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The Prototyping Service Experience as a Tool of Empathy and Research: from Finland to Chile

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Abstract

This article shows the journey of exploring a Finnish service prototyping laboratory with the purpose to create a similar environment in Chile with an emphasis on empathy. Service prototyping is one of the important stages of the service design process where all ideas converge and make visible the opportunities to improve services. Making ´the ideas visible´ happens through building collaborative mockups to shape and test possible solutions or service journeys. In Chile, service design is not widely developed and the prototyping stage is more common for the development of products than services. The article dive into the question ´How service prototyping can bring empathy and enhance research based on collaborative practice to improve people's experiences?´ The main conclusions highlight the characteristics of service prototyping as a key moment to incorporate empathy in the research stages to visualize the opportunities to improve services, results and user experience.

Keywords: service prototyping, empathy, service design, collaboration on research

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Introduction

This article shows research with a focus on an experience exchange between two countries and a collaborative bridge to implement a perspective from an advanced country to a developing country, maintaining cultural traits as vital for integration to be consistent with the context of the receiving country. In that cultural adaptation, emphasis was also placed on the components that complement this perspective and specifically on how the characteristics of SINCO, a Finnish service prototyping laboratory contribute to the integration of concepts such as empathy and research that are so typical of services. The research question for this article is ´How service prototyping can bring empathy and enhance research based on collaborative practice to improve people's experiences? The research was conducted with a qualitative perspective including interviews, literature and a workshop to explore with service designers and designers, in general, the real state of service prototyping and the opportunities to contribute to their performance. As this is still ongoing research, the findings at this stage are 1. Service Prototyping can be part of different stages for the design process; 2. The embodiment condition of service prototyping enhances empathy; and 3. Mental, behavioral and emotional conditions are the keys to service prototyping. The three findings gave service prototyping a strategic role and promoter of empathy not just a visualization of a possible solution, but a more active and essential position to strengthen the research process and be an accurate actor in testing the outcomes. These findings are the first emphasis on the new Chilean service prototyping laboratory DES which is based on SINCO and at the same time is part of the Design Center of Experiences and Services (DES) at Faculty of Design in Universidad del Desarrollo (UDD)

Service prototyping

In design practices, different prototypes are the core elements, which present abstract ideas in a more concrete, experiential and tangible way (Coughlan, Suri, & Canales, 2007). In product design development, prototypes are physical representations of artifacts or models, and by testing it with users, they can enhance

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its precision and functionality. However, when it comes to services, they are more intangible, and heterogeneous in features (Zeithaml, Parasuraman, & Berry, 1985) and "can only be experienced, created or participated in" (Shostack, 1982, p. 49). This more interactional nature of services makes service prototyping slightly different compared to product-based prototyping.

Service prototyping is a commonly used method in the service design field and is a "goal-oriented but playful way" (Schulz, Geithner, Woelfel, & Krzywinski, 2015, p. 323) to build and test different service ideas, and explore and evaluate future solutions through concrete concepts or hunches (Blomkvist, 2014). User experiences and stories play an important role in service prototyping, when people describe their actions, feelings, thoughts and behaviors through stories, and create a view for other people about the experience (Hunsucker & Siegel, 2015). In prototyping action, these stories are turned into scenarios, which are roleplayed through different roles, such as end-user, service providers and other important stakeholders.

The values of service prototyping can be seen in several elements. According to Coughlan (et al., 2007), service prototyping has three primary objectives, the prototyping realm of organizational change: 1. building to think, 2. learning faster by failing early, and 3. giving permission to explore new behaviors. Blomkvist (2014) stresses that prototyping supports internal and external communication and it has an effect on the mind-sets of the participants. In addition, prototyping is used for learning about and implementing transformative changes (Kuure, Miettinen, & Alhonsuo, 2014) and it is investigated to encourage behavioral change within an organization (Coughlan, et al., 2007). It also benefits the design process by saving resources such as time and money (Blomkvist, 2014). Prototypes are tools for thinking (Brown, 2009) and avoids misinterpretation of listeners' own imagination of the experiences, when they can be concretely roleplayed and visualized.

