STORYBRAIDS: MATERIAL EXPLORATION OF A SERVICE SYSTEM VISUALIZATION TECHNIQUE

STEFAN HOLMLID
LINKÖPING UNIVERSITY
STEFAN.HOLMLID@LIU.SE

ABSTRACT

In design for service, as well as in service development in general, there is a lack of techniques that help articulating a multi-actor perspective. The mono-perspective techniques that are in common use, does not invite to participatory processes, as the dominant representation of certain actors also works as an exclusion mechanism for other actors. In this paper I describe the exploration of *storybraids*, a technique that aids during design work in multi-actor service systems. The material exploration was done together with master students, which opened up for participatory development of the technique. In conclusion there are two contributions. First, involving students in early explorations give quick and early insights into possibilities and limitations of a technique. Second, *storybraids* seems promising as a technique to capture pluralistic perspectives of multi-actor service systems.

INTRODUCTION

Many definitions of "service" assumes that there is a collaborative practice. Service experience, e.g., is conceived in terms of a "collaborative, evolving and dynamic nature" (McColl-Kennedy et al., 2012). Many definitions also highlight the participation of several actors as necessary to achieve any value creation at all. A hotel, or a train ride, usually requires several organisations, and several different roles to happer. Service is therefore described as a concept where actors and beneficiaries integrate resources and co-create value(s). (Grönroos, 2008; Vargo & Lusch, 2008).

Lately, though, there has re-emerged a self-criticism for favoring a dyadic perspective. This can be seen in e.g Vargo et al's definition "Service, the application of competences for the benefit of another, is the fundamental basis of exchange.", or even more prominent in Lovelock's (2001) definition where "A service is an act of performance offered by one party to another". In such a dyadic perspective, service interactions are seen as interactions between two parties (Gummesson, 2010). Some earlier definitions are not excluding that there may be other structuring principles than the dyad, e.g. "An activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interaction between customers and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems" (Grönroos, 1990)

However, the critique towards the dyadic dominance, is that the understanding of a service as a system or a network has not been promoted enough (Barile et al, 2016). And thus, neither have the existence of many actors co-creating value for many actors, "creating something together in a process of direct interactions between two or more actors, where the actors' processes merge into one collaborative dialogical process" (Grönroos & Gummerus, 2014.) In parallel with this, designers that have engaged in the service domain also highlight the importance of participatory and human-centered approaches (see e.g. Steen & Manschot 2011, Holmlid & Evenson 2008, Kimbell 2010), as well as engaging the network of stakeholders of future service operations (Polaine et al, 2013; Segelström, 2013).

Several researchers on the borderline between service and design research highlight the multiple layers of participation and co-creation. There is co-creation in play:

- at design time (see e.g. Sanders & Stappers 2008, Sangiorgi et al 2015, Wetter-Edman et al 2014, Holmlid 2012, Holmlid et al 2015),
- during transformation (see e.g. Overkamp & Holmlid 2017, Yu 2015, Holmlid et al 2015),
- as well as while a service is operating (see e.g. Wetter-Edman et al 2014, Holmlid et al 2015).

Given these two larger areas of reasoning, the service perspective and the design for service perspective, designers need techniques that engages and includes a multitude of stakeholders without compromising their perspective or role in a service, techniques that promote the co-creation of value(s) from a service system perspective. However, it seems as if many of the supporting design tools and techniques, in design for service, present the service in manners in which there is given dominance to the perspective of single actors. When directing attention towards a specific something, others are excluded. The dynamics that comes from co-creation of value will also be less visible. This insight led to the idea of storybraids as a design technique.

The vision of storybraids is simple. It is a visualization technique that give equal focus to the processes of each actor participating and co-creating value in a service. At first I envisioned that this could be done with storyboards for each actor, intersecting when interactions are happening. This leads to braided storyboards, hence storybraids.

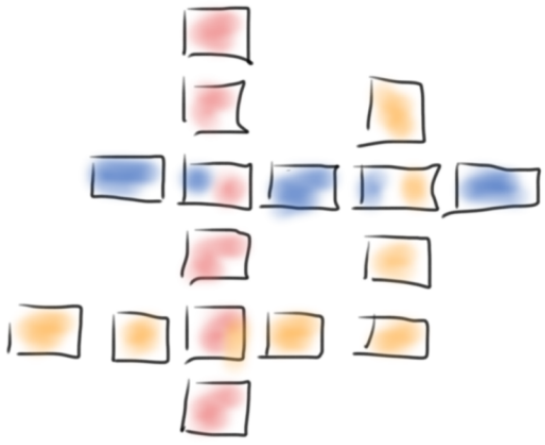

Figure 1 The initial vision of a storybraid

In this paper I describe the material exploration of the *storybraid* technique where an activities-driven multi-actor perspective is assumed.

RELATED WORK

In an overview of tools and techniques used in design for service, Segelström (2009) concluded that the designers use visual tools and techniques to keep empathy in the team, to articulate insights for themselves, and to communicate insights to others. Diana et al (2012) categorized visual tools used by service designers along two dimensions, the synchron-diachron dimension and the concrete-abstract dimension. Blomkvist & Segelström (2014) further developed a dimension pertaining specifically to tools and techniques used for prototypes, the ongoing-static dimension. In design for service many supporting design tools and techniques present the service in manners in which there is given dominance to the perspective of single actors, creating a mono-perspective. Some examples of this are:

- customer journey mapping (Richardson, 2010), that give the process of the customer a monopolistic position, and sometimes simplifies the journey into dyadic interactions (Halvorsrud et al 2016)
- storyboarding, that highlights a dyadic nature of service
- actor-maps (Polaine et al 2013), highlighting and focusing on relationships and structures
- value-maps, focusing on structure
- service blueprints (Shostack, 1984), detailing the internal working of the company, adding layers of dyadic interactions to each other

Given that service is to co-create value, through acts of resource integration, by many actors in a system, over time, this single-eyed manner become problematic. When tools promote the articulation of singular perspectives, it directs attention and power in certain ways, not necessarily to the benefit of the individual actors, nor to the benefit of the whole. The dynamics that ensue in co-creation of value will also be difficult to capture and build on.

MATERIAL EXPLORATIONS

The approach to develop the technique was to explore it in a learning context, in reflective collaboration with students. I studied the usage of the technique in two rounds of experimentation. For each round of experimentation, there was specific interests in understanding certain aspects of the technique and its usage. Both rounds of experimentation consisted of two sub explorations, carried out with different groups of students.

In total there were four explorations studied. The first two used *storybraids* to describe future services, and the two other used *storybraids* to describe existing services. The theme for the first exploration was urban services, for the second there was no joint theme. For the third exploration, the students were making *storybraids* for a

florist service. In the fourth they were doing *storybraids* for a welfare service in the Linköping region. Students were producing *storybraids* based on their earlier design work, or on data collected about the service in question from the field.

Empirical material from the material explorations for this study was collected as visual material, and notes taken by the researcher during and directly after the specific learning events.

FIRST ROUND OF EXPERIMENTATION

Initially, I wanted to learn whether the technique made sense, whether it was useful, and if it was possible to use at all. For this purpose, the technique was introduced for exploration at two different occasions.

The 1st exploration was run as part of a larger workshop on Service Design in Urban Transformation with 40 student participants, spending half a day going from initial research to conceptual idea. The students were given a short oral introduction to the idea of the technique, the groups were given a short description on paper, and was provided with material for the material exploration. The material consisted of markers, sticky notes, papers, maps, and A1 boards.

The 2nd exploration was run as part of a week-long workshop with master students at Politecnico di Milano. The students were given a short oral introduction to the idea of the technique, and had access to the material of their own learning environment for material exploration.

RESULTS

The storybraids produced in the urban transformation workshop was straightforward (see one example in Figure 2), and gave a possibility to present several actor's intersecting processes. The storybraids were constructed based on linear process structures within the suggested services. The processes contained few steps, and the way that processes intersected were simple. This can be seen in figure 1 where the processes of all actors, intersect with each other.

The storybraids by the Milano students were opening up more complexity (see examples in Figure 3 and 4). In Figure 3, e.g. there are processes that does not intersect with each other at all. In this experiment the storybraids were also constructed mainly based on linear process structures. A left-right, top-down reading order was assumed in both examples. The main structure of the resulting storybraids therefore followed a linear format. The linear format was broken in the service in Figure 4, by using black threads connecting across the linearity.

In Figure 4 the students relied on a specific IT-resource for the success of the service, and wherever that resource was used, they highlighted that with the use of orange color. They also used string to show connected processes.

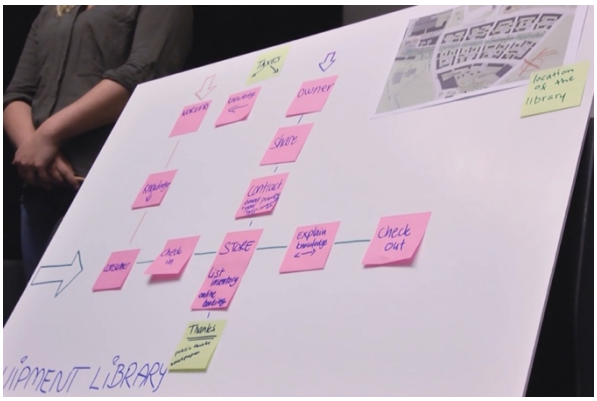

Figure 2. Example storybraid from the urban service workshop

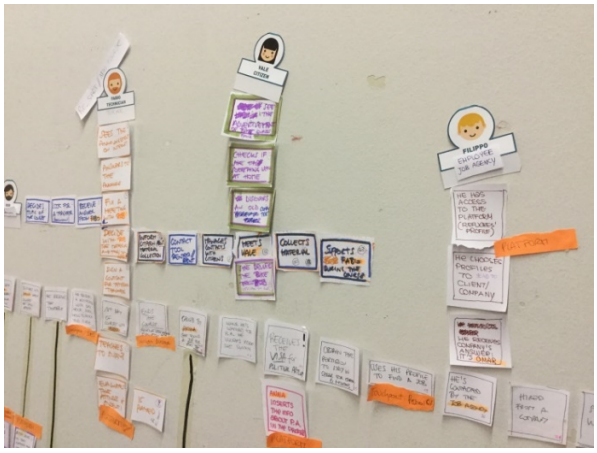
Figure 3 First example of a storybraid from the master students

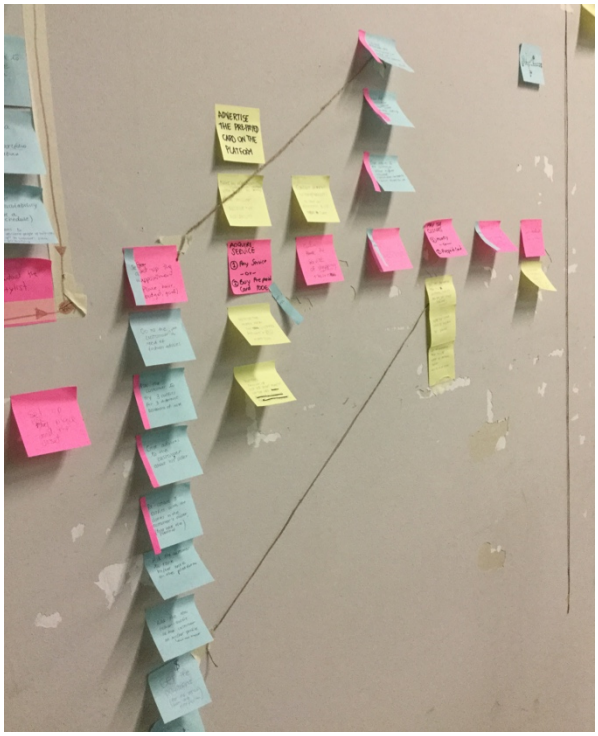
Figure 4 Second example of a storybraid form the master students

SECOND ROUND OF EXPERIMENTATION

The second round of experimentation focused on understanding how actor complexity in *existing* services, as opposed to future services, was done through the technique. This was done on two occasions of exploration, with master students in Service Design courses. The first exploration was run as part of a three-day long workshop with master students at Politecnico di Milano. The second exploration was run as part of the introduction to a service design course with master students at Linköping Universuty. For each of the explorations, the students were given a short oral introduction to the idea of the technique, and had access to the material of their own studio or learning environment for material exploration. In both explorations the students were making storybraids for a florist service, that they first had to do empirical data collection about.

RESULTS

The storybraids produced in Milan were mostly straightforward, but highlighting that the buyer of the flowers is not necessarily the receiver of the flowers. In Figure 5 the delivery person is the link between the buyer and the receiver. The storybraids produced in Sweden exhibited a large degree of variation. Single storybraids exhibited a complexity that made them difficult to read and understand. In Figure 6 the visual impression is that there are not any extended lengths of processes that actors go through. Moreover, the horizontal is used to express time that passes, which renders some of the whitespace between notes, to denote waiting time. In Figure 7 color is used to denote organizational actors, while each vertical represents distinct roles.

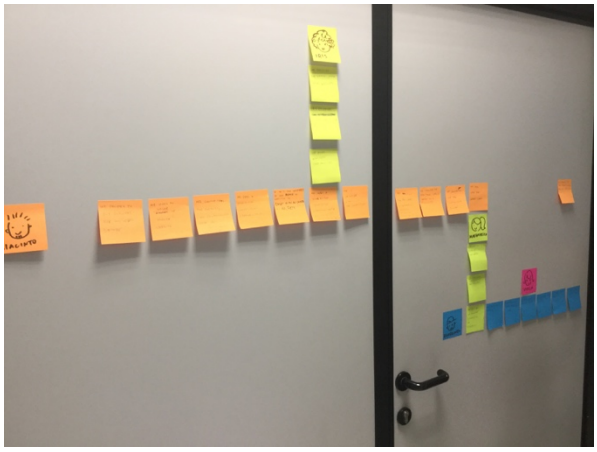

Figure 5 Example from the Italian studentes

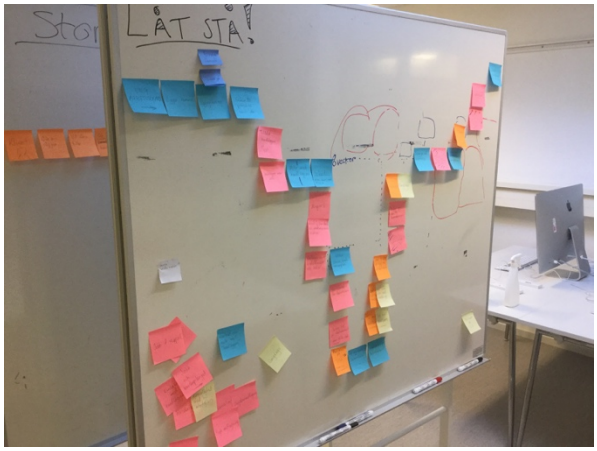

Figure 6 First example form the Swedish students

Figure 7 Second example from the Swedish students

DISCUSSION

I started out with a simple vision of a technique that would give equal weight to the processes of each actor participating and co-creating value in a service, and the sketchy idea that this could be done with storyboards for each actor, intersecting when interactions are happening. By transforming this into a material exploration, I could learn about how the technique could be understood, and what it means in use. Apart from conceptual aspects that were added, such as time, organizations and systemic resources, visual and material aspects were explored. For example, in the material deployment of storybraids used in this study, the squareness of some of the materials used, limited the way in which the processes were braided.

From the two first explorations, we learned that the techniques is possible to use, and that it captures several actors' perspectives. However, it became clear that visualizing future services often led to simplifications, as the creators did not have enough experience or empirical material to support details of their service solutions. Moreover, it seemed that too short time to produce a storybraid also limits the usage even with simple service concepts. From these two explorations we learned that the tool can be used to map existing services. We also learned that the complexity of an existing service system could be expressed with the technique, however assumptions about the simplicity of the florist service limited the amount of actors taken into account. As a preparation for a second step in exploring storybraids, there was developed an instruction of how to make storybraids, which is now used in teaching.

In many cases doing research on student work is regarded as a lesser data material. However, in a case where the research interest is to articulate an understanding of a technique, on a detailed and conceptual level, early in its development process, working with students is at least as good as working with expert designers. The students are in a learning process, and will therefore work with the technique, and reflect on the technique, in order to understand it as well as being able to use it. In a design learning environment, it is also easy to give room for experimentation with the technique beyond written instructions.

CONCLUDING REFLECTIONS

The material approach to experimenting with a visual technique was a good ground for reflections. The material used, often square notes, was complemented with string, highlighting notes, graphical conventions etc. It also highlighted constraints and challenges, such as how technology supported interaction should be represented, how recurring service interactions should be represented, etc.

ACKNOWLEDGMENTS

We wish to acknowledge the work of students from the Design and Product Development programme and the Cognitive Science programme at Linköping University, from the PSS programme at Politecnico di Milano, as well as all the participants in the student workshop during the Service Design Network conference in Stockholm. What started out as an idea, materialized through your participation.

REFERENCES

Barile, S., Lusch, R., Reynoso, J., Saviano, M., & Spohrer, J. (2016). Systems, networks, and ecosystems in service research. Journal of Service Management, 27(4), 652-674.

Blomkvist, J., & Segelström, F. (2014). Benefits of external representations in service design: a distributed cognition perspective. The Design Journal, 17(3), 331-346.

Diana, C., Pacenti, E., & Tassi, R. (2012, September). Visualtiles: Communication tools for (service) design. In Conference Proceedings ServDes. 2009; DeThinking Service; ReThinking Design; Oslo Norway 24-26 November 2009 (No. 059, pp. 65-76). Linköping University Electronic Press.

Gronroos, C, (1990), Service management and marketing: managing the moment of truth in service competition. Lexington, MASS: Lexington Books

Grönroos, C. (2008). Service logic revisited: who creates value? And who co-creates? European Business Review, Vol. 20, No. 4, pp. 298-314

Grönroos, C., & Gummerus, J. (2014). The service revolution and its marketing implications: service logic vs service-dominant logic. Managing service quality, 24(3), 206-229.

Gummesson, E. (2010). The future of service is long overdue. In Maglio, P.P., Kieliszewski, C.A. and Spohrer, J. (Eds), Handbook of Service Science, Springer, New York, NY, pp. 625-642.

Halvorsrud, R., Kvale, K., & Følstad, A. (2016). Improving service quality through customer journey analysis. Journal of service theory and practice, 26(6), 840-867.

Holmlid, S. (2012). Designing for Resourcefulness in Service: some Assumptions and Consequences. In S. Miettinen, & A. Valtonen (Eds.), Service Design with Theory: Discussions on Change, Value, and Methods (pp. 149-158). Vantaa, Finland: Lapland University Press.

Holmlid, S., & Evenson, S. (2008). Bringing service design to service sciences, management and engineering. Service science, management and engineering education for the 21st century, 341-345.

Holmlid, S., Mattelmäki, T., Visser, F. S., & Vaajakallio, K. (2015). Co-creative practices in service innovation. In The Handbook of Service Innovation (pp. 545-574). Springer London.

Holmlid, S., Wetter-Edman, K., & Edvardsson, B. (2017). Breaking free from NSD: Design and service beyond new service development. In D. Sangirogi & A Prendiville (eds) Designing for Service: Key Issues and New Directions, p 95.

Kimbell, L., & Street, P. E. (2010). From user-centred design to designing for service. In Design Management Conference (Vol. 14, pp. 1-8).

Lovelock, C. H. (2001). Services Marketing: People, Technology, Strategy. New York: Prentice Hall.

McColl-Kennedy, J.R., Vargo, S.L., Dagger, T.S., Sweeney, J.C. and van Kasteren, Y. (2012), Health care customer value cocreation practice styles, Journal of Service Research, Vol. 15 No. 4, pp. 370-389.

Overkamp, T., & Holmlid, S. (2017). Roles of in-house designers towards service implementation. In QUIS15, 15th International Research Symposium on Service Excellence in Management, 12-15 June, Porto, Portugal.

Polaine, A., Løvlie, L., & Reason, B. (2013). Service design - From Insight to Implementation. New York: Rosenfeld media

Richardson, A. (2010). Using customer journey maps to improve customer experience. Harvard Business Review, 15(1).

Sanders, E. B. N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. Co-design, 4(1), 5-18.

Sangiorgi, D., Prendiville, A., Jung, J., & Yu, E. (2015). Design for Service Innovation & Development. Final Report.

Segelström, F (2009). Communicating through Visualizations: Service Designers on Visualizing User Research First Nordic Conference on Service Design and Service Innovation. Oslo, Norway.

Shostack, G. L. (1984). Designing Services that Deliver. Harvard Business Review, 62 (1), 133-39

Steen, M., Manschot, M. A. J., & De Koning, N. (2011). Benefits of co-design in service design projects. International Journal of Design 5 (2) 2011, 53-60.

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. Journal of the Academy of Marketing Science, 36(1), 1–10

Vargo, S. L., Lusch, R. F., & Akaka, M. A. (2010). Advancing Service Science with Service-Dominant Logi: Clarifications and Conceptual Development. In P. P. Maglio, C. A. Kieliszewski, & J. C. Spohrer (eds) Handbook of service science (pp. 133-156). New York, Springer.

Wetter-Edman, K., Sangiorgi, D., Edvardsson, B., Holmlid, S., Grönroos, C., & Mattelmäki, T. (2014). Design for value co-creation: Exploring synergies between design for service and service logic. Service Science, 6(2), 106-121.

Yu, E. (2015). Exploring different relationships between designers and clients in design practices for service development. In IASDR2015 conference - Interplay (pp. 2423–2436).