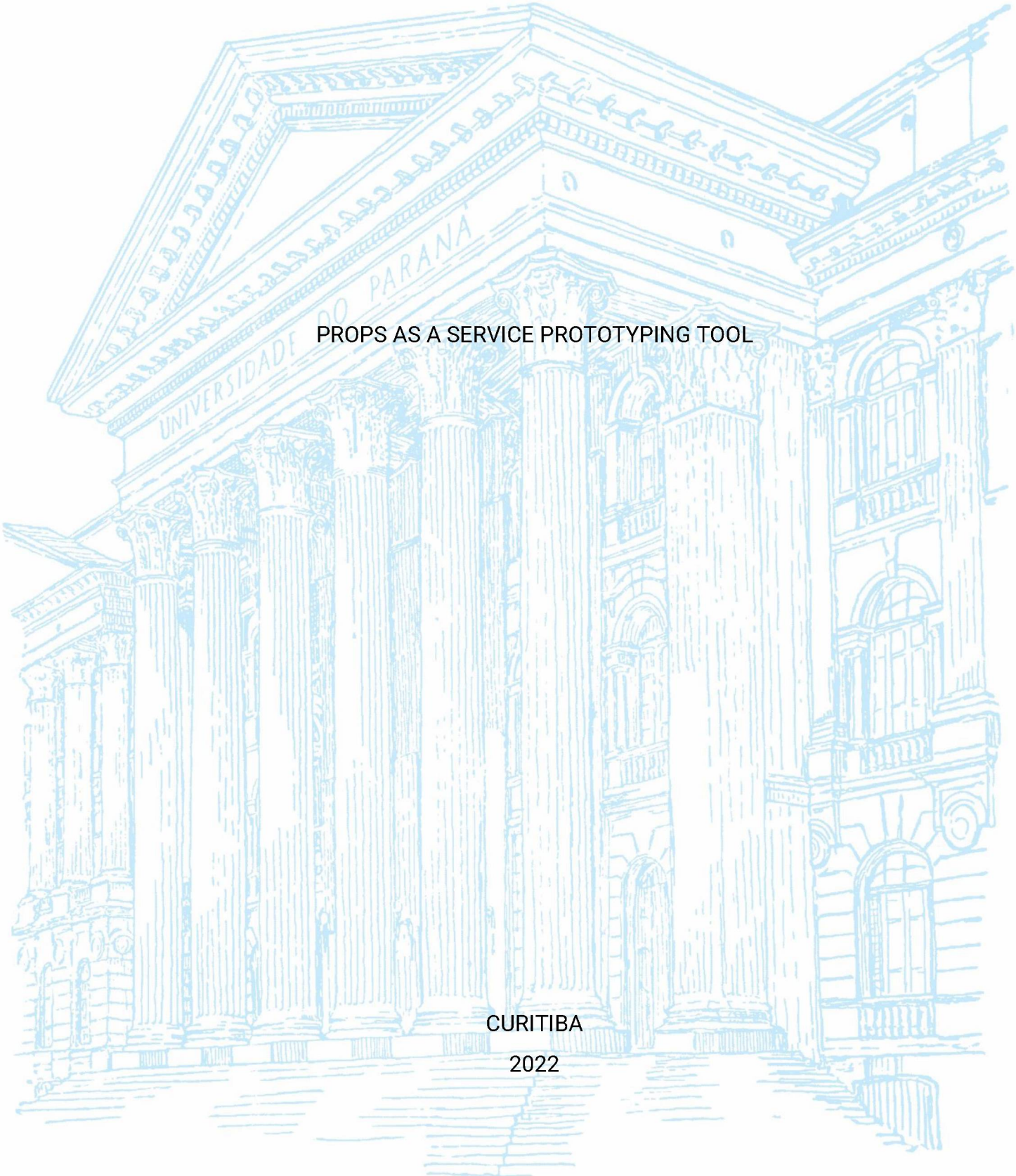
UNIVERSIDADE FEDERAL DO PARANÁ

ALESSANDRA CAROLINE CANFIELD PETRECCA



PROPS AS A SERVICE PROTOTYPING TOOL

CURITIBA

2022

ALESSANDRA CAROLINE CANFIELD PETRECCA

PROPS AS A SERVICE PROTOTYPING TOOL

Dissertação apresentada ao Programa de Pós-Graduação em Design (PPGDesign), do setor de Ciências Humanas da Universidade Federal do Paraná, como requisito para obtenção do grau de Mestre em Design.

Orientador: Prof. Aguinaldo dos Santos, Ph.D.

Co-orientador: Prof. Johan Blomkvist, Ph.D.

CURITIBA

2022

Catalogação na publicação
Sistema de Bibliotecas UFPR
Biblioteca de Artes, Comunicação e Design/Batel
(Elaborado por: Karolayne Costa Rodrigues de Lima CRB 9-1638)

Petrecca, Alessandra Caroline Canfield
Props as a service prototyping tool / Alessandra Caroline Canfield Petrecca. – Curitiba, 2022.
177 f. il.: color.

Orientador: Prof. Dr. Aguinaldo dos Santos.
Coorientador: Prof. Dr. Johan Blomkvist.
Dissertação (Mestrado em Design) – Setor de Artes, Comunicação e Design, Universidade Federal do Paraná, Curitiba.

1.Prototipagem de serviço. 2. Design de serviço. 3. Design - Ferramentas. I. Título.

CDD 745.2

TERMO DE APROVAÇÃO

Os membros da Banca Examinadora designada pelo Colegiado do Programa de Pós-Graduação DESIGN da Universidade Federal do Paraná foram convocados para realizar a arguição da dissertação de Mestrado de **ALESSANDRA CAROLINE CANFIELD PETRECCA** intitulada: **Props as a Service Prototyping Tool**, sob orientação do Prof. Dr. AGUINALDO DOS SANTOS, que após terem inquirido a aluna e realizada a avaliação do trabalho, são de parecer pela sua APROVAÇÃO no rito de defesa.

A outorga do título de mestra está sujeita à homologação pelo colegiado, ao atendimento de todas as indicações e correções solicitadas pela banca e ao pleno atendimento das demandas regimentais do Programa de Pós-Graduação.

CURITIBA, 25 de Outubro de 2022.

Assinatura Eletrônica
25/10/2022 21:23:51.0
AGUINALDO DOS SANTOS
Presidente da Banca Examinadora

Assinatura Eletrônica
25/10/2022 19:15:14.0
MARCIO FONTANA CATAPAN
Avaliador Interno (UNIVERSIDADE FEDERAL DO PARANÁ)

Assinatura Eletrônica
27/10/2022 15:29:40.0
MARI SUOHEIMO
Avaliador Externo (THE OSLO SCHOOL ARCHITETURE AND DESIGN)

Documento assinado eletronicamente de acordo com o disposto na legislação federal Decreto 8539 de 08 de outubro de 2015.
Gerado e autenticado pelo SIGA-UFPR, com a seguinte identificação única: 230736
Para autenticar este documento/assinatura, acesse https://www.prppg.ufpr.br/siga/visitante/autenticacaoassinaturas.jsp e insira o codigo 230736

Dedico esse trabalho a você, mãe, que sempre me apoiou e contribuiu na minha caminhada.

ACKNOWLEDGMENT

It would not have been possible to achieve what I have done without great people supporting me even before I started this research.

First and foremost, I am mostly grateful to my supervisor Professor Aguinaldo dos Santos who brought me so many opportunities and gave me guidance and freedom through this path.

I would like also to express my sincere thanks to my co-supervisor, Professor Johan Blomkvist, who made time for my queries and questions even with a new member of his family.

Thank my family who supported me, especially my amazing mother who has believed in me all this time, I could never pursue my dreams without you. Also, to my friends Carolina & Gabriel, who convinced me to re-apply for a master's in Design during the pandemic period and continued to reassure me and help me along the way. To my boyfriend, who has been a blessing, thanks for all the breakfasts, TV series, and little trips to natural landscapes.

I am also grateful to all the people that contributed for this research in the workshops, the service design study group, and all the professors, colleagues, and friends at UFPR. I have never seen so many amazing people together.

Finally, I thank a real university, free and for all, the Federal University of Paraná, and the CAPES Scholarship (001) that made this research possible.

“If you only do two things in service design,
it should be prototype and research.”
(STICKDORN, 2020, 19:05:00)

RESUMO

A prototipagem de serviços é considerada uma atividade complexa e necessária em Service Design, e os Props são frequentemente mencionados na literatura existente sobre Design de Serviços e Prototipagem de Serviços. Isso pode ser devido à comparação frequente entre design de serviço e teatro, e a aplicação de técnicas e práticas teatrais para o desenvolvimento de protótipos de serviço. No entanto, há pouca definição de como os props são aplicados dentro dessas práticas. Além disso, os serviços interpessoais são aqueles que possuem intensa interatividade entre as pessoas. Assim, eles exigem representações encenadas ao prototipar para entender como esse fator complexo, que é o comportamento humano, pode ocorrer. Props são elementos teatrais usados para aumentar a compreensão, colaboração e imaginação que também podem auxiliar na prototipagem desse tipo de serviço. Portanto, esta pesquisa desenvolveu diretrizes para selecionar, desenvolver e implementar props na prototipagem de serviços por meio de representações encenadas. Para isso, utiliza o método *Design Science Research* (DSR), que se divide nas seguintes etapas: compreensão, idealização, desenvolvimento, avaliação e reflexão. A etapa contempla uma revisão de literatura (narrativa e sistemática), bem como uma primeira aplicação piloto de prototipagem de serviços para melhor compreensão do problema de pesquisa. As diretrizes foram desenvolvidas para um projeto real de design de serviços interpessoal de uma clínica de reabilitação. A idealização foi realizada por meio de sessões de cocriação com três colaboradores selecionados considerando sua conexão com o tema. Em seguida, as avaliações foram realizadas na fase de prototipagem do design de serviço do projeto da clínica, entendendo a eficácia das diretrizes e contribuindo para o preenchimento de lacunas nessa área. Por fim, a fase de reflexão apresentará as considerações finais, resumindo as lições aprendidas e refinando as diretrizes. Espera-se que esta pesquisa possa auxiliar os designers a utilizar os adereços de forma deliberada, principalmente em serviços interpessoais.

Palavras-chave: Props. Prototipagem de Serviço. Design de Serviço. Ferramentas.

ABSTRACT

Service prototyping is considered a complex and necessary activity in Service Design, and Props are frequently mentioned in the existing literature on Service Design and Service Prototyping. This may be due to the frequent comparison between service design and theater, and the application of theatrical techniques and practices to the development of service prototypes. However, there is little definition of how the props are applied within these practices. In addition, interpersonal services are those that have intense interactivity between people. Thus, they require stage representations when prototyping to understand how this complex factor, that human behavior is, might occur. Props are theatrical elements used to increase understanding, collaboration and imagination that also can assist the prototyping of this type of service. Therefore, this research developed guidelines for selecting, developing, and implementing props when prototyping services through staged representations. For this, it uses the Design Science Research (DSR) method, which is divided into the following steps: understanding, ideation, development, evaluation, and reflection. The step one contemplates a literature review (narrative and systematic), as well as a first pilot application of service prototyping to further understand the research problem. The guidelines were developed for a real project of interpersonal service design of a rehabilitation clinic. The ideation was carried out through co-creation sessions with three collaborators selected considering their connection with the theme. Then, the evaluations were carried out in the service design prototyping phase of the clinic project, understanding the effectiveness of the guidelines, and contributing to filling gaps in this area. Finally, the reflection phase will present the final considerations, summarizing the lessons learned and refining the guidelines. It is expected that this research can assist designers to use props in a more deliberate manner, especially in interpersonal services.

Keywords: Props. Services Prototyping. Service Design. Tools

LIST OF FIGURES

FIGURE 2.1: TIMELINE OF INFLUENCES IN SERVICE PROTOTYPE PROGRESSION. 26
FIGURE 2.2: SERVICE BLUEPRINT AS A METAPHOR OF A THEATER STRUCTURE. 28
FIGURE 2.3: PROPS IN A STAGED REPRESENTATION FOR A SERVICE. 31
FIGURE 2.4: TYPES OF PROPS IN SERVICE PROTOTYPE ACTIVITIES 33
FIGURE 2.5: TYPES OF PROPS IN SERVICE PROTOTYPING ACTIVITIES 35
FIGURE 2.6: CARDBOARD HOSPITAL PROTOTYPE 35
FIGURE 2.7: PROJECTION SCREENS FOR SD PROTOTYPING AT SINCO 36
FIGURE 2.8: TOOLS SUPPORTING THE BENEFICIARY TALK ON A SERVICE PROTOTYPE 37
FIGURE 2.9: WITH THE MAGIC WAND YOU CAN DO WHATEVER YOU FEEL LIKE 38
FIGURE 2.10: BODYSTORMING IN ACTION. 38
FIGURE 2.11: PERCEIVING AN ACTION FORCE OF A PROP. 40
FIGURE 2.12: PERCEIVING THE PHYSICAL CONSTRAINTS OF A PROP. 41
FIGURE 2.13: PERCEIVING THE LOGICAL CONSTRAINTS OF A PROP 41
FIGURE 2.14: PERCEIVING A REQUIREMENT OF THE PROJECT. 42
FIGURE 2.15: PERCEIVING A SEQUENCE OF ACTIONS FROM A PROP. 42
FIGURE 2.16: ENDOWING AN OBJECT WITH NEW CHARACTERISTICS. 43
FIGURE 2.17: DEVISING A METAPHOR 44
FIGURE 2.18: LEVELS OF PROTOTYPING. 49
FIGURE 2.19: POSITIONING STAGED TECHNIQUES AND PROPS 51
FIGURE 2.20: CORE OF THE DESIGN COUNCIL INNOVATION FRAMEWORK 55
FIGURE 2.21: LEVELS OF FIDELITY WITHIN SERVICE PROTOTYPES 56
FIGURE 2.22: THE TYPICAL PURPOSES OF A SERVICE PROTOTYPE 57
FIGURE 3.1: LOCATIONS OF THE AUTHORS IDENTIFIED ON THE SLR. 63
FIGURE 3.2: OVERVIEW OF THE ACTUAL FLOW OF THE DSR PHASES 65
FIGURE 3.3: UNDERSTANDING PHASE 67
FIGURE 3.4: IDEATION PHASE. 68
FIGURE 3.5: DEVELOPMENT PHASE. 69
FIGURE 3.6: EVALUATION PHASE. 69
FIGURE 3.7: REFLECTION PHASE. 70
FIGURE 4.1: EMUNAH'S SERVICE PROJECT PHASES. 72

FIGURE 4.2: INSPIRATIONAL CARDS BEING USED DURING THE WORKSHOP 2 74
FIGURE 4.3: SERVICESCAPE MINIATURES OF GROUP 75
FIGURE 4.4: VIRTUALIZA SERVICE PROTOTYPING 78
FIGURE 4.5: MARKUP DISKS FILLED DURING THE SESSION 80
FIGURE 4.6 : LUDIC PROPS AND A MOCK-UP OF THE VR GLASSES 82
FIGURE 4.7: IDEATION SESSION BOARDS 85
FIGURE 4.8: TV CONSOLE, COFFEE, AND SIDE TABLE ASSEMBLED WITH PROTOPS 90
FIGURE 4.9: BOOKS OF THE PATIENT KIT. 93
FIGURE 4.10: PILOT WORKSHOP WITH DESIGN STUDENTS. 94
FIGURE 4.11: PROPS USED CHARACTER IDENTIFICATION ON THE PILOT PROTOTYPING OF EMUNAH PROJECT. 96
FIGURE 4.12: SPORT DRAWSTRING BAGS 96
FIGURE 4.13: WORKSHOP 04 WITH THE CLINIC EMPLOYEES 101
FIGURE 4.14: COMPARISON BETWEEN THE TWO SERVICESCAPE ROOMS 103
FIGURE 4.15: PROVOCATIVE DISTURBANCE WITH THE GATEWAY PROP 105
FIGURE 4.15: POSITIVE DISTURBANCES PROVOKED BY PROPS DURING SERVICE PROTOTYPING 107
FIGURE 4.16: UNFRUITFUL INTERRUPTIONS AND BREAKING THE NARRATIVE FLOW. 108

LIST OF CHARTS

CHART 3.1: RESULTS OF NUMBER OF PAPERS VS YEARS. 63

LIST OF TABLES

TABLE 2.1: INTERACTION WITH PROPS IN SERVICE PROTOTYPE 44
TABLE 2.2: STAGED REPRESENTATIONS RESOURCES 51
TABLE 3.1: NUMERICAL RESULTS OF THE SYSTEMATIC LITERATURE REVIEW. 61
TABLE 3.2: OVERVIEW OF THE DSR 66
TABLE 4.1: PROTOTYPING FRAMEWORK ADOPTED ON THE VIRTUALIZA PROJECT 77
TABLE 4.2: PROP LIST AFTER 79
TABLE 4.3: FIRST GUIDELINES 87
TABLE 4.4: KEY PARAMETERS FOR CARRYING OUT THE SERVICE PROTOTYPE AT THE EMUNAH PROJECT 91
TABLE 4.5: PROP LIST FOR THE PILOT APPLICATION 95
TABLE 4.6: OVERVIEW OF THE PROP EMPLOYED ON THE PILOT WORKSHOP 97
TABLE 4.7: SECOND VERSION OF THE GUIDELINES FOR USING PROPS ON SERVICE PROTOTYPING 99
TABLE 4.8: PROP LIST FOR THE WS 04 APPLICATION 101
TABLE 4.9: OVERVIEW OF THE PROP EMPLOYED ON THE WS04 103
TABLE 5.1: GUIDELINES FOR PROP PREPARATION. 109

LIST OF ABBREVIATIONS OR ACRONYMS

CAPES	- Higher Education Personnel Improvement Coordination
NDS	- Design and Sustainability Center
NLR	- Narrative or Traditional Literature Review
PPGDesign	- Design Postgraduate Program of at UFPR
SD	- Service Design
SLR	- Systematic Literature Review
UFPR	- Federal University of Paraná

CONTENTS

1. INTRODUCTION 16
1.1 CONTEXT 16
1.2 RESEARCH PROBLEM 17
1.3 OBJECTIVES 19
1.4 ASSUMPTIONS 19
1.5 JUSTIFICATIVE 20
1.6 SCOPE 22
1.7 OVERVIEW OF THE RESEARCH METHOD 22
1.8 STRUCTURE OF THE DISSERTATION 23
2. PROPS AND SERVICE PROTOTYPING 25
2.1 HISTORICAL VIEW 25
2.2 THEATER AND SERVICE PROTOTYPING 27
2.2.1 Staging Services 27
2.2.2 Services and the Dramatic Arts 27
2.3 PROP BENEFITS AND DEFINITION 29
2.4 THEATER GUIDELINES 32
2.5 TYPES OF PROPS 33
2.5.1 Props for Representing Servicescapes Dimensions 33
2.5.2 Special Props 37
2.6 INTERACTING WITH PROPS WITHIN A SERVICE PROTOTYPE 39
2.6.1 Props as Signifiers, Constrains, Filters and Script 39
2.6.2 Props as Metaphors and Simulacrums 43
2.6.3 Props-User Influences 44
2.7 DEFINITION OF SERVICE PROTOTYPE 45
2.8 A FRAMEWORK FOR SERVICE PROTOTYPING 47
2.8.1 Background 47
2.8.2 Defining the Scope of Service Prototyping 48
2.8.3 Selecting the Service Prototyping Resources 50
2.8.4 Establishing the Position of Service Prototyping in the Design Process 54
2.8.5 Defining the Required Level of Service Prototype Fidelity 56

2.8.6 Defining the Purpose of the Service Prototype 56
2.9 DISCUSSION 58
3. RESEARCH METHOD 60
3.1 CHARACTERIZING THE RESEARCH PROBLEM 60
3.2 SELECTING THE RESEARCH METHOD 64
3.3 RESEARCH STRATEGY OVERVIEW 65
3.3.1 Overview 65
3.3.2 Phase 1: Understanding 67
3.3.3 Phase 2: Ideation 67
3.3.4 Phase 3: Development 68
3.3.5 Phase 4: Evaluation 69
3.3.6 Phase 5: Reflection 70
4. RESULTS AND ANALYSIS 72
4.1 CONTEXT OF THE FIELD RESEARCH 72
4.1.1 The Emunah Project 72
4.1.2 Summary of the Workshops that Preceded the Service Prototyping 73
4.2 PHASE 1: UNDERSTANDING PROPS IN SERVICE PROTOTYPING 76
4.2.1 Pilot Study: Virtualiza Project 76
4.2.1.1 Using props during prototyping 76
4.2.1.2 Lessons learnt 83
4.3 PHASE 2: IDEATION OF GUIDELINES FOR PROPS 84
4.4 PHASE 3: DEVELOPMENT 87
4.5 PHASE 4: EVALUATION 90
4.5.1 Protops: a platform of props 90
4.5.2 Pilot Prototyping 91
4.5.2.1 Pilot activity 91
4.5.2.2 Pilot results 97
4.5.3 Workshop 04 (WS04) 100
4.5.3.1 Workshop 04 activity 100
4.5.3.2 Workshop 04 results 103
4.6 PHASE 5: REFLECTION 107
4.6.1 The contribution of props for the narrative flow on the service prototype 107

4.6.2 Final version of guidelines 109
5. CONCLUSION 113
5.1 FINAL CONSIDERATIONS 113
5.2 RESEARCH METHOD CONSIDERATIONS 114
5.3 SUGGESTIONS FOR FUTURE STUDIES 115
REFERENCES 116
APPENDIX 1 - PLANNING THE SLR 124
APPENDIX 2 - RESEARCH STRINGS 125
APPENDIX 3 - SELECTED ARTICLES 127
APPENDIX 4 - VIRTUALIZA PROJECT: TERM EXAMPLE 129
APPENDIX 5 - VIRTUALIZA PROJECT: SCHEDULE 130
APPENDIX 6 - VIRTUALIZA PROJECT: PROP LIST 132
APPENDIX 7 - VIRTUALIZA PROJECT: NOTES 133
APPENDIX 8 - CO-CREATION SESSIONS: NOTES 134
APPENDIX 09 - EMUNAH PROJECT PROTOTYPE PILOT: TERM EXAMPLE 136
APPENDIX 10 - EMUNAH PROJECT PROTOTYPE PILOT: PLAN 137
APPENDIX 11 - EMUNAH PROJECT PROTOTYPE PILOT: SCHEDULE 138
APPENDIX 12 - EMUNAH PROJECT PROTOTYPE PILOT: NOTES 145
APPENDIX 13 - EMUNAH PROJECT PROTOTYPE WS04: PLAN 146
APPENDIX 14 - EMUNAH PROJECT PROTOTYPE WS04: SCHEDULE 148
APPENDIX 15 - EMUNAH PROJECT PROTOTYPE WS04: NOTES 161
APPENDIX 16 - EMUNAH PROJECT PROTOTYPE PROP LISTS 163
APPENDIX 17 - PROTOPS MANUAL 165
ANNEX 1 - EMUNAH PROJECT FOLLOW UP: IDEATION FORM 169
ANNEX 2 - EMUNAH PROJECT FOLLOW UP: SERVICE DESKTOP SYNTHESIS RESULT 172
ANNEX 3 - EMUNAH PROJECT FOLLOW UP: DEVELOPED PERSONAS 175
ANNEX 4 - EMUNAH PROJECT FOLLOW UP: BLUEPRINT 176

1. INTRODUCTION

This chapter presents the context and motivations of this MSc dissertation, including the research problem that resulted on the general and specific objectives and its assumptions. It also addresses the justification and scope and, at the end, presents an overview of the research method and an overall view of the dissertation structure.

1.1 CONTEXT

This dissertation intends to contribute to the issue of prototyping in Service Design through a better understanding of the use of props in staged representations. The term "Prop" comes from property, and it can be defined as an object used on the set of a play or a film (OXFORD, 2005). Props are elements that help materialize and conceptualize situations (SOFER, 2010).

The research can be positioned as a follow up of two previous works Blomkvist (2014)'s Ph.D. thesis at Linköping University Sweden and Hoss (2014)'s dissertation at UFPR. Blomkvist (2014)'s thesis provided a theoretical foundation on service prototyping, setting up the conceptual background with an ontology based on cognitive sciences and information systems. His work contributed to enhance the researcher´s understanding on service prototyping, with his proposition of a framework and a cognitive science perspective on service prototype representations.

In the same year of Blomkvist (2014) completion of his thesis, Hoss (2014) presented his dissertation with pioneering work in the context of Brazil, with an investigation on service prototyping. That research was integrated within a wider project on Sustainable Product Service System (S.PSS). Hoss's (2014) main objective was to develop orientations for service prototyping and contribute to the evolution of a reference model to develop PSS projects.

1.2 RESEARCH PROBLEM

The activity of service prototyping is one of the major challenges for those involved in service design (PENIN, 2018). It is a process embedded in all Design methods and it is considered as a necessary part of the design praxis, inherent to the way designers think and act (LIM *et al.*, 2008) and one of the core practices on Service Design (MIETTINEN, 2011). It can also be described as a conversation of how an idea would work in the real world and, therefore, it talks back to the designer (BLOMKVIST, 2014).

The development of service prototypes is a complex activity due to the nature of services (POLAINE *et al.*, 2013). Services can be differentiated from goods by some of their key characteristics (GLYNN; BARNES, 1995):

- Intangible: services are composed of mostly intangible elements, not possible to touch, see or taste.
- Heterogeneous: most services happen uniquely for each person who experiences them (PENIN, 2018).
- Co-production and consumption: the result of a service is simultaneously co-produced and "consumed" by the beneficiary (beneficiary is understood on this dissertation as equal to a service user or client) (POLAINE *et al.*, 2013).
- Perishability: implies that services cannot be stored, and they develop in a synchronic way (PENIN, 2018).

These service characteristics were firstly described in the marketing field, using the acronym IHIP, differentiating Goods from Services before the service-dominant logic. Although the dominant logic of goods is shifting to services, IHIP characteristics are still useful as a start point to understand services through the design lenses, as Design is originally a discipline focused on tangible artifacts (FORTY, 2009). These characteristics can illustrate why services are so unpredictable and difficult to prototype, which makes every interaction with a service unique. The inherent complexity of services, and, consequently, service design complexity, requires turning touchpoints into tangible interactions to enable the testing and evaluation of a given service concept (MIETTINEN; KOIVISTO, 2009). In this context,

a Service Prototype can be defined as a shareable physical manifestation that externalizes an internal vision of a future situation (BLOMKVIST, 2014). In other words, the purpose of prototyping is to materialize an idea (MIETTINEN *et al.*, 2012).

The perception of possible realities provided by a service prototype can be explained through the concepts of philosophers such as Plato and Aristoteles. Plato perceived ideas as ideological visions, perfect concepts which were not real (BOAL, 1991). Aristoteles, on the other hand, understood that the concept of reality was the power to reach the ideal state, recreating this internal movement of things that are directed to the ideal (BOAL, 1991). The practical implication of Aristoteles´ proposition can be seen in his theater conception, where the representation of an idea demands to play the character as it should be, not copying how it is, striving to get to the central ideas underlying the script (BOAL, 1991).

Service Design has always been connected to theater, especially when it comes to performing a service. The service Blueprint, one of the first Service Design tools (SHOSTACK, 1984), uses the theater play as a metaphor. For this reason, it is not a surprise that enactments and rehearsals are presented as ideal tools for developing service prototypes and understanding how services will work in a future scenario. Within the growing body of knowledge of Service Prototyping one approach appears to be particularly promising: the use of props.

Props can assist staged activities in improving understanding, collaboration, and increasing creativity. In the book of Stickdorn *et al.* (2018), it is mentioned a necessity to prepare a room where the Investigative Rehearsal will take place with props. In this sense, Penin (2018, p.266) understands props as “physical artifacts that help make the system work”. Likewise, Blomkvist and Bode (2012, p.2) mention that props and settings are key tools on service prototyping with direct impact on the possibility of “participants to understand the situation and make relevant choices and actions”. Moreover, because services are constantly compared to theater, physical artifacts of services are also compared to props (WILDMAN, 2013). However, despite its relevance for Service Prototyping, the body of knowledge associated with props is still relatively small.

Representing intangible attributes of a given service concept is the most complex aspect of service prototyping, particularly when it deals with human

behavior. Staged representations are the closest representations that can assist prototyping in dealing with these attributes, especially in services with intense interpersonal interactions. During the prototyping activity props can help participants to understand, collaborate, and be creative during the test and evaluation of a service concept.

Therefore, starting from the premise that props have been used in Service Design but still not fully understood both in terms of its epistemology as well as methodology, this dissertation intends to answer the question: How to select, develop and implement props when prototyping interpersonal services through staged representations?

1.3 OBJECTIVES

As a general objective, this research aims: **To develop guidelines for selecting, developing, and implementing props when prototyping services through staged representations.**

Bearing the general objective, the secondary objectives are:

- To discuss service prototype concepts, principles, and resources associated with staged representations;
- To characterize props, its benefits, types, and dynamics (how they work) in service prototyping;
- To identify factors that influence the effectiveness of props application during service prototyping.

1.4 ASSUMPTIONS

This dissertation starts from the assumptions that there are many types of prototyping levels inside service design, which may vary from an interface app to the relation between people. Since services are people centered, a prototype of a service involves staged representations and most of these staged representations use props as tools.

Furthermore, props can be classified according to their role in service prototyping. This classification might assist designers to select and develop objects as props. Additionally, props provide clues of the situation for the participants of a staged representation, and can be endowed with new meanings, being a start point to creatively explore an object or situation. Hence, they can also act as a driver for converting prototypes as creative means to improve a service concept. This dissertation understands that Props are not deliberately used in service prototyping staged representations. Thus, guidelines for designers can be a valuable instrument to support those involved in prototyping services, contributing to increase the effectiveness of this activity.

Another relevant assumption is that service design dynamics require a high level of flexibility from props. Indeed, they should provide the possibility of a rapid and easy change in forms and functions, enabling designers to explore new touchpoint possibilities on a service concept.

1.5 JUSTIFICATIVE

The service sector has been excelling in most economies of the world (MERONI; SANGIORGI, 2011) being an expressive portion of most national GDPs (WORLD BANK, 2020). In Brazil, for example, services are responsible for 72,8% of the national GDP (VIECELI, CUCOLO, 2021). Due to such facts, the economic policies are gradually shifting away from product-centered towards a service-centered paradigm.

Vargo and Lusch (2004) argue that all economies exchange only services and not goods. Thus, products are solely tangible manifestations of services. Their list of Foundation Premises (VARGO; LUSCH, 2004) discusses the differences between goods- and service-centered dominant logic. Overall, these Foundation Premises (FPs) explain value as a proposition offered by companies to be co-produced with customers. They also evidence the human centrality of services, a characteristic that is also identified by other authors (PENIN *et al.*, 2015; SANGIORGI; PRENDIVILLE, 2017).

Service Design is a relatively recent discipline in the field of Design (PENIN, 2018; STICKDORN *et al.*, 2018). It is related to other more consolidated areas that follow the expressive technology sector's growth during the pandemic (CARNEIRO, 2021; TRAPP, 2021). At the same time, Service Design is becoming an important field for business (SANGIORGI; PRENDIVILLE, 2017), with a rapid growing demand for Design professionals with competencies on this theme.

Service Design does have a potential contribution to the promotion of more sustainable modes of consumption and production. Indeed, services do offer a promising approach to promote more dematerialized modes of consumption (SANTOS, 2019). According to Sangiorgi, *et al.* (2017), service designers can help implement service-dominant logic by transforming manufacturers into service providers, enhancing their role in the life cycle of products, or significantly eliminating their need in people's everyday lives.

New services businesses have a high rate of failure in their first year due to high volatility and rapid market dynamics and applying tools such as prototyping can help improve problems like these (RAZEK, 2020). Service prototypes enable the identification and reduction of risks and increase the effectiveness of the Design process (RAZEK, 2020; HOSS, 2014), saving large amounts of time and money (POLAINE *et al.*, 2013). The implementation of a design without prototyping can lead to several problems, such as not fulfilling beneficiary's requirements, not understanding the dynamics of the beneficiary behavior, and overlooking external factors that can affect the performance of a service (HOSS, 2014; DIANA *et al.*, 2009).

In order to fulfill these needs, Design education requires the development of a body of knowledge, including new prototyping approaches, that can deal with the complexity of service design as well as product-service systems (RØISE, 2011). Devising new tools for prototyping can help designers to better understand and tackle emerging wicked problems. Blomkvist (2014) reinforced this perspective, pointing service prototyping as a topic that needs further studies to be consolidated (BLOMKVIST, 2014).

Props, the focus of this dissertation, fall within the scope of staging tools. They can assist in immersing beneficiaries and other stakeholders in the future

service (BUCHENAU; SURI, 2000; CIRAVEGNA, 2021; RAZEK, 2020), to understand service variations (HOLMLID; EVENSON, 2007), affecting participants understanding and assisting them to make relevant choices (BLOMKVIST AND BODE, 2012). They also increase creativity, being endowed with new characteristics and expanding their meaning (HOWARD *et al.*, 2002); as abstract and fantasy objects can force imagination (BRANDT; GRUNNET, 2000); or providing material for acting (MARGOLIES, 2017).

Within this context, this research aims to assist service design professionals to develop better prototypes, improving the understanding, collaboration, and creativity of designers and stakeholders through props while staging services for prototyping. Thus, resulting in more successful services.

1.6 SCOPE

The most complex factor in services prototyping is people - beneficiaries, and service providers - as the dynamic and result of human interactions cannot be totally previewed (CIPOLLA; MANZINI, 2009). This concerns the difficulty in design and prototyping services and foresight future situations. For this reason, this research focuses on interpersonal services where both customer and employee are performing actions in the Servicescape (BITNER, 1992). These types of services usually have more complex environments (BITNER, 1992) and can have richer relations between people. They can also be correlated to the concept of “relational services”. Relational services have intensive interpersonal relations, favoring “I-Thou" encounters (CIPOLLA; MANZINI, 2009). Thus, this type of service requires greater engagement and participation (CIPOLLA; MANZINI, 2009).

Furthermore, the field research focused on the last phase of a first cycle of iteration in a service design process, with a prototype used for evaluative purposes and adopting a low fidelity level.

1.7 OVERVIEW OF THE RESEARCH METHOD

For the development of this dissertation, the selected method was Design Science Research (DSR). This method enables the study, research, and investigation of the artificial and its behavior by developing an artifact and evaluating it to establish a new knowledge (BAYAZIT, 2004; LACERDA *et al.*, 2013; SANTOS, 2018). Thus, to better evaluate the developed guidelines (the main artifact developed on the dissertation), they were applied in a real context, on a prototype of an interpersonal service design.

Based on Santos (2018), this research is structured into the following steps: a) understand, b) ideate, c) develop, d) evaluate, e) conclude. The first step involved data collection with a Narrative (NLR) and a Systematic Literature Review (SLR), following Santos´s (2013) framework. Additionally, a first pilot application (Virtualiza) contributed to further understanding the research problem.

The second step (ideation) involved the development of a collaborative session to generate alternatives for the intended guidelines. The guidelines were converted into a checklist. The researcher developed a set of props to assess the effectiveness of the proposed guidelines. In the Evaluation step, the props were evaluated in a real service prototyping situation, using the checklist developed on the previous step. Before and after applying the tool in a real service prototyping, the participants answered a questionnaire to collect their experience and understanding of the use of props whilst prototyping. The activity was recorded, and notes captured relevant insights for improving the guidelines. The analysis of the results on the last step involved a review of synthesized lessons learned and structuring the conclusions according to the goals established for this dissertation.

1.8 STRUCTURE OF THE DISSERTATION

The chapters that structure this research are shortly described below.

Chapter 1. Introduction: The current session, as its name implies, is introductory. It presents the context, the problem, the objectives, the assumptions, the justificative, the scope, an overview of the method, and the structure of the dissertation.

Chapter 2. Props and Service Prototyping: This chapter presents a literature review synthesizing and deepening the theoretical concepts of the thematic areas of service

prototyping and props, aiming to gather knowledge about props for service prototyping. It gives fundamental aspects of each area and correlates the subjects, bringing them together.

Chapter 3. Research Method: this chapter presents the research strategy structured to answer the research question describing the method, data collection protocol and analytical strategy.

Chapter 4. Results and Analysis: It shows the development, tests, evaluation, and results of the artifact (guidelines) through the application of the proposed method presented in chapter 3.

Chapter 5. Conclusion: It presents the conclusion regarding the research problem and the corresponding goals of this dissertation. The chapter also discusses the lessons learned from the research method, and, finally, it presents suggestions for future research.

2. PROPS AND SERVICE PROTOTYPING

2.1 HISTORICAL VIEW

Overviewing the development of the service design field, we can see the presence of prototyping even before the term was coined. Nobel Prize Prof. Herbert Simon, known for his ideas that contributed to the dissemination of design thinking, considered prototyping one of the core Design principles (DAM; SIANG, 2020). In his book "Sciences of the Artificial", highlighting the importance of prototyping, Simon (1969) stated that:

> They were built, modified, and improved in successive stages. Perhaps theory could have anticipated these experiments and made them unnecessary. In fact, it didn't, and I don't know anyone intimately acquainted with these exceedingly complex systems who has very specific ideas as to how it might have done so. To understand them, the systems had to be constructed, and their behavior observed. (SIMON, 1996, p.20).

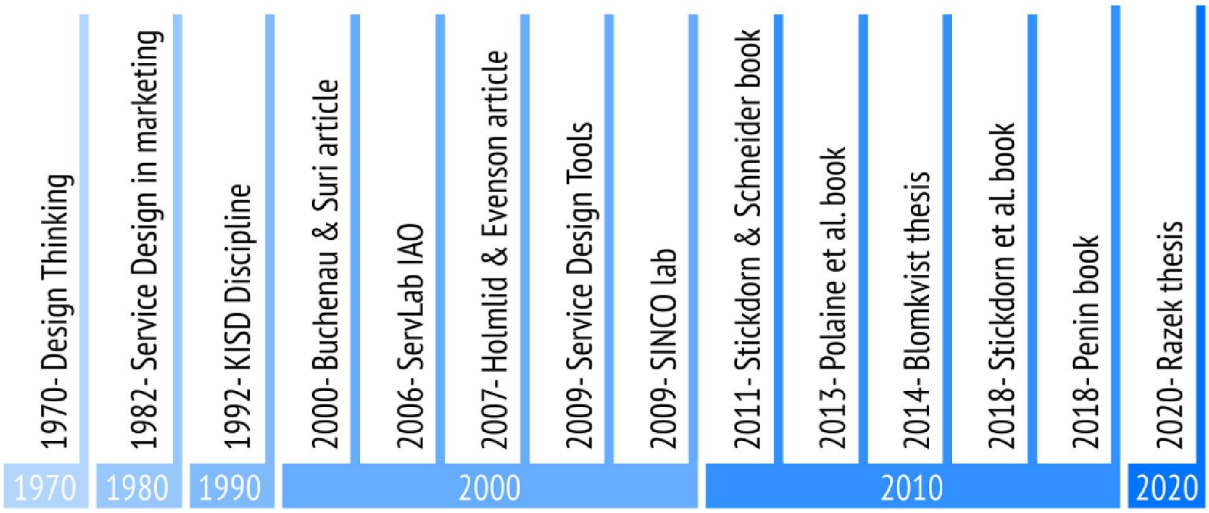
Furthermore, when in 1982 G. Lynn Shostack coined the term "service design" as a stage in service development within marketing, she also explained that the service blueprint could be used as a simple prototype. As such, it could enable feedback from the various stakeholders and facilitate the identification of rational modifications before the service is re-tested (SHOSTACK, 1982, p.17).

In 1991, Prof. Dr. Michael Erlhoff decided to include a discipline of service design in the Köln International School of Design (KISD), contributing to establishing it as a branch of knowledge within the field of Design. According to Prof. Erlhoff, one of the core competencies of a service designer is to "visualize, express and choreograph what other people can't see, envisage solutions that do not yet exist" (INTERACTION DESIGN FOUNDATION, 2020). In other words, a core competence of a service designer involves the ability of prototyping a service design idea.

The weight of service in the economy, representing a great part of the GDP in most economies (WORLD BANK, 2020), has contributed to the growing attention to the service-dominant logic. This attention has been pushed further also due to the potential of services to tackle sustainable issues (SANTOS, 2019). Many books and articles on the subject have been written, some providing theoretical foundations

whilst others contribute to a better understanding of Service Design process, methods, and tools, including how to prototype a service. Below is a timeline on the main events and publications that influence our understanding on service prototyping:

Figure 2.1: Timeline of influences in service prototype progression.



Source: The author (2022).

The works of Buchenau and Suri (2000) with Experience Prototyping, Holmlid and Evenson (2007) with Prototype Enacting Services, and Diana *et al.* (2009) with the creation of the portal "Service Design Tools"[1], can be highlighted for their influence on subsequent works. Specialized labs for service prototyping such as ServLab[2] from Fraunhofer IAO (WGP, 2007) in Germany and SINCO[3] (Service Innovation Corner) of Lapland University in Finland (KONTTINEN *et al.*, 2011) have contributed significantly with research and development in this topic, being forerunners of the subject. Books that explain basic principles of service design and prototyping such as Polaine *et al.* (2013), Penin (2018), Stickdorn *et al.* (2018) provided relevant contributions to a better understanding on the various dimensions of Service Prototyping, contributing to the teaching of service design and its prototyping. The academic studies of Blomkvist (2014), and Razek (2020) were specifically developed with a focus on service prototyping, being the last one focused on immersive technologies.

---

[1] Available in: https://servicedesigntools.org/
[2] Available in: https://www.dlpm.iao.fraunhofer.de/en/servlab.html
[3] Available in: http://sinco.fi/

2.2 THEATER AND SERVICE PROTOTYPING

2.2.1 Staging Services

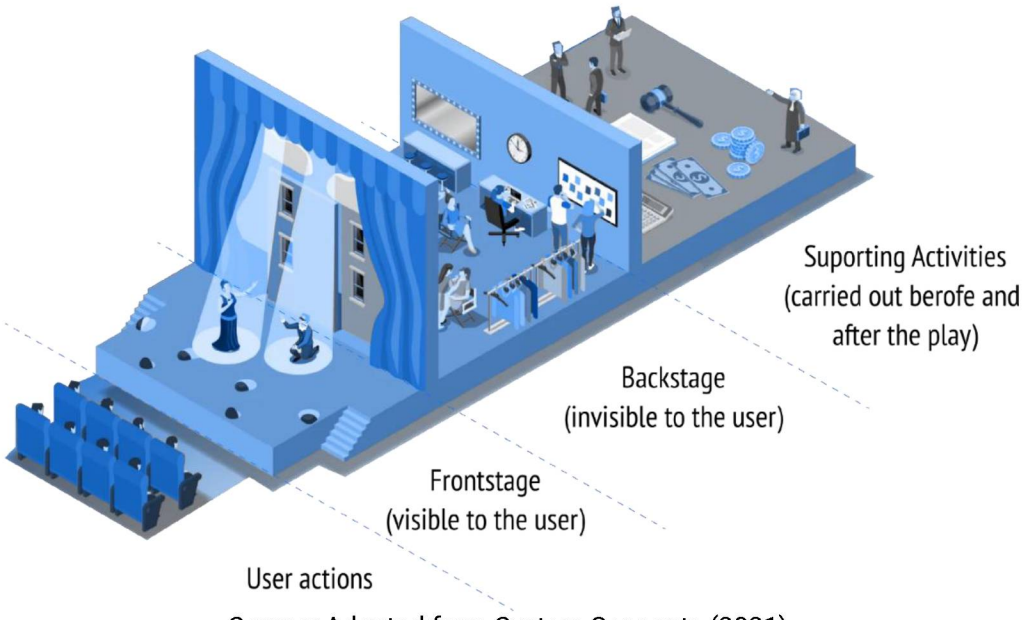
Some representations used in Design derived from the Theater staging techniques, also called participatory, or scenario-based, and can be used to develop service prototypes. Since people are involved in these types of techniques, they can be classified as narrative and ongoing representations (see 2.8.2). Furthermore, props are usually applied in these representations to assist professional and nonprofessional actors during their acting.

This section intends to explain the involvement of dramatic arts and service prototyping along with its props.

2.2.2 Services and the Dramatic Arts

Service Design embraces many principles and practices borrowed from the field of dramatic arts. Indeed, the Blueprint Structure (SHOSTACK, 1984) is a schematic visualization of a service that today bears a metaphor of a theater structure (Figure 2.2). Thus, its first section contains the beneficiary actions, and a frontstage where the service provider carries out its activities with direct interaction with the customer; behind the scenes, a backstage contains service activities hidden from the customer direct interaction and occurring simultaneously to the customer experience; and, at last, a section with supporting activities, which occur asynchronously to the customer experience:

Figure 2.2: Service blueprint as a metaphor of a theater structure.



Source: Adapted from System Concepts (2021).

The development of service prototypes is perhaps the Service Design dimension that most benefit from the knowledge exchange with the field of dramatic arts as it quite often involves staging and performance. In fact, services only exist when customers enact them, therefore, to understand services before they exist, they need to be staged in a way that is plausible or believably approximates actual service. Thus, Role-play is a widely used tool adopted by service designers (TASSI *et al.*, 2018). Additionally, Different authors recommend the adoption of service rehearsals, some using Boal's techniques such as Forum Theater[4] (STICKDORN *et al.*, 2018; PENIN, 2018).

The use of enacted prototypes can improve empathy (CIRAVEGNA, 2021), better simulate a future situation (DIANA et al, 2009), and facilitate our understanding on the implications of variability and uncertainty within services (RODRIGUES; HOLMLID, 2017). Hence, with the adoption of a theatrical representation of a service, a designer or a client can experience the future service instead of just watching it and, as a result, provide more effective feedback for designers (BUCHENAU; SURI, 2000).

---

[4] Boal was a Brazilian drama theorist, founder of Theater of the Oppressed - a variety of forms of theater workshops aimed to develop people's interaction, dialogue, and critical thinking.

Stickdorn *et al.* (2018) consider service prototypes as staged experiences and processes (e.g., rehearsals, walkthroughs, simulations, or pilots), replicating any chosen part of a service to supporting activities. Diana *et al.* (2009) position service prototype as a specific tool that reproduces place, situation, and condition of the future service (DIANA *et al.*, 2009). Thus, staged representations present the closest connection to a service context and, therefore, can be highly effective for service prototyping.

When understood as a theatrical resource, props can aid participants to immerse in the intended situation, facilitating co-creation sessions, fomenting empathy, and the capture of relevant insights to feedback the Design process (RONTTI *et al.*, 2012; KUURE *et al.*, 2014). Additionally, from the perspective of interior design, the process of building props could continue, with successive improvements until reaching the closest proximity with the actual servicescape that will be implemented (KRONQVIST *et al.*, 2013).

2.3 PROP BENEFITS AND DEFINITION

According to the Oxford Dictionary (OXFORD, 2005), as a noun, “props” derives from the term “property”, and it can be defined as an object used on the set of a play or a film. Hence, props can be food, medicines, weapons, gear, sports equipment, musical instruments, clothing accessories, prosthesis and orthosis, furniture, decor, wayfinding, posters, large as a David sculpture or small as a little diamond (KANERIA, 2015).

The theater has such a close connection with the Philosophy fields that a definition of what is a prop is still blurred (HART, 2013). Margolies (2017) argues that there is no clear statement that defines a prop: on some occasions it is close to a thing (not defined in function), an ordinary object (simple object brought to the stage to complement the set), or a puppet (such as a collapsible prop that can be reassemble in one movement).

Moreover, although one might consider a dichotomy between objects and humans in theater, a prop can also tell a story by itself. According to Veltruský (1964), the relationship of man and object can be understood in a range that goes from a lifeless element on the scene to, on the other extreme, to the protagonist.

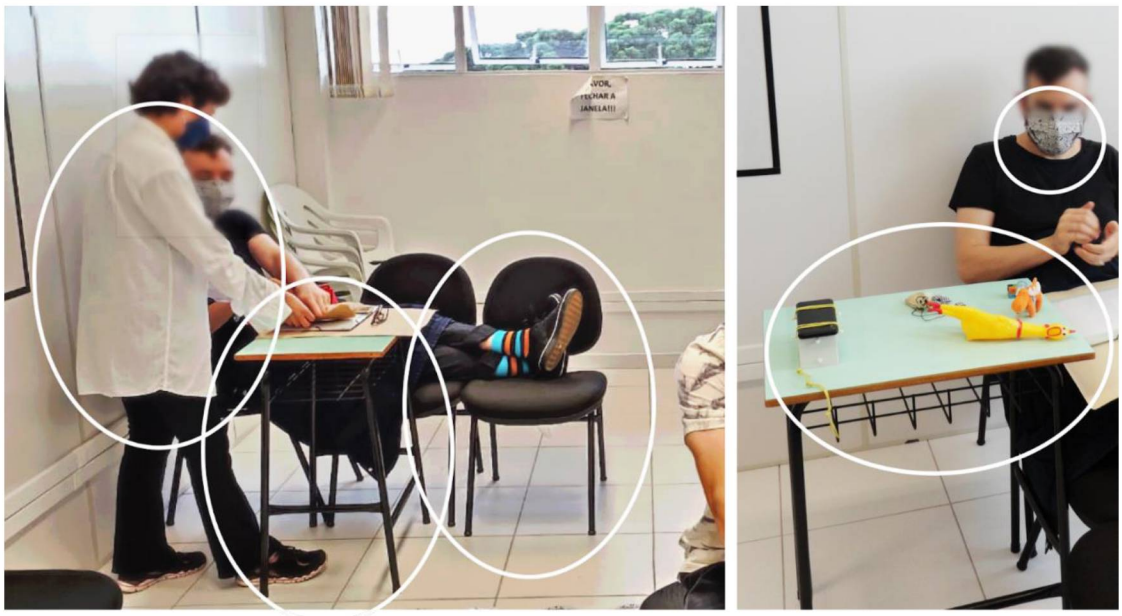
Thus, the boundaries of a prop are not well defined. Therefore, as the role of a protagonist as a prop is acknowledged, a general concern emerges how to consider the mutual influences among props on service prototyping (MARGOLIES, 2017).

In practice, each production or theater company has its own classification for props, which also enables them to divide the responsibilities of each staff member. In general terms, it is possible to divide props in the Theater into two main categories: Hand and Set (HART, 2013). Hand props are the ones that can be handled by the actor. In this category are action props, hero (very detailed) or background (less detailed); stunt props (used for stunt actions); practical (working) or dummy (or static, e.g., just a shape); rehearsal (cheaper) or actual props, costume parts and personal props; perishable (or running, e.g., food, cigar, fake blood, batteries), and breakaways (e.g., bottle, glass, furniture) (HART, 2013). Meanwhile, set props are the objects on the set which are not touched by the actors. These can be mostly furniture, but also trim (hanging items on the walls) and set dressing (objects that set a mood but cannot be touched during the act) (HART, 2013).

Furthermore, as many prop masters are acknowledged for their maker ability, such as carpentry, sculpting, and molding, thus another possible categorization of props comes from the Japanese theater Kabuki. In the Kabuki theater props can be separated into props that are made and real objects that are brought to the scene as props (HART, 2013).

In service design, different authors mention the importance of props for prototyping. Blomkvist and Bode (2012) argue that props and setting are key to enabling role-playing situations, with direct effects on the possibility for participants to understand the situation and make relevant choices and actions. In order to exemplify this characteristic Figure 2.3 shows a staged representation of a service, highlighting some of its props. In the first image there is a white coat identifying the doctor. Also, a table and chairs shown on the image simulate the furniture of a hospital. In the second image there are some objects representing toys and the participant is wearing a facial mask with a childish pattern, identifying him as a child.

Figure 2.3: Props in a staged representation for a service.



Source: The author (2022).

Penin (2018) mentions props as “physical artifacts that help make the system work” (PENIN, 2018, p.266). Stickdorn *et al.* (2018) mention the necessity to prepare a room where the Investigative Rehearsal will take place with props. Buchaneu and Suri (2000, p.6) argue that props can be used to “evaluate ergonomic and psychological comfort with different arrangements”. In the experience prototype adapted method of Polaine *et al.* (2013) the authors brought some mockups to the service beneficiaries. These mockups were firstly evaluated by them through just a direct interaction, and later through a simulation of the final service. The main benefits pointed in the literature are that props can improve comprehension, collaboration, and creativity of the participants in a service prototype activity.

Props can be endowed to expand their meaning (HOWARD *et al.*, 2002), which can go beyond the actual meaning intended of an object. Hence, props can be abstract or fantasy objects to force imagination (BRANDT; GRUNNET, 2000). They can be used as a time and space compass to establish a moment inside the scene; they can be read as text or represent a physical constraint, or they can be an active force that attracts the actor (MARGOLIES, 2017). They can bear the representation of a moment of history, a style, a status position, or an ethnic character (MARGOLIES, 2017). Furthermore, props in service prototype can be the same artifacts to be adopted on the final service, or a mock-up, model or prototype of a product that will be present on the servicescape.

Despite the complexity and fuzziness of its application in practice, this dissertation will adopt a working definition of props as **artifacts used during a service prototyping staged activity to enhance comprehension, collaboration, and creativity.**

The following sessions aim to classify and understand further the interaction with props while prototyping services.

2.4 THEATER GUIDELINES

At the time of this research the author. has not identified the literature guidelines to select and produce props. However, in a desktop review it was possible to find some instructions related to the preparation of props in theater college websites. Most recommendations dealt with safety and most of them about the precautions when using weapons on stage (ASCIP, 2018; ITHACA, 2022a; PRCOMICCON, 2022; SONOMA, 2022). There are also recommendations on preparing the items in advance, especially during first rehearsals (ITHACA, 2022b). Moreover, the literature presents pre and post stage preparation, including checklists, definition of responsibilities for prop masters (ITHACA, 2022b).

The recommendations on safety are valuable since props can present the absence of functionality, only for display, and other aspects of setting the props on stage can contribute to safety. Overall, the literature suggests checking for problems in electrical equipment and cables; assess the structure of objects and the floor; the protection of elevated areas and the adequacy of lighting; the presence of hazardous chemicals; the adequate precautions when using guns and ammunition (to be managed by a specialist); and the use of fire or hot equipment near or in the scene (ASCIP, 2018). Another recommendation is to be very clear about what and how actors can interact with and who is responsible for the prop, especially personal artifacts.

2.5 TYPES OF PROPS

As props are artifacts used on a theater stage, any actual service artifact can be conceived as a prop in a service prototyping. The figure 2.3 compiles the types of props and shows the other categories that will be further explained below.

Figure 2.4: Types of props in service prototype activities



Source: The author (2022).

Subtitle: Special Props not representing any actual touchpoint of the final service

Although props can mostly represent parts of the service environment, others are not related to any artifact in the future service: they are called on this dissertation “special props” (see Figure 2.2). Their role exists only during the service representation to assist the dynamics of the participants, such as wands, crystal balls, cartoon speech balloons, wigs, etc.

2.5.1 Props for Representing Servicescapes Dimensions

Servicescape is the term used to address the overall service environment (BITNER, 1992). Bitner (1992) explains that there is a range of complexity in a Servicescapes, from elaborate to lean. They can also be classified according to the person that acts inside the Servicescapes, from self-service (customer only), passing through interpersonal services (customers and employee) to remote service

(employee only), being the elaborate and interpersonal services of the most complex Servicescapes. Bitner (1992) separates the servicescape into three dimensions:

- **Signs, Symbols, and Artifacts:** providers of signifiers of the service (signage, personal artifacts, style of the decor, etc.).
- **Space / Function:** layout (furniture, equipment, etc.).
- **Ambient Conditions:** related to the five senses - taste, hearing, sight, smell, touch (lights, air conditioning, edibles, perfumes, music, etc.).

Time also affects the overall perception of a given service and could be represented in different dimensions on Bitner (1992) servicescape concept. The use of light to simulating night/day on the ambient conditions, background sound (ex: the sound of a rush hour), or a clock on the wall in a more functional dimension.

The use of props to simulate signs and space is, perhaps, the most known application of props in service prototypes. Signage can be easily prototyped to be applied as a prop in a service prototype, and, if necessary, it can be fully functional with a very close appearance to reality. It is also common to use props to build a character's personality. It is possible to use props to simulate any of the three dimensions of the servicescape in a service prototype. However, the ambient condition is probably the most subtle one. An example of simulating other stimuli rather than sight or hearing is the use of food, cigars, or flowers for taste and smell.

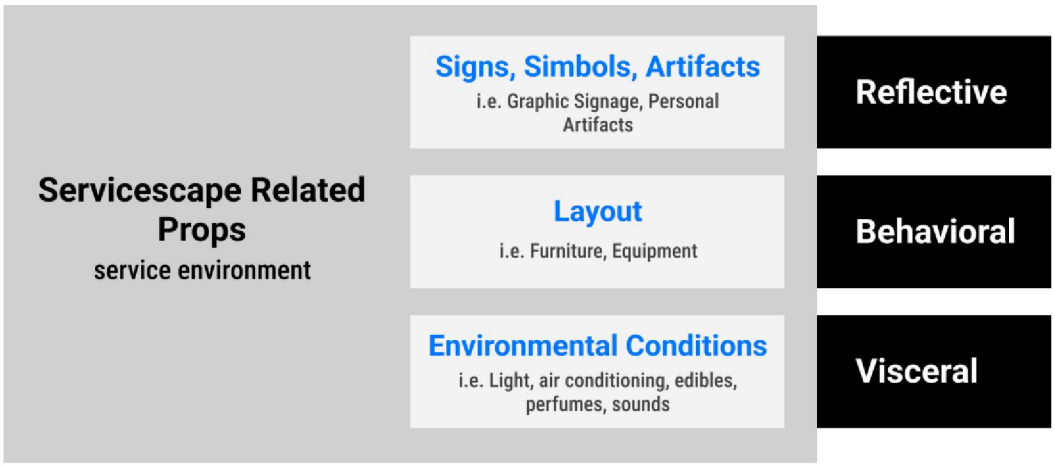
Norman (2008) has a similar structure in his classification of the emotion process associated with artifacts, called Design Levels. For him, emotions can be related to three levels of brain processing:

- Reflective Level: at the reflective level, interpretation, understanding and reasoning, is also related to memory, culture and meanings;
- Behavioral Level: it is linked to the behavior of use, e.g., performance and usability;
- Visceral Level: concerns the immediate response caused by a stimulus, resulting in, for example, rejection or approach, at this level physical aspects of a product such as aroma, appearance and textures are important.