The service prototyping has enabled the development of technology-assisted environments, which helps to simulate different service journeys, service moments and multiple touchpoints quickly and iteratively. As an example of the environment, this article introduces the SINCO prototyping laboratory, which is located at the University of Lapland. SINCO is a space for concretising, experiencing, innovating

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and testing different services (Miettinen et al., 2014). The idea of SINCO was developed from the analogy of a workshop culture in industrial design and product mock-up crafting (Kuure & Miettinen, 2013). SINCO utilises technological equipment and digital material for creating an atmosphere of the real service environment. The tools help to build and concretize different aspects which are relevant to the service and the space itself is ideal for co-creation and group work. As a technical set-up, SINCO has two background projection screens perpendicular to each other, which provide the background scenery, speakers for bringing the sounds, multi coloured spotlights, interactive whiteboards for documentation and equipment, such as props, clothes for ideation, and handheld devices, such as cameras, mini projectors, recorders for documentation. The figure 1 illustrates the SINCO laboratory. The environment has developed during its over ten years of history and as a contrast. The figure 2 shows the DES lab .
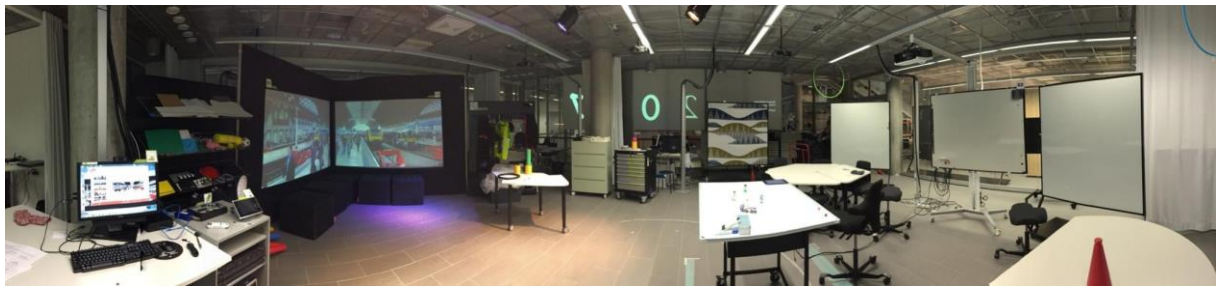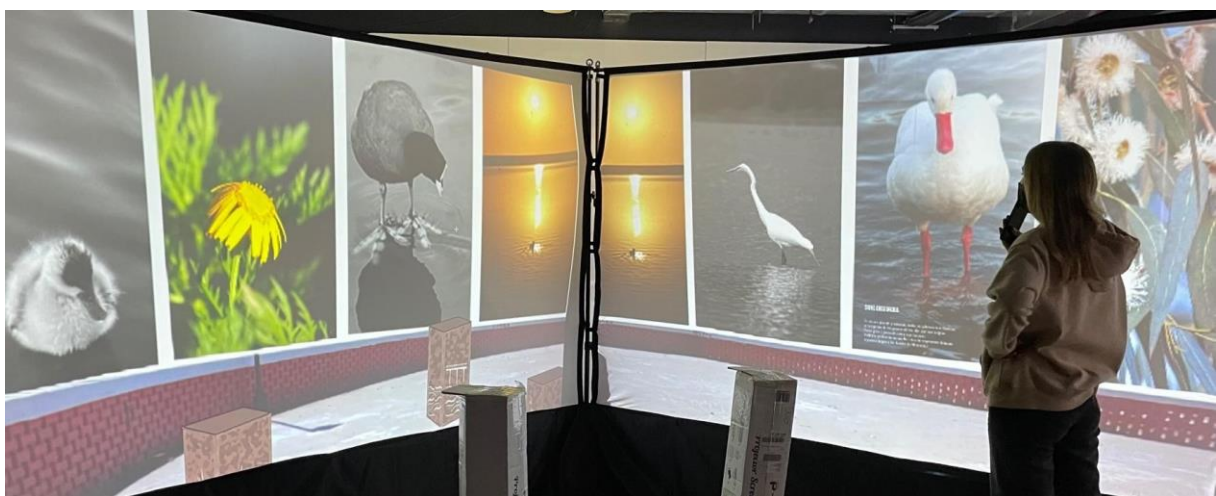

