Russian communities will mirror and complement the data and outcomes of the South Australian interventions.

## Conclusion

The narrative function – in meeting, introducing, explaining, sharing, exchanging of practical ideas through art making, making life story mandalas and the documenting process – spanned the entire framework of the case studies. During the processes of sharing, the researchers positioned themselves as storytellers by sharing their own experiences, thus, finding common ground with the participants. Storytelling occurred through multi-dimensional forms, such as video, audio, photo, fieldnotes and physical artefacts. The narrative function is a crucial tool that facilitates empathetic processes at the front-end phase of the service design.

In these case studies, empathy, supported by the narrative function, facilitated planning for the service design interventions. Empathic design stimulated connections and created a safe environment where participants felt comfortable sharing their stories, while enhancing the capacity to understand the participants' situations. Empathy influenced how the facilitating researchers and participants communicated and learned about each other's challenges, thus shaping contextual understanding and preparing the groundwork and mapping frameworks for potential service design interventions.

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# Humanizing service experiences with design methods (HumanSee) 1.1.2015 - 31.12.2016

The goal of this research project was to tackle the challenge posed for companies by new media, technology and a rapidly changing business environment using service design methods. The project developed tools and methods through which the values of an organization could be made to match the customer's expectations in service situations.

The project sought to develop new and rapid means to concretize, analyze and develop service products for the needs of businesses in different sectors that offer multichannel, omnichannel or ubiquitous service packages. The project developed new tools that drew on design and creativity to create value in the following sectors: electric power and automation technologies (ABB), mechanical engineering and industrial services (KONE), ceramics and interior design store (Pentik), playground design (Lappset Group) and the experience industry (Lapland Hotels).

The project investigated and developed new planning tools that helped to tap into customers' and users' emotions and meaningful experiences as part of the process of designing services. The project sought to create new value for businesses by analyzing the methods of service design and studying the feelings that guide the actions of customers in service situations. As a result, solutions that were appropriate and supported positive emotional reactions were developed.

The project made extensive use of international research in co-operation with the Centre for Design Research at Stanford University, California, United States, the Parsons New School for Design in New York City, United States, the Berkeley University of California, United States and the Emily Carr University of Art + Design in Vancouver, Canada.


# Need for Speed (N4S) 1.1.2014-28.2.2017

Funded by the DIMECC Oy (Digital, Internet, Materials & Engineering Co-Creation), the research program was launched in 2014 to create the foundation for Finnish software-intensive businesses in the new digital economy. In the research program, a real-time experimental business model was used and was provided the capability for instant value delivery based on deep customer insight. The program was implemented by leading Finnish software companies. The consortia consisted of 13 large industrial organizations, 16 SMEs and 11 research institutes and universities. The four-year program of DIMECC was partly funded by Tekes. Please see all partners and additional detailed information at http://www.n4s.fi/en/

The University of Lapland has cooperated closely with a few industrial partners, such as F-secure, Bittium and Ericsson, during the N4S program. The collaboration with research organizations and universities includes work done with the University of Oulu, University of Helsinki, Aalto University and VTT. The service design cases implemented with the companies are constructed in collaboration with the companies thoroughly defining the service design study focus before starting the project together with the companies.

This program is the first SHOK research program that the University of Lapland has participated in. Collaboration with the leading software-intensive companies in Finland has enabled the University of Lapland to venture into the field of digital service development. The University of Lapland's strategic research area on service design was introduced to the N4S consortium, with an emphasis on the interaction between art and science in creating industrial products, online services and well-being services, as well as in improving accessibility and safety in various types of environments. The University of Lapland shed light on how service design thinking and mindset change have occurred in the leading information technology and software-intensive companies in Finland as a result of service design interventions.

This is a popular-style publication written for industries, organizations and communities promoting the best practices of service design from the University of Lapland. We have collected 11 successful examples of how service design has been utilized in business and non-profit organizations (NPOs). The cases are presented through the service design methods, used processes and the profit and impacts that followed service design. The case studies pose and answer questions, such as the following:

What can companies expect when engaging in service design?
What service design can and cannot be offered?
What has been the profit from or other benefits provided by service design?
How can companies and organizations be assisted in evaluating the quality of service design?

The book offers a review of development and innovation through service design. We want to share insights with the industry and organizations on the importance of understanding the human aspects of service design, which are empathy in participation, embodiment in sense making and people empowerment. These are at the core of the value creation process in any business.

LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND