

# WHOLE IN ONE: DESIGNING FOR EMPATHY IN COMPLEX SYSTEMS

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## ABSTRACT

This paper investigates the role of empathy and the use of service design tools in the context of (governmental) systems and organisational services. The discourse focuses on three areas: *intercultural empathy*, the *empathising process* and *empathic design tools*. The paper first reviews what empathy is and how it has been discussed in design. Secondly, a practical example of a complex design context is presented, an interactive platform for governmental immigration services. To best acknowledge the perspective of one, i.e. an individual in the whole, this example proposes that a combination of different design tools can systematically be applied, to foster perspective changes and to facilitate in zooming in and out from the individual to systemic levels.

## INTRODUCTION

Globalisation and increased multiculturalism present designers with complex and wicked challenges such the ongoing immigration crisis. These challenges require systemic, context-oriented and holistic solutions, engaging not only product and interaction design, but also services, stakeholders' networks and systems. Alongside systemic approaches, empathy has also been highlighted when considering globalisation and cultural changes in research in sociology (Rifkin 2009, Krznaric 2015, Calloway-Thomas 2010), psychology (Coplan and Goldie 2011) and philosophy (Herbert-Kögler and Stuber 2000). Social theorist Jeremy Rifkin claims that we are living in an *empathic civilisation as homo*

*empathicus* (2009: 43, Krznaric 2014: 8). Empathy has also featured in political speeches (e.g. Barack Obama), in TED talks and philosophical discourses when discussing multiculturalism.

However, in systemic design empathy is hardly ever mentioned. In recent publications, it is even considered a threat to more systemic decision-making practices (Bloom 2014). Nevertheless, we propose that empathic design approaches can have value for developing holistic design concepts, appropriate to existing systems and complex structures. Furthermore, the empathic design approach fosters human-centredness and creates systems adequate for people who are part of the system or who are using it. Present models of public services, as stated by e.g. Deserti and Rizzo (2015), are characterised by asymmetrical power relationships between the customer and the service provider, the latter having inside knowledge and control of administrative resources and therefore the services themselves. The service action flow thus goes from the organisation to a customer and not the other way round (ibid), which means that people in vulnerable positions such as immigrants have difficulties in navigating between different services. This results in a damaging customer service experience, with dissatisfied end-users who may remain passive and unengaged with possible service improvements (e.g. Hyvärinen and Sustar 2014).

Wright and McCarty (2008: 638) argue for the importance of empathy in designer-user relations concerning user-experiences and even among designer, user and an artefact. Recently the importance of empathy has also been recognised as one way to develop future public services and implement change in the public sector, cross-sector networks and in the individuals within (Mattelmäki et al. 2014, Hyvärinen et al. 2015). In the past, empathic design studies focused mainly on end-users and neglected other individuals inside (or outside) of the system (e.g. policymakers, back/front workers). New attention in empathic design addresses enhancing empathy with multidisciplinary actors and stakeholders, employees that are part of a

system, those that are using its services and those engaged in designing and implementing solutions.

To ensure human-centred design solutions, designers have to deal with systems consisting of organisational networks, stakeholders such as service providers, politicians, clients, users, i.e. an ecosystem of individuals. Our experience suggests that in multifaceted contexts, empathic design needs to be systematically adjusted and fostered for particular environments, partners and complexity (Mattelmäki et al. 2014). Empathic approaches have a role because they support making sense of a bigger picture (the whole) and the individuals in it, and they facilitate various stakeholders and actors in the process of understanding the whole and each other's role within.

In this paper, we aim to reconsider the meaning of empathy and empathic design when dealing with complex systems. In our attempt, we propose that rather than dealing with emotions and mental states, the empathic design approach aims to assist and scaffold people in a system, to understand how the system works from another perspective and to reflect their own viewpoints on a better whole. To demonstrate these arguments, we first open up the discourse on empathy by positioning it in the global context in recent social science literature. We also examine the position of empathy in the context of complexity and systemic design (the whole). Secondly, we examine a process of empathising in social science and compare it with current literature in design. Lastly, we examine existing systemic and empathic design tools through which empathy is applied in design processes.