Figure 1: Overview of the original laboratory and its main features. Retrieved from sinco.fi

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Figure 2: DES Lab at Design Center of Experiences and Services (DES) at Faculty of Design in Universidad del Desarrollo (UDD)

Empathy, Emotions and Service Design

Emotions have a significant impact on people's decisions, their perceptions and their relationship with their environment (Soto, Beaulé et al., 2020). Anyhow emotional components of co-creative practices are often overlooked and unacknowledged (Soto et al., 2021) even more likely in organizational and corporate settings. So while social, communication and empathy skills are essential for succeeding in a co-creative process (Miettinen et al., 2014) for all the participants the emphasis still remains more on the outcomes, technical side or practical matters of the workshop.

Overall emotions have different definitions according to different disciplines and research perspectives. From a psychological point of view, some authors (eg. Ekman, 1971; Bloch, 2008; Plutchik, 1984; Izard, 2009) have identified basic or primary emotions and complementary or secondary emotions. Shortly, basic emotions are related to surviving response and are universal which means they are easily identified regardless of culture and, complementary emotions are those that are the results of combinations of basic emotions and are defined by culture. The visualization of emotions in the human body gives others some information as a part of the invisible, and mostly unconscious, interaction, such as facial expression (Ekman, 1971) and breathing intensity (Bloch, 2008). The information that we share through our gestures, expressions, and body movement allow others to comprehend us better creating a holistic understanding much more deep and complete than just the words we say. Nonverbal communication is essential to understand the real meaning of the words because the information delivered could have different connotations depending on nonverbal aspects (Riess & Neporent, 2018). Therefore, interpersonal understanding is connected with the perception of others' emotions (Zahavi, 2017) and with the information we get from others.

Empathy is connected with emotion through an experience of interaction and "emotion is key to human connection" (Collins & Collins, 2019: p. 17). The empathy appears naturally as an automatic response to seeing other eyes, people's gestures and body language also communicate the emotional state, the knowledge of our own

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emotions helps us to express to others to precise their emotional state to reach a clear understanding (very important to communicate with others), the voice tone and active listening are ways to define the interaction ground and finally, the response as all the previous aspects are an essential part of the two-ways interaction, and as we "read" others concrete and subtle expression the verbal and non-verbal response of that interaction are crucial (Ries, 2018). Therefore, empathy includes all emotional responses and expressions and acting according to that, seems like empathy has emotional lenses which are the first filter or layer to perceive our surroundings.

According to Goleman (2004) empathy is not just the awareness of others' emotions, it is the connection with others, and skill in treating people according to their emotional reactions. The hallmarks of empathy according to him are (1) expertise in building and retaining talent, (2) cross-cultural sensitivity and (3) service to clients and customers. Empathy is therefore active and not solely a tool for understanding. And moreover, it is proactive, which is a significant asset in development projects. Empathy also can be seen as a process of involvement where the participants' mood will be affected in more or less intensity depending on their own ability to regulate their emotions (Maibom, 2017).

Emotions are the connection between people, through perception, responses and expression it is possible to "feel" the other state or mood. Affective empathy is the understanding of others' situations and experiencing a similar emotion (Maibom, 2017) also called emotional empathy can connect easily with the experience of others closer to us or with more similarities (Ries, 2019). Cultural and social aspects are also part of finding similarities or differences. Emotional empathy includes the understanding of our own emotions and how others' emotions impact us (Goleman, 2017) therefore emotional empathy is a sensitive ability to perceive emotions from our surroundings and inside.

Methodology

This research is focusing on studying a situation or an opportunity more than the methods' definition (Creswell and Poth, 2007), therefore seeking a useful theory for

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the specific context (Leavy, 2017). This research finds some connection with a phenomenological perspective because the intention of the chosen methods is to understand a particular context from the interviewer's own perspective (Muratovski, 2016). The research journey considers a set of fifteen interviews with service designers from Finland and Chile, four of them from the Finnish service prototyping laboratory and others are Chilean designers. Additionally, a workshop with designers and service designers in the DES lab to apply service prototyping methodologies and think on empathy during the process.