The analytical structure proposed by Norman (2008), when used in conjunction with Bitner´s (1992) propositions, enables a deeper understanding about

the role of props. Some artifacts in a first evaluation can often be considered as just part of the overall background of a servicescape, with a contribution to the behavioral or reflective level of Norman´s (2008) model. However, if they are more directly related to the visceral level, they present a more immediate impact and response on the user behavior. The figure 2.3 shows these relations:

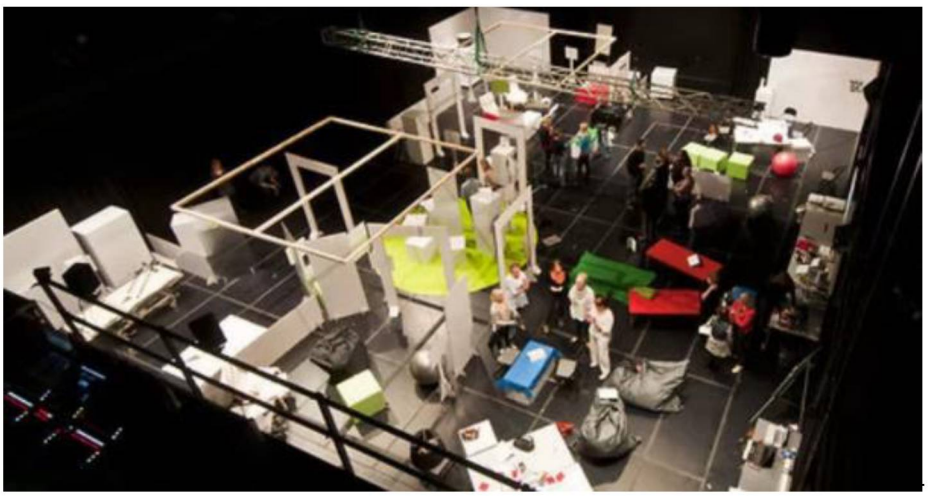
Figure 2.5: Types of props in service prototyping activities



Source: The author (2022).

On a more practical side of Service Prototyping, cardboard is the most common material cited to develop a prop for representing a touchpoint or the servicescape (STICKDORN *et al.*, 2017). The use of this material can be seen when representing or recreating artifacts (STICKDORN *et al.*, 2018). A good example is the Cardboard Hospital developed by Aalto University, where the design team and key stakeholders staged interactions with touchpoints and servicescape for a new hospital infrastructure (KRONQVIST *et al.*, 2013):

Figure 2.6: Cardboard Hospital Prototype.



Source: Kronqvist (2013, 00:00).

Alternatively, props can be produced as digital artifacts, projected onto surfaces. The SINCO Laboratory at Lapland University utilizes projection technologies to simulate visual and sound experiences (KUURE *et al.*, 2014) (Figure 2.7). Two perpendicular 117' projection screens provide a background scenery (with lighting, and sound), and additional physical props make it possible to create a space that enables participants' immersion onto a service (KUURE *et al.*, 2014).

Figure 2.7: Projection screens for SD prototyping at SINCO



Source: Santos (2019).

Although cardboard can provide a rapid and cheap means for developing a prop, digitally projected props can be useful to rapidly represent complex information, including backgrounds of the actual place where the service will be implemented. It is also possible to combine both situations to stimulate other senses, not only visual but also haptic perception.

The process of building props for Servicescapes can happen many times during the design process, where it can gradually evolve the fidelity of the artifacts until it reaches the closest level to the reality of the final service concept (KRONKVIST *et al.*, 2013). Moreover, each representation can provide different feedback where low fidelity prototypes may provide a more open discussion, whilst

high fidelity prototypes enable more attention to details since it looks more as the "finished" service. The high-fidelity prototype requires less time and effort from the participants to understand and assess the concept (STICKDORN *et al.*, 2018). Also, when mixing elements with different levels of fidelity, usually superior fidelity elements attract more attention. Sometimes this resemblance to reality can be detrimental to the prototyping intent, distracting the participants (e.g., SANTOS *et al.*, 2018; KRONKVIST, *et al.*, 2013).

2.5.2 Special Props

Special props do not represent a specific service touchpoint. They are brought for the service prototyping activity as a facilitator. It usually has fun, fictional, or historical characteristics. Special props sometimes play roles that are not part of the future servicescape, but they are useful in the development of prototypes to help collaborative work and to enable humorous approaches (almost as toys). Figure 2.8 shows an illustration of an example, a TV frame to assist shy people to express their ideas in a role-play experience (SANDERS; STAPPERS, 2007).

Figure 2.8: Tools supporting the beneficiary talk on a Service Prototype



Source: Sanders and Stappers (2007, p.10).

Rubber chickens are known for being versatile props, for example, they can be an identifier of a person or a group (STICKDORN *et al.*, 2018), and there is even an online version for interrupting people in a "lighter" manner for online meetings (e.g., DAILYBOT, 2022).

Moreover, other tools, especially good for improvisation, are fantasy items that can help participants feel comfortable when proposing different ideas, such as the magic wand (Figure 2.9), crystal ball, and magic box used in Drama and Props Approaches by Brandt and Grunnet (2000).

Figure 2.9: With the magic wand you can do whatever you feel like



Source: Brandt and Grunnet (2000, p.8).

It is possible to insert certain types of information on the scene by using, for example, cartoon speech balloons to write collected phrases from interviews and field research. Another possibility is using mats with whiteboard surfaces that can be placed representing touchpoints of a service blueprint.

The props cited above can also represent service elements, becoming a prop of one of the servicescape dimensions. For example, a rubber chicken can represent a person, or a frame of a website in cardboard can be used to simulate dialogs between the interface and its beneficiary (e.g., PENIN, 2018; ANDERSON, 2010). The interface will exist in the future servicescape, not as a person behind a cardboard frame but as a website. In Bodystorming it is possible to use a mix of real objects and objects that represent something else. In the scene below (Figure 2.10) the designers play with chairs and lamps as probable artifacts of the servicescape, also a wig for identifying the protagonist and a mannequin bust representing more people (SANTOS, *et al.*, 2018).

Figure 2.10: Bodystorming in action.



Source: Santos, *et al.* (2018, p.10).

Other categorization criteria for props, such as “high x low fidelity”, or “rough versus real” and the variety of possible interactions with props, can assist the understanding the versatility and relevance of props to enable the representation of a service. Sometimes props might be used to simulate characteristics or an actual touchpoint; sometimes it can be used to provide information on the service context. In order to enhance the understanding on this issue, the next section discusses the implications on the various possibilities in the interactions with props.

2.6 INTERACTING WITH PROPS WITHIN A SERVICE PROTOTYPE

The literature review unveils that it is necessary to understand that props can be more than just simple objects in a scene (MARGOLIES, 2017). Sofer (2010) explains that the origin of the view that objects may distract us from the act is traced back to Aristotle and objects have been neglected ever since in the dramatic arts. However, the spatial and temporal comprehension of the performance of an object while the story plays, can also support the communication of meaning during the act (SOFER, 2003).

Based on the work of Margolies (2017) and Norman (1999), this section aims to present the range of possible relations when interaction with props that can contribute to service prototyping.

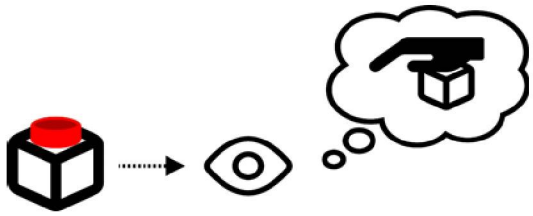
2.6.1 Props as Signifiers, Constrains, Filters and Script

Affordances are signs that the environment provides for an individual that can be perceived even in a novel situation. Affordances were first introduced by

Gibson (1979, p.128) that describes affordances as “what the environment provides or furnishes the animal”. Later the term entered the design field by Norman (1988).

Affordances from an object may provide clues of how to handle it (NORMAN, 1988). In theater, affordances can be perceived as “action forces” related to the attraction that an object has, implying action (MARGOLIES, 2017). For example, an empty chair invites one to be seated or a red button appeals to be pressed (Figure 2.11).

Figure 2.11: Perceiving an action force of a prop.



Source: The author (2022).

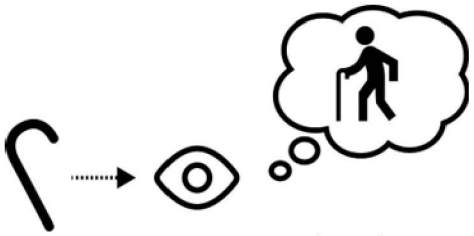
Norman (2008), in a review of his work, named perceived affordances as signifiers, strong signs that can be interpreted meaningfully. Moreover, as humans are social animals, the author. named “Social Signifiers” those “relevant to social uses” (NORMAN, 2008, p.18) that provide strong clues derived from society as cultural conventions (ex: a person rising from a chair when an older person gets closer, meaning “I am leaving this space for you”).

In the Servicescape dimensions, Signs, Symbols, and Artifacts are understood as providers of signifiers for the service (BITNER, 1992). However, other objects, not necessarily the ones that correspond to the dimension of signs and symbols in the servicescape, can provide signifiers for the situation, such as a hat being a personal token of a character. Thus, signifiers of a service prototype can be different from the signifiers of the final service.

Furthermore, signifiers in the context of a service prototype can be understood as constraints, filters, and text, aiding, and providing material for a performance. Props as **Constraints and Filters** provide signifiers that limit or restrict an action. Constraints can be classified as Physical, Logical, and Cultural, and the only not possible to violate are the physical constraints (NORMAN, 1999). The object can present physical constraints that limit the freedom of the performance

(MARGOLIES, 2017), as in Figure 2.12. Moreover, personal objects constraints can train the actor to develop physical coordination and realize a more realistic movement (MARGOLIES, 2017).

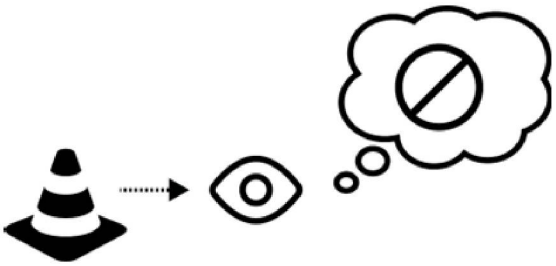
Figure 2.12: Perceiving the physical constraints of a prop.



Source: The author (2022).

Thus, logical constraints can oblige participants to comply with an action to obtain a result, such as service tickets or queue barriers (Figure 2.13). Hence, a cultural constraint is related to conventions shared by a group and usually, its absence can create confusion, for example, after a bank deposit in an ATM, Brazilians expect a receipt as a confirmation that it is done and over.

Figure 2.13: Perceiving the logical constraints of a prop.

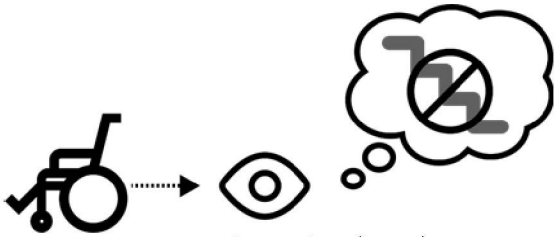


Source: The author (2022).

Furthermore, for Lim & Stolterman (2008), prototype components can be separated into two dimensions: as filters or as manifestations. Filters can be seen as a broader view of constraints that can help frame and explore the design, allowing designers to focus on what is important, "without distorting the understanding of the whole" (LIM *et al.*, 2008, p.2). Manifestations are the final design represented in the prototype. Filters contain the simplest forms of manifestations, keeping the scope in point. Thus, props can also be applied as filters, representing a requirement of a service project. For example, a wheelchair can be used to understand the necessity of physical adaptations in a service (Figure 2.14). These constraints may force the

participants of the service prototype to comply with the object and understand its behavior.

Figure 2.14: Perceiving a requirement of the project.

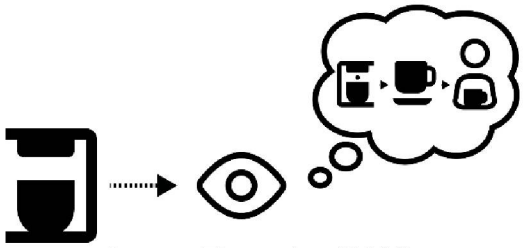


Source: The author (2022).

Script relation is related to its signifiers; however, it involves previous knowledge (research and context) with details of the character and plot. Since the actor or participant of a service prototype is not necessarily the character that they are interpreting, thus they require information on how to embody the character and situation.

As a script, a prop can be "read" by the actor and audience. In rehearsal, this can be used as a score, where the actor understands the best way to translate what he is reading from the object as a "gesture, expression or tempo" (MARGOLIES, 2017, p.13). In theater, the way of handling the object (gesture) can be as important as the choice of the object (MARGOLIES, 2017). Moreover, the actor can perceive not just a gesture but a sequence of actions, based on his own knowledge of the character and scene (MARGOLIES, 2017).

Figure 2.15: Perceiving a sequence of actions from a prop.



Source: The author (2022).

For example, Figure 2.15 illustrates a situation where a service provider acting as a barista wears his apron to the coffee machine and reflects on the sequence of actions necessary to make a good coffee.

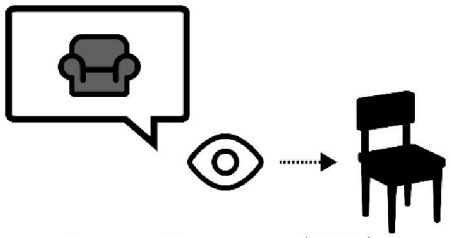
2.6.2 Props as Metaphors and Simulacrums

The relationship between user and props can result in alternative meanings, sometimes different from the original concept. A prop can metaphorically represent another thing or act as a simulacrum. It can be endowed with new features and meanings. In these cases, the real object disappears giving place to an abstract concept (MARGOLIES, 2017), created through imagination. Props, especially as metaphors, can be blurred as physical objects, and the attention of the participants is no longer focused on the actual object, but on ideas, concepts, and people's actions (e.g., SNOOK, 2010).

Moreover, in both cases, as metaphor or simulacrum, a prop can be applied to stimulate collaboration and ideation. For example, in professional actor training, an activity provides a box full of props that a group can improvise with (MARGOLIES, 2017). These props can be used as metaphors or simulacrums to create an entirely new narrative.

As a **simulacrum**, a prop can resemble the final object and be endowed with characteristics or meanings that it does not possess. This relation deals with how close a prop is to an actual representation of a real artifact that would be present on the final service. A prop as a simulacrum can even present some functions of the final object, for example, a chair has the same basic function to sit on it as an armchair has, so it is possible to endow a chair with the attributes of an armchair and improvise with it (Figure 2.16). Thus, simulacrums may require less imagination from actors and participants.