## EMPATHY - FROM INDIVIDUAL TO INTERCULTURAL

The word *empathy* comes from the Greek *empathia* (from *em-* 'in' + *pathos* 'feeling'). Empathy is the ability to share someone else's feelings or experiences by imagining what it would be like to be in that person's situation (Cambridge British Dictionary 2016). According to the Merriam-Webster Dictionary, empathy is also an "action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another". Rifkin (2009: 427) embraces the notion of extending *individual empathy* across different cultures, continents and borders. He claims that (ibid, 452) we are approaching the greatest flow of *empathy* of all human history - *global empathy*. In his view, this type of empathy is important in a time of extensive materialism that can weaken empathy, whereas fostering *empathy* can bring people together to cooperatively solve global issues. Krznaric (2014: xxii) also argues for the need for *societal empathy* in order to mobilise co-operation and imagination to develop more 'outrospection' and empathetic experiences between individuals to address complex societal challenges (2014: 213). Calloway-Thomas (2013) opens up a discourse of *intercultural*

*empathy* to better understand values, views and behaviours that are different from ours.

The notion of *empathy* in design surfaced around the mid-90s, and it is commonly related to user-product relationships (Dandavate et al. 1996, Segal and Fulton-Suri 1997), user-centredness (Fulton-Suri 2003), user-designer experiences (McDonagh 2006, Kouprie and Sleeswijk-Visser 2009), and to tools and methods (Mattelmäki and Battarbee 2002). To highlight how empathy is a core human skill Segal and Fulton-Suri (1997: 452) state: "*empathy is a fundamental capacity, one that is essential for our participation in society*". Similarly, but drawing attention to the user, Koskinen and Battarbee (2003: 45, 49) describe *empathy* as ubiquitous and imaginative projection into another person's situation and as an attempt to capture users' emotional and motivational qualities. McDonagh (2006: abstracts), for her part, uses a metaphoric expression to highlight the role of designers and empathic bonding, noting that *designers* have to be able to go 'under a user's skin', considering different population groups as themselves in terms of cultural differences, age and skills, to be capable to develop "the *intuitive ability to identify with other people's thoughts and feelings – their motivations, emotional and mental models, values, priorities, preferences, and inner conflicts*" (Fulton-Suri 2003: 35).

It seems that when the scale of the system grows, the visibility of individuals within it disappears, and hence in these frames empathic design does not have a role. To illustrate, in the 90s Buchanan (1992: 9-10) anticipated the expansion of design's impact in tackling *wicked problems*, and in the design of *activities and services*, as well as the design of "*complex systems or environments for living, working, and learning*". Buchanan (2004: 100) emphasises that in such complex systems '*integrating human beings into broader ecological and cultural environments*' becomes important. A representative example of such complex issues is the timely and multifaceted problem of the refugee crisis and overall complex problem of immigration in Europe. Jones and Van Patter (2009) developed four design domains spanning from simple to complex: 1) the domain of traditional design practices and making; 2) the domain in design for value creation such as service design and user experience; 3) the domain in complexity of organisational transformations where the design is change-oriented inside organisational structures; and 4) the domain of social transformations, where design contributes to complex societal situations, social systems, policy-making and community (Jones 2014: 100-101). Each of these domains requires coordination of methods, design practices, collaboration skills and stakeholder participation (ibid). In the next section we examine the current practices of empathising in the design domain and in the domain of sociology.

## EMPATHISING

The early views in empathic design highlighted designers' capabilities to immerse in someone else's shoes, in order to internalize user requirements and to create pleasurable experiences for people (Battarbee et al. 2002). It is about a '*particular kind of imagination*' (Fulton-Suri 2003) and a capability to envision '*what it would be like for themselves to be in the position of the user*' (Kouprie and Sleeswijk-Visser, 2009: 438). Kouprie and Sleeswijk-Visser (2009: 445) developed a framework of an empathising process that spans four steps, namely *discovery*, *immersion*, *connection* and *detachment*. To simplify, it is based on a principle of a designer stepping into a user's life, wandering around, making observations and then stepping out with a deeper 'unconscious' understanding of the user, as well as more conscious, analytical insights on how to use the understanding.

Similarly, also in the field of social science, Depraz, who builds her work on philosopher Edmund Husserl, introduces four complementary stages of empathic experience in relation to *the second person approach*. Depraz (2001: 172, in Calloway-Thomas 2010: 15) argues that so-called '*lived empathy*' entails four corresponding stages: 1) a passive association of someone's physical body with another person's body; 2) an imaginative resettlement from our physical body to the other person, which Depraz calls '*imaginative placement*', when a person imagines the mental state of the other person; and 3) an interpretative understanding of ourselves as being a stranger to the other person. This stage entails understanding and interpretation of the other person's view, which can lead to an understanding or not. The final stage is 4) a moral responsibility felt by you as a human being, which can be positive or negative. At this stage we understand the other person as an emotional human being.

In both frameworks, empathising remains somewhat limited, as it focuses on the emotional world. In designing complex and systemic settings, enhancing emotional worlds is not the only focus. To be capable to step in, understand and design with different cultures, as well as highlight different parts of a system, designers need an adjusted framework and toolsets for empathising in design.

## EMPATHIC DESIGN TOOLS

Over the years empathic designers have developed a solid set of techniques and tools to enable empathising in different situations. These techniques span from making observations in context to experiencing with empathy tools, e.g. glasses that hide part of one's vision to enable immersion in the world of a person with bad eyesight. Kouprie and Sleeswijk-Visser (2009) propose three categories of tools: for direct contact between designer and users, for communicating findings in a way that conveys empathy, and for evoking the designers' own experiences in a domain relevant to

users. Examples of tools are cultural probes (Gaver 1999), design games (e.g. Vaajakallio & Mattelmäki 2014) and recently empathic things and games (Gamman & Thorpe 2015).

In the 2000s (Mattelmäki et al. 2014: 72) empathic design shifted from a user-designer focus to engaging different profiles of participants including users and other stakeholders. The previous view became too narrow when dealing with service design and networked systems. Despite this change, core attitudes and approaches to user engagement have not changed dramatically (ibid). To complement human-centred views, design is currently borrowing methods from systemic design (Ryan 2014) such as gigamaps (Sevaldson 2015) and rich pictures. When such design methods are applied, service design tools such as multi-stakeholder service systems are adopted to map out industrial networks, transportation, medicine and healthcare (Jones 2014).

To summarise and highlight our contribution to the discussion, our main focus is on 1) broadening the meaning of empathy to *intercultural empathy*; 2) reflecting on how this affects the process of empathising, which requires an imaginative entering into understanding not only other people's experiences, but also different cultures other than ourselves; and 3) applying empathic design tools when designing for bigger systems. These three points will be examined through the following case that focuses on designing immigration services.

## THE CASE: DESIGNING FOR GOVERNMENTAL IMMIGRATION SERVICES

This section discusses the case, which we call the T-project. The T-project was a one-year (April 2015-2016) joint project between a governmental organisation [TEM] and a design university [Aalto]. The T-project started three months before the refugee crisis erupted, which led to the initiation of a larger project. The project aimed to find a design solution to improve the overall understanding of immigration services, but also highlighted the need to redesign the current immigration system. This was done by adopting an empathic design approach and combining it with service design tools. The design solution was a digital platform that visualises required immigrant service journey actions, by guiding immigrants through the processes and by linking existing e-services and websites with more detailed informational resources.

Finland's immigration system is based on immigration trends in the 90s and its welfare state system. Nowadays this system is experiencing difficulties in responding to the present critical situation, where increasing numbers of refugees have been entering the country in a short period of time, alongside the normal inflow of economic migrants. To illustrate, an immigrant is required to deal with entry services that are delivered via six different

Ministries and nine service delivery organisations such as migration and registration office.

When the project was set up, emphasis on empathic design as a framework was inbuilt in the process as a mindset, quality and as a set of tools. Engaging immigrants and different levels of civil servants was done to shed light on the solid governmental, systemic and service nature of the case. We wanted particularly to experiment with the empathic design approach in this case because of 1) the complexity and position in the systemic and silo-oriented governmental apparatus; 2) the timely immigration discourses; 3) the fragmented immigration and integration services, 4) the large number of stakeholders and actors engaged; and 5) the human-centred requirements when designing for people with different cultural backgrounds.