Findings

According to the interviews and the workshop called "Empathy in service experiences" (fig.3) these are the three findings: 1. Service Prototyping can be part of different stages for the design process, 2. The embodiment condition of service prototyping enhances the empathy and 3. Mental, behavioral and emotional conditions are the keys to service prototyping.

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Figure 3. Workshop in the DES Lab at Center DES UDD

The workshop was a 90 minutes experience with a predefined brief with a problem in a Hospital and participants needed to create possible solutions together. After receiving the brief they want to start working straight on DES Lab but they have to start with the Matrix to Identity and Change, after completing the matrix they rather prefer to start with ideation and after prototyping. However, after the prototyping they reflected and agreed that the ideation process was not essential to do it in a separate format.

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The workshop

The workshop was an open invitation sent by email and social media to the network especially to those who at different times expressed their interest in learning about Lab DES. The inscriptions were 18 people but only 5 attended. Two briefs with problems were read to them, one corresponding to a situation in a hospital and the other from a supermarket.

As a group, they chose the Hospital brief detailed below:

> "Patients in a recovery unit have received some of the wrong doses of medication, this has generated a considerable health problem in their patients, luckily no fatalities, and it has also negatively impacted the public reputation of the Hospital. The situation has been exposed on television and various social networks, causing a decrease in patient attendance at the Hospital and increasing the flow, on the verge of collapse, to other health centers in the region. Hospital, to mitigate the discredit of its institution and ensure peace of mind for its patients, has announced the incorporation of technologies in the rooms so that the information is displayed clearly and precisely, which will also keep not only health personnel informed but also family members visiting patients".

The solution created as a group consisted of a bracelet with technology compatible with the X-ray equipment in which the information could be read through a device. In addition to the bracelet, a set of screens and lights (traffic light type) that displays the patient's information clearly and easily accessible.

Although it is interesting to know the solution reached by the group, the workshop focused on the process, asking the participants, who did not know each other previously, to express at times their reflections on prototyping. These reflections were initially focused on the decisions made and at the end they were asked about their appreciations about the role of empathy during the process, in the relationship with the topic in general and the relationship of the matrix (fig 04) with the definition of ways to solve the problem.

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Additionally in the registration form to the workshops they were asked to answer two questions related to the topic, the first one was "What do you understand by service prototyping?" the responses collected by the 18 enrollees were categorized. In the first question, all the answers were divided between the more concrete description of the service prototyping and the expressed functionality (Fig 4), the three answers highlighted are directly related to people, the other answers are connected to the process and results.
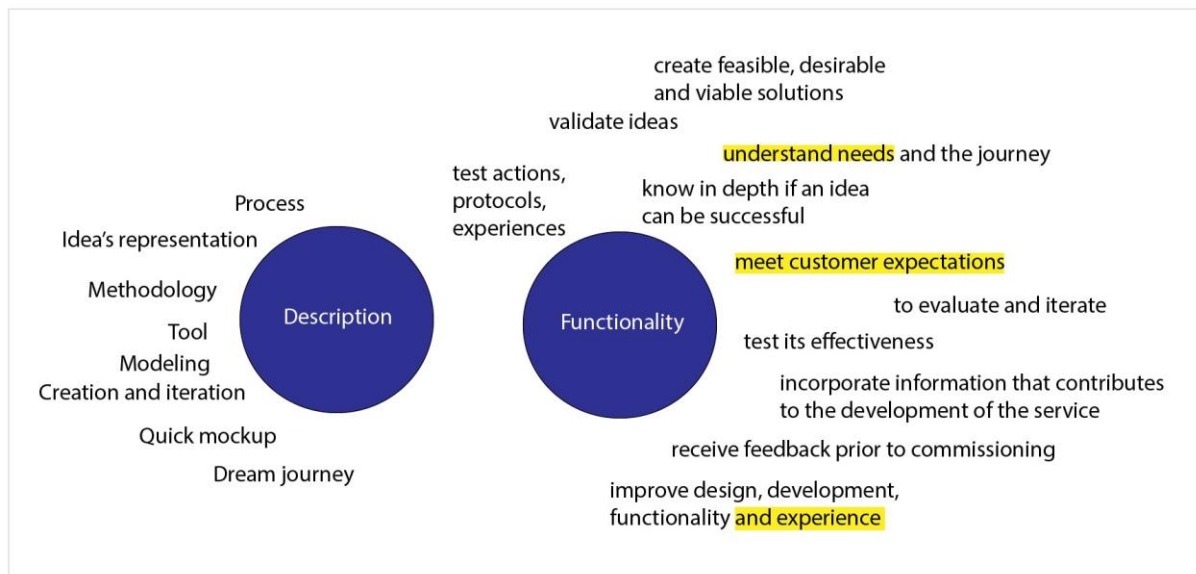