Figure 2.16: Endowing an object with new characteristics.

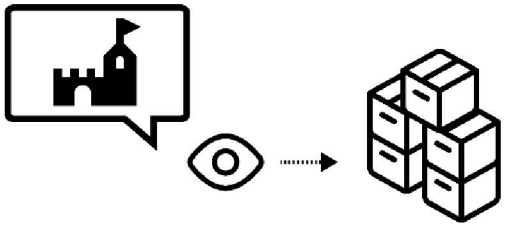


Source: The author (2022).

As a **metaphor** the object has a similar general characteristic, although it can be very different from what it is representing, such as a pillow representing a driving

wheel, used to simulate the size and movement, or a pile of cardboard boxes representing a castle with a similar structure as in Figure 2.17:

Figure 2.17: Devising a metaphor.



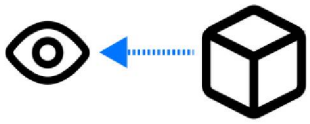
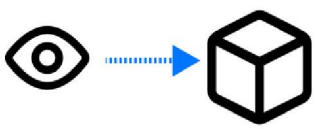
Source: The author (2022).

As presented before on the item about special props for service prototyping, a prop used as a metaphor also can materialize intangible elements, such as speech lines from an interview written in a speech balloon cartoon made of card paper.

2.6.3 Props-User Influences

In the interactions of objects and people (or objects with objects, in the case of using IoT, for instance), there is an exchange of information and meaning, with mutual influences. Table 2.1: Interaction with props in service prototype synthesizes these mutual influences and their corresponding relations in service prototyping:

Table 2.1: Interaction with props in service prototype

Influence	Fidelity	Relations
To provide meaning  Participants perceive information from the object characteristics.	Higher	• **Signifiers:** Signifiers are strong signs that can be interpreted meaningfully, and Social Signifiers are the ones relevant to social uses. • **Constraints:** Limit or restrict an action (physical, logical, or cultural). • **Filters:** Project requisites. • **Script:** Signifiers "read" through a context, a narrative.
To acquire meaning  Participants imagine the object characteristics.	Lower	• **Simulacrum:** Embedding characteristics in a representation that remind of the final object. • **Metaphor: Embedding** characteristics in a more distant representation of the final object.

Source: The author (2022).

These influences are not mutually excluding, a prop might have a relation as a signifier and as a metaphor at the same time or in different moments of the prototype activity. For example, the case on Endowed Objects (see item 2.8.1) from Howard *et al.* (2002), displayed a selection of props for a professional actor. These props were painted in bright yellow to suggest playfulness (signifier). An actor received a background for his act, a scenario with characters and situations, this gives it information on how to translate object signs and approach it (script). Through the performance, a mechanical watch was endowed with new functions to be a smartwatch (simulacrum).

Through these two types of influences - "to provide meaning" and "to acquire meaning" - props act as clues and imagination starters, enhancing understanding, creativity, and collaboration among people in a group when prototyping a service.

Furthermore, these relations relate to the level of fidelity of the prop and the overall service prototype. The higher the fidelity, the more information provided by the object. Thus, if the fidelity is low, the object is understood as incomplete, and the participants of the prototype activity must imagine certain qualities to contextualize it with the service. Fidelity is connected to how close this artifact is to the final object, a quality only for props related to the servicescape. The concept of fidelity will be further explained in the service prototype framework item, further on this chapter.

2.7 DEFINITION OF SERVICE PROTOTYPE

A simple definition of the noun “prototype” derives from its etymology: a first form from which other forms are developed or copied (OXFORD, 2005). There are many similar words for this noun. Some authors differentiate Mock-up or Model from Prototype. In 1995, Baxter published his first edition of the book “Product Design”, largely applied in product design project development disciplines in universities in Brazil, and he differentiates models from prototypes. To him, a model is a representation of a part of that product or a computer representation (e.g.: 3D render) (BAXTER, 1995). Prototype is defined as two types of representations of products: the first is as “physical manifestation of a product that will eventually be manufactured” (BAXTER, 1995, p.254), and the second is as “physical representation

developed for the purpose of physical testing" (BAXTER, 1995, p.254). Also, Holmquist (2005) argues that mock-ups have the appearance but not the function of a certain artifact. On the other hand, prototypes have "the functionality but not the appearance of a finished artifact" (HOLMQUIST, 2005, p.50).

Although some areas make the distinction between mockup or model and prototype, some frameworks of prototyping in the service design field have been proposed graduating the levels and differentiating qualities of prototypes. Developing a service prototype can be challenging. Services involve products, performance, and processes co-produced by customers and employees to achieve their value proposition (HOLMLID; EVENSON, 2007). Thus, a range of prototyping resources can be applied to better understand and develop service design projects. Some authors sought to understand what service prototypes are and how they could be structured. When describing the method *Experience Prototyping*, Buchenau and Suri (2000) defined prototype as "any kind of representation, in any medium, that is designed to understand, explore or communicate what it might be like to engage with the product, space, or system we are designing" (BUCHENAU; SURI, 2000, p.2).

The work of Blomkvist (2014), focused on service prototypes, understands that it can be seen as a surrogate situation, a structure that stands in the place of the desired situation. Blomkvist (2014)'s view of prototype implies future circumstances, as it is not available in the present moment, being this surrogate one materialization of an inexistent situation.

However, in the existing literature, it is possible to perceive surrogate situations used in the place of the actual situation. For example, for Kimbell; Bailey (2017, p.5) a service prototype can "mediates existing knowledge". Furthermore, some examples were found in the literature review to use a surrogate situation of the actual service for training (e.g., PAUL; PONNAM, 2018) or to better understand the actual situation of service in a controlled environment out of the original place (KUURE *et al.*, 2014). Although this can be considered true, this dissertation understands that the definitions given by Blomkvist (2014) can provide a more defined focus, centered on the representation of the service design. Therefore, the definition that will be used on this dissertation for service prototype is provided by

Blomkvist (2014, p.16): "any shared physical manifestation externalizing an otherwise internal or unavailable vision of a future situation".

2.8 A FRAMEWORK FOR SERVICE PROTOTYPING

2.8.1 Background

One of the first attempts to structure prototypes within services has been proposed by Holmlid and Evenson (2007). Their paper presents a framework for service from Human-Centered Methods. For them, to understand the role of a prototype in service it is essential to know what stage in the process a prototype method is used (HOLMLID; EVENSON, 2007). Aligned with this view, Hoss (2014) developed a framework for service design prototypes that contains the following aspects/dimensions: setting up the prototype stage, defining the fidelity level; feasibility analysis; co-creation and Process Phase. His idea was to correlate stages in the process of service design to the selection of the most appropriate approach for prototyping.

Additionally, Blomkvist and Holmlid (2011) developed a structure tied less to the design process and more to the service prototype structure. It works on the various layers of service prototyping, embracing the creative and diverse applications of prototype methods and tools through the design process, defining a rational choice and use of a prototype tool without being fixed to a specific moment and structure. Blomkvist and Holmlid (2011) framework presents the following perspectives: a) position in the process; b) purpose; c) audience and author as stakeholders of the prototype; e) validity and technique as activities to be worked on by the prototype; and fidelity; and representation as the prototype itself.

Another service prototype framework is proposed by Stickdorn *et al*. (2018). In their book, they present five aspects of service prototypes that should be considered: Purpose, Prototype Questions, Fidelity, Context and Audience, and Methods. Prototype questions are connected to the refinement of the intended purpose, focusing on one particular touchpoint or the whole service (STICKDORN *et al*., 2018).

Razek *et al*. (2017) proposed a more contemporary view of service prototype. Their work focuses on the use of immersive technologies to service prototyping. Their framework is a 3D structure separated in service design dimensions (Artifacts, environment, process, actors), design attributes (resolution, fidelity, effort), and service prototyping key development aspects (idea, requirements, implementation, market introduction) (RAZEK *et al*., 2017).

The topic of prototyping in design is in a constant state of evolution. For this reason, it is not uncommon to see a "displacement" of tools with unusual applications or positions in the process. A simple differentiation between model or mockup and prototype seems to not satisfy anymore the variety of prototypes, methods, and possibilities inside design practices. As it was shown in this section, these frameworks provide different perspectives in evaluating and understanding service prototypes. In essence, the three most common aspects can be highlighted from these presented authors and will be further discussed in the following section: Fidelity level considering the future service; Purpose of the prototype; and Position or moment in the design process. In addition, two other important concepts for service prototype and this dissertation were added: Prototype Levels in service design, and staged representation resources.

Regardless the approach adopted to develop a service prototype is worth emphasizing that a simple concept permeates the service design practices and literature, the holistic approach. In other words, service design is concerned with services as a whole, rather than single aspects or moments (PENIN, 2018; POLAINE et. al, 2013; STICKDORN *et al*., 2018). However, few professionals and companies effectively approach service prototyping in a holistic way (BLOMKVIST; HOLMLID, 2010).

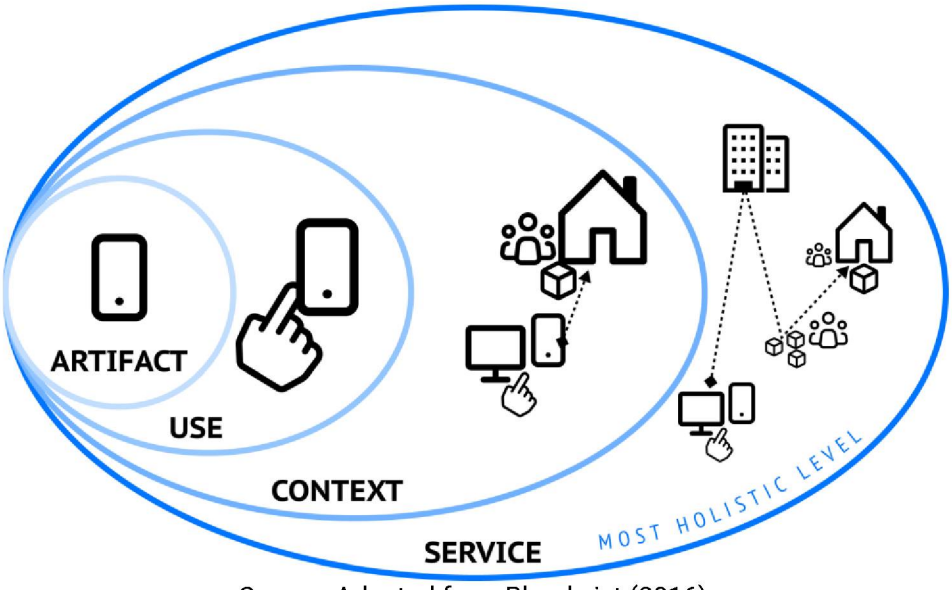
The holistic concept in service prototyping can be defined as the prototyping of multiple touchpoints, so that they can be tested and evaluated simultaneously, rather than isolated touchpoints, artifacts, and interactions (BLOMKVIST; HOLMLID, 2010). This allows the service to be fully considered.

2.8.2 Defining the Scope of Service Prototyping

Many authors understand service prototype as a specific resource that involves replicating most of the conditions of the designed service (e.g., DIANA *et al.*,2009; STICKDORN *et al.*, 2018; PENIN, 2018). Prototypes in service design can present different scopes, aligned with its purpose.

Blomkvist (2016) proposes four levels of prototyping (see Figure 2.18) that can be found in service design, starting from artifact, passing through use, context, and arriving finally at the service prototyping level (BLOMKVIST, 2016). This last level involves issues such as the business process that is required to deliver the proposed service.

Figure 2.18: Levels of Prototyping.



Source: Adapted from Blomkvist (2016).

The artifact level refers to any tangible object, as products and interfaces prototypes. The use level is concerned with the interaction between the artifact and its beneficiary. Moreover, at the context level, channels, objects, and processes are taken into consideration (BLOMKVIST, 2016). Usually in this level enactive techniques (involving people in stage-based activities) are applied. Finally, at the service level, the prototype represents successive touchpoints in different contexts (BLOMKVIST, 2016). It is also possible to have services that happen within one context only, in this case, the two levels (context and service) are even. Another possibility is having a context or service level prototype without a product.

This perspective provides an understanding of the possible variety of prototypes that can be developed inside a service design. It also shows the difference of prototyping separate parts of the service and the importance of understanding touchpoints as a sequence, and their connections and context. Notice that on this model it could be added another two levels: the system level, which involves issues such as the configuration of stakeholders and the associated flows, and the policy level, which deals with the formulation of wider policies (corporative or governmental) that affect the long-term strategies of the organization offering the service. Both can also be the subject of a prototyping activity.

2.8.3 Selecting the Service Prototyping Resources

There are many different tools to represent a service or part of a service. Diana *et al.*'s (2009) framework for service design representations present a classification with four quadrants crossed by a horizontal line of time graduation from Synchronic to Diachronic representations; and a vertical line of iconicity graduating from Abstract to more Realistic representations (see Figure 2.19). These four quadrants separate representations as Maps (Synchronic and Abstracts), Flows (Diachronic and Abstract), Images (Synchronic and more Realistic), and Narratives (Diachronic and more Realistic).

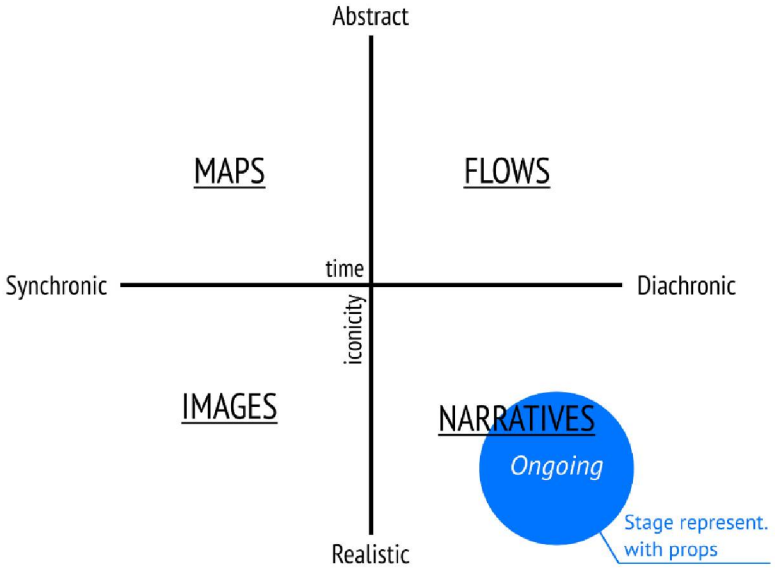
In this classification, theatrical techniques are classified as Narratives. These are forms of service representation that result in a more realistic format, with a closer correspondence to reality. For example, a person instead of being represented by a dot in a system map is represented by a picture of a person. Inside this category, there are also graduations of reality, from a cartoon representation to an actual person, for example. Furthermore, Narratives are also diachronic representations, as they represent a sequence of touchpoints through time.