### **The empathising process**

The empathising process started at the pre-project phase with several preliminary studies, including small-scale interviews that explored immigrants' service experiences, sense-making of the constantly evolving immigration system in Finland; and two co-design workshops with service advisors for mapping out immigrant customer service journeys before and after arriving in the country across all regions and cities. This pre-project phase set the stage for the empathic design approach, for both the project lead and service provider organisations' representatives. It adopted making and visualising practices when engaging immigrants and civil servants in co-design activities, and for the dedicated researcher (having an immigrant background herself) to gain sufficient understanding of Finland's immigration system, service users and complex relationship among them. The pre-project phase followed with the actual project with four main phases that were named according to the well-known double diamond model. In this paper we focus on the first two phases (discover and define), as relevant to our examination, and omitting the latter two, develop and deliver.

In this project the empathising process was facilitated on four levels: 1) service providers and end-users; 2) immigration service providers, integration service providers and/or service information providers; 3) end-users', service providers' and decision- and policymakers'; and 4) design researchers', end-users', service providers', decision- and/or policy makers'.

Throughout the project three types of actors were engaged in co-design activities: the decision- and policy makers and front-end workers. In addition, the actors included four service providers at the service delivery: before coming to the country, and the immigration and integration services. They consisted of 1) informers that provide information at information points; 2) front-end employees that serve immigrant customers at the encounter (e.g. tax office); 3) decision-makers such as

the senior inspector at the local register office; and 4) project managers. In total 96 people participated in different co-design activities.

The discover stage lasted for seven months and involved collecting insights and understanding of different immigrant profiles, service journeys, employees' roles, via interviews with civil servants from six cities. The aim was to understand the state of the immigration system and individuals' role in it. Along this process potential design directions were also considered and developed throughout the project. In this process empathising was consciously on the agenda, on the one hand in interviews between service providers and end-users, and on the other hand, between the design researcher, civil servants and the end-users. The interviews resulted in insights on individuals that were combined into personas. These personas were introduced in a workshop to convey the individual perspective in the complex whole, and for the empathising process among end-users, service providers and policy/decision-makers.

The define stage involved two co-design workshops. The first one aimed to kick off the project and to create a sense of project ownership among the different participating organisations, by bringing to the table end-users, stakeholders, actors, decision- and policy makers for the first time. The workshop focused on verifying customer profiles, visualising customer journeys with actions on stakeholders' and users' sides, and identifying values for the future service design concepts. The second workshop focused specifically on front-end workers due to their daily contact with the service and end-users, and on their knowledge of the system and understanding of cross-organisational collaborations. This workshop aimed to verify and concretise the immigration service procedures, its parts and actions behind, but also the context where the future service design solution will be used. On the other hand, it also aimed to identify problems with service providers' actions, and identify objectives, values and consequently functions and characteristics of the service design solution.

### **The tools**

In this section we demonstrate the use of individual, service and systemic types of empathic tools. They were selected according to the objectives of empathic design activities and the anticipated outputs at each stage of the design process. Throughout the project sense-making of the whole was done through a number of visualisations that were designed in a simple and pragmatic manner. To facilitate participants' abilities and willingness to see and understand other people's points of views, a set of tools was deployed, as will be discussed in the following section.

1) User profiles focused on individuals, scaffolding *intercultural empathy* by understanding end-users of

different cultural backgrounds and their values, on the one hand, and people's roles inside the system, service network and service use on the other. They assisted civil servants to realise the complexity of immigrant customers' service journeys and touchpoints, and empathising with them for more human-centred future immigration services. Two examples of such are demonstrated as follows.

The first example is an interview with a civil servant who was asked questions while completing tasks assisted with an empathy tool. The tool aimed at bringing forward empathic perspectives. It introduced eighteen customer profiles identified in the pre-stage, represented by coloured circles. The civil servant was asked to select the most common customer profile(s) that she was in contact with on a daily basis. Then the servant used the selected profile(s) to map out immigrant service journeys. As the journeys were in many cases complex and with many tasks to complete, the idea was to help the servants to make sense of and explain the difficulties and number of tasks that an immigrant is facing.