Figure 4. Answers from registered participants

Contrary to the second question "What do you understand by empathy in services?" the responses mostly indicated "putting yourself in the other's shoes" as well as alluding to user emotions, expectations, and accessibility. One of the respondents explained empathy in services as "Design with and for people, understanding their pains and needs" but in the case of the interviews carried out with service designers with previous experience in the development of projects that include moments of co-creation, the relationship with people is more linked to the process, one of the interviewees said "(...) the prototype service is like a staging, where you can see how real elements and fictional elements are mixed. And also to prove a story".

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Service Prototyping can be part of different stages for the design process

Service prototyping from the perspective of the SINCO is not just a technological environment but is also a sensible way to understand the contexts, judgements, experiences, expectations and frustrations. A laboratory has the optimal condition to observe in detail the attitudes, emotions and thoughts related to the service experience and organize those responses from the cognitive, body (or behavioral) and emotional aspects. Service prototyping from SINCO perspective is also a practice-based research tool, its characteristics allow the exploration of the conditions and variables from the experience to dive deep into the problem from the beginning and develop a continuous observation of the changes during the research process creating a prototype advanced to be tested.

Prototyping commonly is a stage right before testing or validation, however it is an essential tool of exploration to connect with the topic and empathize with the problem, participants express that "screens with the Hospital images" contributes to making the emotional connection with the brief. This atmosphere makes the difference but also the methodology. "The service design methodology has been super stressed in recent years by agile methodologies which basically use prototyping as a continuous phase (...) doing research through prototyping" (interviewee). New methodologies are part of the project development process but also push changes on the perspectives of how the process has to be carried out. As service design is a practical discipline that depends on business and organizational changes, agile methodologies are one of those changes.

Service design tends to generate great differences according to the type of company, industry and culture. The generalization or rigidity of the process, although it helps to organize a project, often decreases the possibilities of development. According to another interviewee "when a company has been integrating the logic of service design for two or three years, it has already internalized it, occupying prototyping as part of its culture, using it to research, design and eventually to implement, in the latter case, more as a process." of scaling. And I believe that this depends on the levels of maturity of the organization". This vision incorporates a variable other than

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the relationship of prototyping with the service design process, the maturity of the company in its link, knowledge and experimentation with service design.

The embodiment condition of service prototyping enhances the empathy

As it is hard to identify emotions in general words, the role-playing and the co-creative environment strengthen the conditions to connect with others, listen more, act as a community and feel amazed by the progress. The collaborative environment fosters a more receptive and participatory attitude, generating the conditions of greater understanding of the reasoning and ideas of others, this act expands the possibilities of connecting with other human beings and living beings in general. According to one of the workshop participants, empathy in services is described as the "ability to understand and feel the needs, desires, emotions and requirements of the people who will be users of the service. Allowing better experiences and perspectives and as a consequence, more effective and satisfactory services. Putting yourself in the person's place, observing, interacting and getting involved, understanding the different types of contexts, is decisive in order to achieve it."

Big screens with the projection of the recovery room for patience with eight beds and many of the conditions create a sensitive environment. Participants were standing in front of the screen, with a long silence and the first words was "it really feels like the Hospital". The images in the big screen recreate the participants memory, they immediately relate their own experience with the images, this feeling contributes to connect participants between each other. This sensitive environment also adds more closeness between participants and they organize in roles themselves very quickly. Participants highlight that the matrix is one of the tools to empathize with the brief, because the three aspects head, heart and body forces them to reflect on the general topic and in the small details. The areas required to complete the matrix helped them to specify their thoughts and feelings in relation to the brief, and even search their personal experiences to generate a link with the problem.