Another differentiation of representations is Definite and Ongoing. A Definite representation of a prototype does not change as it has reached the conclusion of the service development (BLOMKVIST, 2014), even if they are narrative and diachronic representations such as a storyboard. Other definite techniques include blueprints (flows), stakeholder map (maps) or tomorrow headline (image). On the

other hand, an Ongoing representation is more instantaneous and dynamic, changing each time the service prototype representation happens, mostly because of the presence of people in the activity (BLOMKVIST, 2014). Thus, it shows a more diverse number of versions of the service. Ongoing representations are also called enactive since they use staged representations, such as Desktop Walkthrough, Investigative Rehearsal, and Role-Play, representing the service through a scenario-based narrative.

Therefore, service prototypes that use staged representations, focus of the present dissertation, can be classified as both Narratives and Ongoing as visualized in Figure 2.19:

Figure 2.19: Positioning staged techniques and props.



Source: Adapted from Diana *et al.* (2009) and Blomkvist (2014).

Since Narrative and Ongoing prototypes are based on staged techniques, most of the representations use objects as props to support the narrative and characters' identification. To understand these representations, Table 2.2 provides a list of resources for scenario-based and staged activities for service prototyping as identified in the literature review. Assuming context and the various levels of service prototyping (artifact, use, context, service) do not overlap. Table 2.2 presents the dimensions of most prototype frameworks (purpose, fidelity, and position) are common applications of these features, below is a comparison list (Table 2.2) between these resources:

Table 2.2: Staged Representations Resources

Resource	Description	Level	Purpose	Fidelity	Process
Role-Playing (ARDOINO,1964)	It was developed as a technique by Jacob L. Moreno in 1923, it is connected to the psychodrama method. It applies dramatic **improvisation** aiming to achieve a close simulation of real-life situations. It is seen as the oldest and one of the basic techniques in service design. Moreno also suggested the use of props.	Use, or Context.	Explore, Evaluate, or Communicate.	Low	Explore. Reframe, Create, Catalyze.
Bodystorming (BURNS *et al.*, 1994; BURNS *et al.*, 1995; MARTIN *et al.*, 2012);	It is part of the Informance method. Bodystorming is commonly referred to as a physical experience of **brainstorming** where designers ideate through enacting situations with rough prototypes used as props. It can be based on storytelling and storyboards. A person also can represent non-human elements, as an interface or objects.	Use, or Context.	Explore.	Low.	Explore, or Create.
Wizard of Oz (KELLY,1984)	A person simulates the system from **behind the scenes** while a participant engages with it as it appears real. It is a referent of the main character of the movie "Wizard of Oz", who hides behind the curtains pretending to be a powerful entity.	Use.	Evaluate.	Medium.	Catalyze.
Focus Troup (SATO, SALVADOR, 1999)	It involves the use of a product prototype as a prop in a role-play situation during a **focus group**. Professional actors (preferably) or the participants themselves can perform to create potential experiences. It uses, as reference, Jeff Hawkins's use of a block of wood to simulate interactions with his PalmPilot.	Artifact, or Use.	Explore, Evaluate, or Communicate.	Low to High.	Create, Catalyze.
Experience Prototyping (BUCHENAU, SURI, 2000)	It supports **active participation**, simulating what might be like to engage with the product, space, or system. It allows participants to "experience it themselves" by enacting situations, usually with props.	Context.	Explore, Evaluate, or Communicate.	Medium.	Explore, Reframe, Create, Catalyze.
Drama and Props Approaches (BRANDT; GRUNNET, 2000)	It is focused on interactive design and artifacts. It consists of **envisioning future artifacts** with the use of drama. It presents three types of props: from fairy tales, generic forms, and with many details.	Artifact, Use, or Context.	Explore, or Evaluate.	Low, or Medium.	Explore, Reframe, Create, Catalyze.
SPES (IACUCCI, KUUTTI, 2002)	Situated and Participative Enactment of Scenarios is an approach that participants enact in the **real world**, using "everyday life" as a stage and rough prototypes as props.	Use, or Context.	Explore, or Evaluate.	Low.	Explore, or Create.
Endowed Props (HOWARD *et al.*, 2002)	A professional actor or a candidate enacts with a prop as if it was an existing product. The prop acts as a vehicle for reactions and interactions. Designers provide a context and endow the prop with **new characteristics and functions**.	Use, or Context.	Explore, or Evaluate.	Medium.	Create, Catalyze.
Service Walkthrough	It performs how the service will unfold over time. It focuses on the **sequence** of	Service.	Explore, Evaluate, or	Medium.	Create, Catalyze.

(BLOMKVIST; BODE, 2012)	events/touchpoints, as the experience as a whole. It can be based on a journey map.		Communicate.		
Cardboard Prototypes (KRONQVIST *et al.*, 2013)	It provides elements of the service **environment** with props that support participatory techniques. These props are rough prototypes made of cardboard.	Use, or Context.	Explore, or Evaluate.	Low, or Medium.	Explore, Reframe, Create, Catalyze.
Desktop Walkthrough (BLOMKVIST, FJUK, SAYAPINA, 2016)	It is a theatrical representation close to puppet theater, a **miniaturized** version of service walkthrough. It can be realized with existing objects. Thus, other tools such as Lego Serious Play®, Scenes© from SAP, and Playmobil Pro® can assist to develop this type of representation.	Context.	Explore, Evaluate, or Communicate.	Low.	Explore, Reframe, Create, Catalyze.
Investigative Rehearsal (STICKDORN *et al.*, 2018)	It is inspired by the Forum Theater of dramaturgist Augusto which transforms a passive audience into active participants. It aims to understand and explore **behaviors** through an iterative process where participants can stop the scene and replay it. It often uses existing objects of the surroundings as props to aid the acting.	Context.	Explore, or Evaluate.	Low.	Explore, Create.

Source: The author (2022).

Notice that the presented representations incorporated techniques not only coming from theater but also from cinema, circus, and psychology.

The resources Service Walkthrough, Cardboard Prototypes, Desktop Walkthrough, Investigative Rehearsal were developed specifically within the service design discipline. The other techniques were brought from other disciplines, such as interactive and experience design.

During the implementation of these techniques, it is possible to have an observer, in the form of a person that takes notes of the insights and problems, including those pointed out by the participants. This person can also record the activity for later reference and further improvements via further service prototypes.

Moreover, some activities embedded in these techniques imply the use of professional actors. On one hand activities with professional actors seem to require fewer facilitation skills and reduced time for preparation. On the other hand, embodiment techniques, where the designer or client take an active role result in a more introspective and empathetic process as the participant puts him/herself in the situation of the target beneficiary.

Another relevant point is the definition of scope of the expected prototype. When a prototype focuses on the context level only Service Walkthrough can be

sufficient to assess a service concept. Service Walkthrough focuses on service sequence, resulting in a closer understanding of the overall service and the gaps between touchpoints actual performance vis a vis their expected impact on the customer journey. However, Kuure *et al.* (2014) understands that it is possible to holistically encompass services in prototyping by balancing details and a panoramic view of the service, maintaining awareness of where a particular touchpoint is positioned and, at the same time, the entire customer journey (KUURE *et al.*, 2014). For this, a set of tools can be used to provide an environment that allows experimentation, testing, and development of services (KUURE *et al.*, 2014). Therefore, it is highly recommended to use "definite" representations (blueprint, journey, storyboard, desktop walkthrough, etc.) to assist "ongoing" ones and mix tools together to develop service prototypes.

Furthermore, all the service prototyping resources present make use of artifacts during the dramatizations, also called props. These props are usually presented as tools to aid in the process of creating but also acting to represent a service. They are used to enhance comprehension, collaboration, and creativity. They provide a start point for ideation, being used as clues inside the environment, establishing the context in space and even in time, or assisting participants in work in a collaborative manner.

The literature presents two types of props, rough and real objects. The rough ones are applied to explore new ideas or understand probable behaviors and relations in the service. Real objects are not so commonly applied as rough ones. In fact, real object needs to be used carefully since, as stated previously, they can attract too much attention to the object itself and impact negatively the service prototyping (BURNS *et al.*, 1994; STICKDORN et al., 2018; KRONQVIST *et al.*, 2013). However, they can be used to characterize a person, a moment, or a place, and require less time for the participant to "read" the object.

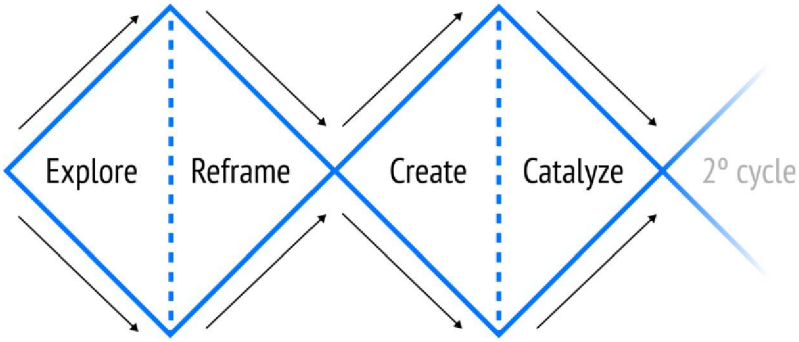
2.8.4 Establishing the Position of Service Prototyping in the Design Process

The moment of the process in which a prototype is applied may suggest the level of required fidelity and intended purpose. A prototype implemented at the

"explore" phase, for instance, might be used to understand the problem from the user perspective. There are different structures for the service design process and, accordingly, there are, also, different positions and roles for a service prototype. Sometimes it can have a specific phase for prototyping, as an event where a prototype is executed for testing or to materialize ideas to be presented to stakeholders. However, since prototyping is an activity inherent to design practices, it can be applied at any moment or be an ongoing activity through the entire design process (BLOMKVIST; HOLMLID, 2011). Service prototypes can evolve, unfolding with the design project, for example, starting with a rapid rough prototype with few elements and adding complexity with the development of the design until it arrives in a pilot phase with real customers that is no longer a prototype, but the service itself.

The design council framework is applied here to illustrate the process, since it is one of the most accepted by designers (BALL, 2019). Recently, this framework has been reframed for a systemic design, including a vision of more sustainable and continuous development (DESIGN COUNCIL, 2021). It still has on its core, the four stages that form the "double diamond": Explore, Reframe, Create, Catalyze.

Figure 2.20: Core of the design council innovation framework



Source: Adapted from Design Council (2021)

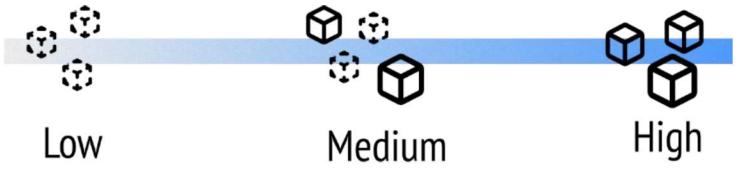
These stages are not a formula to be followed since most Design projects do not obey a linear process, with activities going back and forth and restarting at any stage. In fact, it simply can be seen as a representation of diverging and converging information that each phase contains. Moreover, these stages can be repeated, having more than a single application cycle, also more than one iteration in each cycle.

2.8.5 Defining the Required Level of Service Prototype Fidelity

The level of required fidelity (or "proximity to reality") is a common distinction used in Design for classifying prototypes. It is mostly related to the similarity that the prototype has to the final design, where functional and aesthetical aspects are manifested (HOSS, 2014).

Fidelity follows a graduation that goes from low passing through medium to high level (HOSS, 2014). At the lower level the focus of prototyping might be solely on issues such as general position of key touchpoints and their distribution in time and space. At the medium level service prototypes can be highly advanced in certain aspects and simplistic in others. At the high level the service customer could not differentiate between reality and the prototype. The graduation between low, medium, and high fidelity are represented in Figure 2.21:

Figure 2.21: Levels of Fidelity within service prototypes.



Source: The author (2022).

Fidelity can be evaluated through visual refinement, depth and scope of functionalities, level of interactivity, and depth of inserted data (BLOMKVIST; HOLMLID, 2011). Furthermore, services can involve not only products but also people, processes, and environment (RAZEK *et al.*, 2019). Another concept connected to fidelity is validity (BLOMKVIST; HOLMLID, 2011). Validity of the prototype is related to when high fidelity elements, such as context, location, use, and people, can be directly implemented in the final service.

2.8.6 Defining the Purpose of the Service Prototype

This is probably the most important aspect in service prototype frameworks, and it is constantly brought with its definition (e.g., BUCHENAU; SURI, 2000; BLOMKVIST, 2014). The purpose can dictate how the prototype should be built

(BLOMKVIST; HOLMLID, 2011). As stated previously, the position of a service prototype on the Design process already provides a hint on its intended purpose (HOLMLID; EVENSON, 2007; HOSS, 2014.

The main purposes for a service prototype are **explore, evaluate** and **communicate** (BUCHENAU; SURI, 2000; HOLMLID; EVENSON, 2007; HOSS, 2014; BLOMKVIST; HOLMLID, 2011).

Figure 2.22: The typical purposes of a Service Prototype



source: The author (2022).

Prototype as an exploration channel contributes to expanding our understanding about a real-world problem. This type of prototype can be specially used in the early stages of the Design process, although it is not impossible to see its applications in later stages. When applied to evaluate, prototypes can assist to form a coherent and comprehensive vision of a solution (HOLMLID; EVENSON, 2007), understanding the current service or aspects associated with the implementation of a new service idea. When used for communication purposes a prototype can be used, for example, as a channel to train and indoctrinate the core concept and principles underlying a new service proposition.

The first two types of prototypes (explore and evaluate) are focused on the learning demands of a Design process (BLOMKVIST; HOLMLID, 2011). Meanwhile, a prototype set to communicate is mostly used to introduce more finished propositions, as an activity for strategically aligned stakeholders and usually with more focused goals (STICKDORN *et al.*, 2018).

Although the fidelity and purpose of prototypes can have conventional applications in certain steps of the Design process, it is possible to have

unconventional applications, as design methods are versatile and dynamic. For example, it can be used to explore a specific aspect of a system in later stages of the design process, contributing to refine the service as well as products and system requirements.

2.9 DISCUSSION

This chapter presented a review of the state-of-the-art of using props for service prototyping.

Initially, a historical review situated this research showing prominent preview works and important events evidencing that prototyping is an activity inherent to service design and has been researched by different experts over the years. In sequence, it presented a definition of props in service prototyping as artifacts used during a service prototyping staged activity to enhance comprehension, collaboration, and creativity. This definition also presents its main benefits, found in the literature related to descriptions and service prototyping approaches.