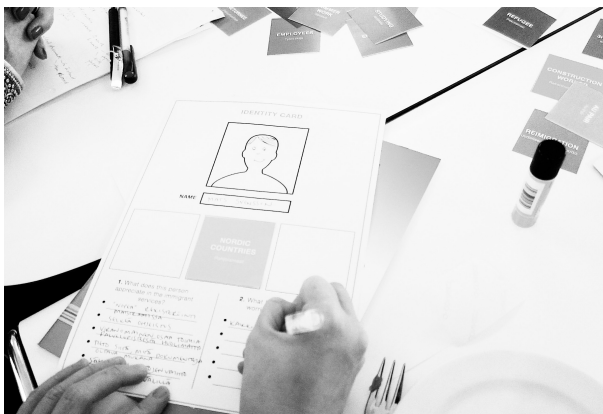


Figure 1: Empathising with an individual customer by creating user profiles and discussing her *worries and dreams*.

In the second example user profiles were used in a group setting of five people with mixed backgrounds including one immigrant. During the task the participants were prompted with questions like: “*What kinds of worries and dreams does this person have?*” This empathy-oriented approach intended to bring out subjective perspectives of the end-users. The aim of the exercise was to discuss immigrant profiles beyond the typical classifications, and to trigger immigrants' experiences with the system having people working within the system in the same group (see sample Figure 1). The tools also aimed to facilitate possible conflicts between opposite sides of policymakers, front-end workers and immigrants.

2) Service design tools focused on processes. They included customer service journeys, which were used in the interviews and in both of the workshops to highlight the perspectives of service users and the employees inside the service provider organisations. They aimed to

support creating relations between civil servants, informers and immigration and integration service workers in the horizontal service delivery network chain. Although the civil servants had in most cases a local cultural background, some of them were immigrants themselves, so here was also a need to facilitate *intercultural empathy*. The service journeys highlighted individuals in the service delivery chain and aimed at making the delivery services visual and less abstract. Visualised journeys served as a basis for conversation around common challenges and issues that individuals were facing, stimulating discussion and fostering empathic encounters with end-users and service providers. Next, two of these examples are illustrated.

The first example is from a workshop that aimed at defining the service providers' and end-users' actions, and describes a process of empathising with an individual in a service delivery context. The participants were given a customer service journey template, actor cards and actors' and end-users' action cards. The participants were asked to identify, on the one hand, actors and their actions needed for an individual service provider when serving an end-user, and on the other, to identify end-user actions required to achieve a service goal. These tools aimed to make sense of complex service actions on both sides - service providers and service users. In terms of context, the actor and the action cards served to make the entire customer journey more systematic and provided an opportunity to identify and discuss problematic journey points in order to seek solutions serving both sides (Figure 2).



Figure 2: User service journey and users' action cards enabled zooming into an individual person's interaction with a service.

The second example took place with different individual service providers, with a focus on understanding the daily issues that service providers face when delivering services. Accordingly, the civil servants representing nine stakeholder organisations were divided into three groups based on the role of their particular organisation in the immigrant customer service journey. The first assignment dealt with verifying the customer service journey procedures (predefined steps from the workshop one) and identifying 10 problems that front-end workers encounter in their daily work when delivering services

to non-EU customers. Representatives of each stakeholder organisation did this task separately, before discussing and sharing insights in the group with another information-delivery, immigration or integration employee (see sample Figure 2). Understanding daily struggles and pain points internal to the same type of service provider (e.g. integration) later led to broader sharing when discussing common issues at the end of workshop. The customer service journey highlighted individual civil servants' frustrations (e.g. twice the work) and wishes (understanding immigrants' life situation) in the service delivery system network.

3) The systemic design tools aimed to help in zooming into the system or service network, and to recognise individuals' points of view and their roles in it. The tools visually represented parts of the system, e.g. different service organisation inside the service networks, and highlighted the individual's perspective in the complexity of the Finnish immigration system.