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Mental, behavioral and emotional conditions are the keys to service prototyping

Three aspects of the human being, mental, behavioral and emotional, contribute to understanding the contexts, human beings and their interactions. Also, those three aspects are connected with the conditions to develop a service prototype because those three can make visible the experience in a deep manner, with a simple matrix (fig. 5) the experience can be visible. Emotions are expressed by our body expressions, sometimes more visible than others, and emotions are perceived by others which transform the visualization of emotions on information and they react accordingly. This is a perceptive cycle with much information surrounding us and complete the information like a puzzle. Sometimes it seems confusing to explain in words the relationship between the three areas in something as abstract as a service, but the relationship and balance of mind, behavior and emotions is much more everyday, because it is what allows us to understand our environment. Sometimes the lack of coordination or misunderstandings happens because the areas are unbalanced, for example we perceive an incongruity in words and gestures and that makes us react immediately according to the label that our belief system and judgments apply to the situation.

The Trilogy of 3C which individualizes the mental, emotional and behavioral states, helps to identify the aspects more concrete and subtle. The first column with actions related with the trilogy makes visible the needs, opportunities and problems to work on it. This is a different manner to think about the experience, with attributes related with the people's life but connected between them. This matrix comes from communicology and in its approach based on the deep understanding of the human being, it applies the three variables of creating, preserving or eliminating. The three variables applied to the three areas to distinguish more precisely what requires attention. Briefly, communicology is the science that studies communication between people. In Chile, communicology is based on studies carried out by prominent professionals (Humberto Maturana, Francisco Varela, Susana Bloch, Rolando Toro) all from different areas of knowledge and which converges the interest to contribute to the understanding of the communicational dynamics between people. This vision

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has been applied in recent years to the design of services focused on the experience of people and how to identify the aspects that require more attention.

Figure 5. Matrix of change applied to experience. Based on the Matrix of Identity and Change by Mauricio Tolosa.

In the service prototyping environment the matrix helps to, as one of the participants said, "organize the thoughts before work" but also organize the improvements ideas on those three levels making sense, creating significant solutions and specifying the scope of the proposal. Considering that one of the interviewees said that from her experience "service prototyping is transferring the concept to some kind of form that allows evaluating its interaction with the user" the matrix proposes to organize the transference from the concept to something but keeping the sense and the relevance to the users.

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Conclusions

The three findings explore first the role of empathy in service prototyping and second, the new perspectives and scopes of service prototyping, All the learning is being applied in the new DES lab, which from its origin, based on the experience of the SINCO Lab, seeks to contribute reflections that are of interest to both Labs in order to continue collaborating actively. The service prototyping can be part of different stages for the design process because it allows *doing research* and *doing services* at the same time. Also, the embodiment condition of service prototyping creates an optimal environment, secure, open and creative, which are some of the enablers of empathy. Lastly, from the experience of the authors using a matrix in different projects, the mental, behavioral and emotional conditions are essential to understand people in a precise manner considering not just the description in each aspect but also the relation between them contributing with service prototyping performance. The matrix of identity and change is a tool from communicology to understand the experience of people in a service situation and works very well connected with service prototyping, as a first visualization and as an analysis tool. The matrix is currently being analyzed to adapt it more precisely to the experiences to make it a better tool for service design.

DES Lab perspective in Chile provides not only a transformation in the vision of prototyping but also connects the improvement of services with the Finnish experience. This vision incorporates a practice more linked to the people related to the service than to a process flowchart. Chilean culture is similar to other Latin American countries and this exchange of knowledge and practice not only adds value to the design field but also improves the way to see services in different latitudes. Although service design is a young area of design that has unequal development in different countries, the experience showed in this article allows designers, and especially service designers, to see the opportunities to link different cultures in a generous and open exchange which gives to design community several ways to develop service design in variety, and sometimes challenging, contexts.

As a result of this project, a new Design Center of Experiences and Services (DES) at the Faculty of Design in Universidad del Desarrollo (UDD). The Center DES has a

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laboratory inspired by the Finnish Laboratory SINCO, *DES Lab* is the first in Chile and Latin America its initial focus is to contribute to the development and improvement of services by connecting the academy with public and private organizations while creating an international network to promote a vision of services focused on contributing to people's well-being.

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