The following two examples illustrate the empathic focus at a more systemic level. Firstly, in an interview a civil servant was asked to visualise the connections that he or she as an individual had with policymakers, service providers and immigrant associations using a pyramid diagram. This visualisation was used to understand the individual's struggles when attempting to communicate with different levels inside the system. Secondly, to demonstrate empathising with an individual in the service network and common problems that individuals were facing alongside all others, the workshop participants were asked to visualise the 'whole', i.e. the bigger picture of the entire immigrant service delivery across all service providers. Participants connected common challenges that individuals are facing when delivering services across different service delivery organisations, physically with a string (see sample Figure 3).

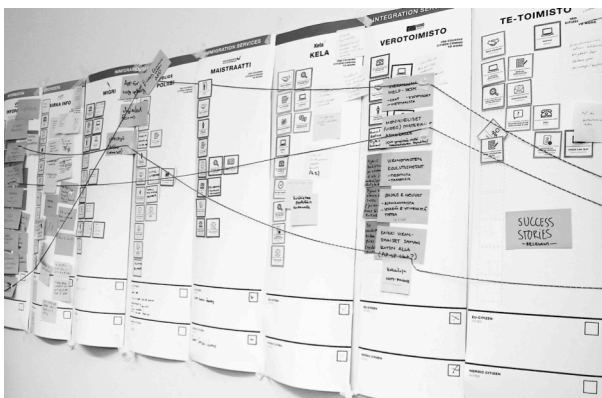


Figure 3: Indicating an individual's common problems when delivering services to end-users.

## DISCUSSION AND CONCLUSIONS

To verify our initial T-project objectives of scaffolding the zooming in and out, to acknowledge individuals inside the service network and system, we conducted a brief survey among the participants who took part in the T-project almost one year after the project's first stage completion. The survey probed what the participants learned from the T-project on personal and organisational levels. We received answers from only 9 participants (out of 53), which does not allow us to generalise any resulting insights. We, however, use the feedback for discussion, to examine our initial observations during the project.

The feedback from the Ministry level stated that changes have to be made on the governmental level as a central responsible body, but this requires ensuring *"that all the relevant stakeholders are really engaged"*. On the organisational level the participants argued for the importance of engagement of all stakeholders, to increase co-operation, collaboration and clear communication among organisations when sharing information and experiences on the immigration topic. Lastly, the stakeholders emphasised the importance of understanding *"the other side"* – the end-user perspective on services, i.e. a *"better point of view to understand the problematic issues for a foreigner and for the organisations [and] importance of clear information"*. On the other hand, an immigrant participant *"learned about the efforts that are being made to make foreigners' integration in the Finnish system and culture smoother and easier"*. The importance of methods was mentioned several times, i.e. service design tools such as the customer service journey, with which they were able *"to analyse services from the customer point of view"* and which made them think out of their own box. Finally, they gave credit to the transparent research and co-design process, of which they were part.

With reservations, we can state that enabling an empathising process by using common service design tools helped to change perspectives and think out of the box, for example, through understanding an immigrant's struggle with a demanding customer service journey. Although the scaffolding of *intercultural empathy* was predominant for empathising in individual and service levels between end-users and service providers, it also enabled better understanding of end-users' needs and wishes at the governmental level.

In this paper we first reviewed how empathy has been discussed in different fields, often revealing itself as a fluffy and emotion-driven concept, and empathising as a subjective introspective process that includes a particular kind of *'imagination'* and *'getting under the skin'*. Our case project, aimed at developing a digital service platform concept for immigration services, was set up with an empathic design mindset and the applied toolset was geared accordingly. It was done in the pre-

project phase to establish a shared mindset; in the *discover* phase by considering what kinds of insights are collected and how; in the *define* phase by considering how the findings can be used to facilitate empathising and perspective changes; by considering how to zoom from the individual to a more systemic level without losing sight of the individuals; and finally, for iteratively designing a concept that reflects these values and functions. Kouprie and Sleeswijk-Visser (2009) emphasise that empathy as such is humane, but empathising requires both ability and willingness of the individuals. In our example, we illustrated how empathy can be approached in a systemic and pragmatic way in a complex context. We also highlighted how critical reflection is needed to broaden the meaning of empathic design from addressing end-user-designer relationships, to be recognised also when dealing with individuals with different cultural backgrounds and within governmental systems. This can be considered as one way to rethink bureaucratic decision-making structures and seek smooth human-centred solutions to complex service journeys.

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