Furthermore, the chapter presented a categorization of props and the different possibilities of prop-user relationships within a service prototype, aiming to understand their role during the prototyping activity. It was found that props can be related to the three dimensions of Bitner's (1992) servicescape concept since they can represent environmental aspects in the theater. Also, props that can assist in the dynamic of a service prototype activity, but not representing parts of a servicescape. These were called special props, usually applied for exploratory purposes. Moreover, in the interaction with props, participants of the service prototype activity can receive information from the objects and can provide new meanings for them. When props represent high-fidelity objects of the final servicescape they provide more information to the participant. On the opposite side, when the object is low fidelity, it can be understood as more open to be endowed.

The chapter finishes with a framework for performing service prototyping, providing the background for the proper use of props. The proposed framework of this research aims to provide a basis for structuring the type of prototype to be applied.

3. RESEARCH METHOD

Starting from the premise that props have been used in service prototypes but are not fully understood both from a theoretical as well as a methodological standpoint, this dissertation faces the research question: How to prepare props as tools to assist designers and stakeholders while prototyping interpersonal services through staged representations? This chapter presents the selection of the research method and procedures to reach the proposed objectives, including the data collection protocol and analytical strategy.

3.1 CHARACTERIZING THE RESEARCH PROBLEM

In a scenario where "service design" receives a growing attention from the design research community, the importance of prototyping is widely admitted as a central issue that requires further investigation (e.g., POLAINE at al., 2006; BLOMKVIST, 2014; STICKDON *et al.*, 2018; PENIN, 2018). The lack of publications that could support design education and the reduced number of design studios that can offer service prototyping reinforces the urgence of investigating the theme.

In order to characterize the research problem, it was initially carried out a Narrative Literature Review (NLR). It enabled the development of a basic lexicon that later assisted a Systematic Literature Review (SLR). This SLR was conducted with the intention to construct a theoretical framework about props, which in the final stages of the investigation was used to analyze the field results.

Perhaps because of the considerable growth of research on emerging digital technologies on the service-related research, the initial results of the SLR presented many studies focusing on the interface of prototypes for digital services. However, this research focuses on interpersonal services, the attention was the publications that emphasize services with direct interactions between humans.

The main SLR was conducted at the CAPES' portal (www.periodicos.capes.gov.br), accessing more than 130 databases such as Scopus and Web of Science (CAPES, 2019). The filtering criteria included the language of the publications (English); the use of a peer review process; the presence of the

keywords ("Servic* Prototyp*"; Prototyp*; Mock-up; Model; "Low Fidelity"; Rapid; Fast; lo-fi; Simulation*, representation, Embodied; "Diegetic prototyp*"; Script; "Role Play"; Lab; Teather; Prop*; Drama*; Rehearsal; Walkthrough; signage; surrogate; Service; "Service Design"; "New Service Development"; Co-creation; Co-design; Collaboration; "Collaborative Design"; "Service Innovation"; "Product-service system"; "Physical service"; Guideline*). The period of publications on this search covered the years between 2011 - 2021 and, after the M.Sc. qualifying exam, it was added to the period of 2011-2022.

The keywords were combined in pairs (strings), and in case of no results they were discarded (see Appendix 2). Since CAPES Portal had an option to mark favorite articles, it was possible to tag those already verified. Thus, first it was researched on the subject and later in general. In total 559 articles were encountered. As the first filter, keywords and summaries were read to select those which had an apparent connection with the theme. After that, as the second filter, a quick reading was carried out discarding more articles. On this second filter new keywords were also extracted. In the last filter, the articles were completely read and only those assessed as relevant to the purposes of the study were considered on the buildup of the theoretical framework. The following Table 3.1 contains the numerical results of this sequence of filters:

Table 3.1: Numerical results of the Systematic Literature Review.

String (results >0): Keyword 01 AND keyword 02 | on the subject (**sub**) or general (**all**)				Funnel			
Keywords 01	**On**	**Keywords 02**	**On**	**Results**	Filter 1	Filter 2	Filter 3
"servic* prototyp*"	sub		sub	5	1	1	1
"service design"	sub	prototyp*	sub	5	3	3	2
"service design"	sub	Simulation*	sub	19	6	3	0
service*	sub	prototyp*	sub	119	22	13	1
"service design"	sub	lab	sub	3	2	1	0
service*	sub	Embodied	sub	9	4	0	0
"product service system"	sub	prototyp*	sub	10	4	3	1
"physical service"	all	prototyp*	all	13	4	1	0
"new service development"	all	prototyp*	all	82	23	9	1
"service design"	all	prototyp*	all	293	34	17	2

TOTAL	559	103	51	**8**

Source: The author (2022).

The term “prototype” is very common in design due to its usual presence within the design process. Due to this factor, the SLR showed a great number of articles, but a reduced amount of content directly associated with prototypes and prototyping.

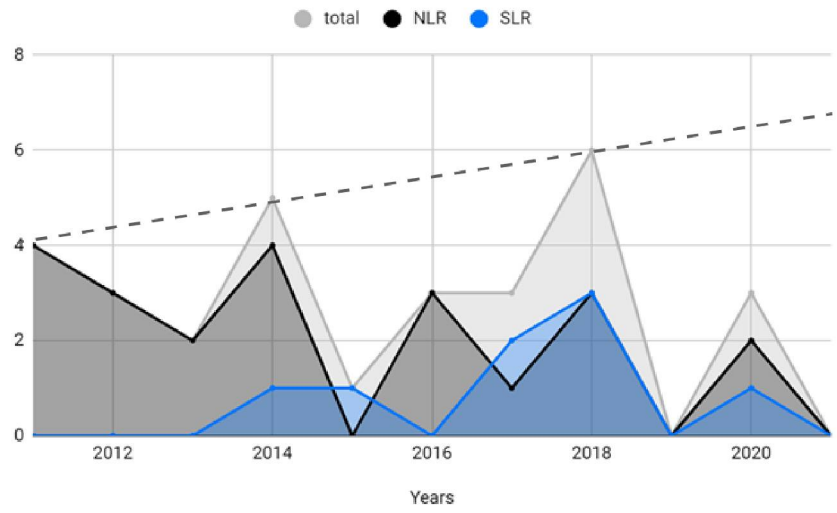
From the eight articles selected in the third filter of the SLR, two addressed the sector of retail (BAE; LEEM, 2014; PAUL; PONNAM, 2018); three addressed prototyping applied on public services (KIMBELL; BAILEY, 2017; DEITERING; FILAR-WILLIAMS, 2018; TIRONI, 2020); two approached the theme from the point of view of the healthcare sector (RODRIGUES; HOLMLID, 2017; THOMSON *et al*., 2015), and one explored new services development in general (YU; SANGIORGI, 2018). Six papers were based on a case study and each research presented different resources for service prototyping, as described below

- Bae and Leem (2014) addressed an immersive prototype developed in a service prototype lab;
- Tironi (2020) presented urban prototyping situations applying experimental scenarios to test socio-spatial conditions and reactions;
- Deitering and Filar-Williams (2018) applied a simulated scenario with journey map, blueprint, and real furniture for a pilot study, integrating research and writing spaces in a library;
- Rodrigues and Holmlid (2017) applied a desktop walkthrough technique for service prototyping;
- Paul *et al*., 2018 presented a role-play application with the use of tangram for furniture sales to explain to students about customer service experiences;
- Thomson *et al*. (2015) presented an activity with self-made props to explore future alternatives for a health service.

Although the amount of research on service design has shown a steady growth in the last ten years (Chart 3.1), in general the few results obtained during the SLR confirmed that service prototyping is a topic that still requires more research.

The Narrative Literature Review proved to be relevant to enable a deep understanding regarding props and its application on service design. It included a review on the thesis and dissertations carried out in Brazil between 2011 and 2012 and books with dedicated chapters on service prototyping. The full list of studies and publications is available in Appendix 3.

Chart 3.1: Results of number of papers vs years.



Source: The author (2022).

In both systematic and non-systematic literature review the research contributions were heavily concentrated in the European continent (Figure 3.1). However, since 2014, they have been slowly spreading through the globe. Moreover, three labs specialized in service prototype were found in the literature: Institute Fraunhofer IAO's "ServLab" in Germany, University of Lapland "SINCO" lab in Finland, and Korea Institute of Industrial Technology (KITECH) "s-Scape" Lab. These centers foster the research in their regions, with a relevant contribution to the advancement of knowledge on the topic.

Figure 3.1: Locations of the authors identified on the SLR.



Source: The author (2022).

The papers founded in the SLR were mostly based on case studies with enactive techniques (HOLMLID, EVENSON, 2007), also called ongoing representations (BLOMKVIST, 2014), where the participants can experience the service through enacting it (e.g., BUCHENAU, SURI, 2000).

Overall, the literature review (SLR and NLR) revealed that the use of props in service prototypes is frequent. However, only one of the papers identified on this review has formally acknowledged the subject. On the Narrative Literature Review, props were reinforced as a key factor for service prototyping (e.g., PENIN, 2018; BLOMKVIST, BODE, 2012; BLOMKVIST, 2014; STICKDORN *et al*., 2018).

This context indicates the need for further studies on the theoretical aspects of props as well as the methodological dimension of the theme.

The research problem is clearly characterized as exploratory (KÖCHE, 2011), enhancing our theoretical understanding on the topic, and providing insights to support its implementation in practice. The study strives to contribute on the topic via both a state-of-the-art review and a practical application in problem solving. Aligned to its applied nature, the study adopts a qualitative approach on its field research protocol.

3.2 SELECTING THE RESEARCH METHOD

Taking into consideration the exploratory nature of the research problem and the intent of developing an artifact, the selected research method for this dissertation is Design Science Research (DSR).

DSR uses the learning gathered from designing an artifact aimed at solving a given problem DSR has a prescriptive approach, using an abductive logic, generating new knowledge to achieve better results in similar situations (DRESCH *et al.*, 2015). DSR is also considered the science of the artificial as artifacts are man-made things. Thus, this method has a pragmatic nature.

The main artifact targeted by the dissertation follows a more abstract modality as it consists of a set of guidelines. The field study focuses on developing guidelines for applying props as a tool for service prototype. By investigating the theme in a real-world setting the investigation intends to achieve a high level of external validity from the research results.

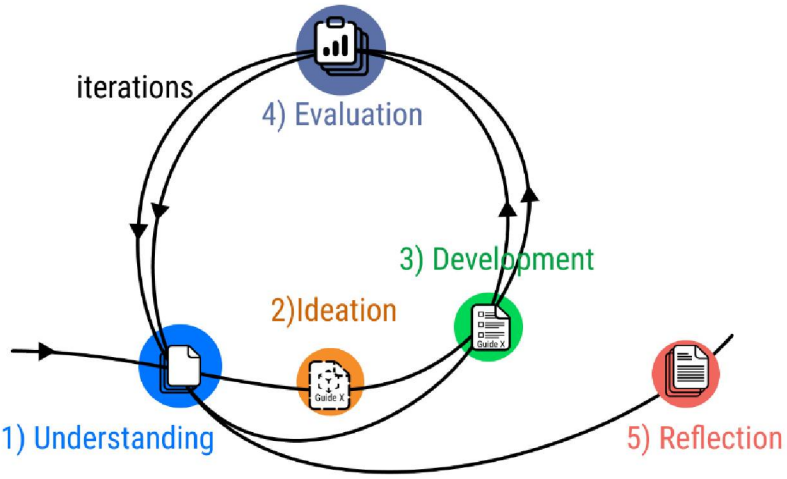
The chosen method, Design Science Research, is structured into the following phases, according to SANTOS (2018): Understanding; Ideation; Development; Evaluation; and Reflection. It implies the adoption of an abductive logic, using an inductive logic when understanding the research problem and a deductive logic on the Reflection phase, as it aims to generalize the solution for a class of problems.

3.3 RESEARCH STRATEGY OVERVIEW

3.3.1 Overview

Based on the chosen method, this research is structured according to five phases, aligned to the phases of the Design Research Method, as explained in the previous section. It is considered that iterations and refinements occur creating new cycles between phases “1”, “2”, “3” and “4” (Figure 3.2). Moreover, the outputs also contemplate analysis of the information that at the final phase will be crossed for internal research validation.

Figure 3.2: Overview of the actual flow of the DSR phases



Source: The author (2022).

The Evaluation phase contemplates an application of the developed guidelines in a prototype of a real-world interpersonal service project. Table 3.2**Errore. L'origine riferimento non è stata trovata.** presents an overview of the main research phases relating it with their proceedings and the objectives of this dissertation.

Table 3.2: Overview of the DSR

Design Science Research		
General Objective: To develop **guidelines** for selecting, developing, and implementing props when prototyping services through staged representations.		
Phase	**Field Approach**	**Associated Dissertation Objective**
Understanding	• SLR/NLR. • Pilot - Prototype (similar service). • Service follow-up (SD project).	1.To discuss service prototype concepts, principles, and resources associated with staged representations. 2.To characterize props, its benefits, types, and dynamics (how they work) in service prototyping.
Ideation	• Co-Creation sessions with specialists.	2.To characterize props, its benefits, types, and dynamics (how they work) in service prototyping.
Development	• Initial Guidelines checklist. • Workshop preparation (SD project prototype);	3.To identify factors that influence the effectiveness of props application during service prototyping.
Evaluation	• Pilot Workshop (SD project prototype). • Final application (SD project prototype).	3.To identify factors that influence the effectiveness of props application during service prototyping.
Reflection	• Synthesis and conclusions. Evaluation of the DSR phases with resumption of the objective of	General Objective

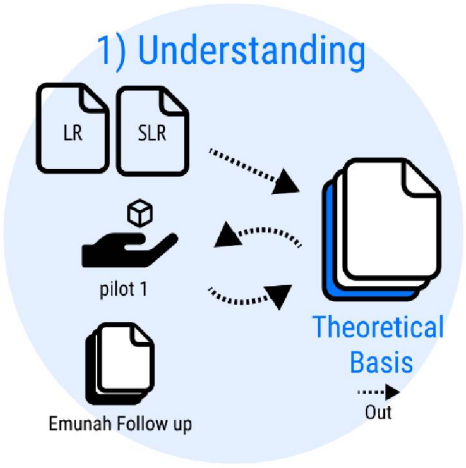
	the work and verification if it was accomplished.	

Source: The author (2022).

3.3.2 Phase 1: Understanding

Zooming the graphic representation of the DSR it is possible to conclude that this is the most critical phase of the Design process as it enables a better understanding of the research problem (Figure 3.3).

Figure 3.3: Understanding phase.



Source: The author (2022).

The data collection was realized through a Narrative Literature Review and a Systematic Literature Review. The results of these compose the literature of chapter 2 and session 3.1 of this research. To further understand the research problem, the investigation involved a pilot study. The main output of this phase is Chapter 2 (theoretical framework) of this dissertation as it provides the requisites for developing the artifact, underpinning the ideation process.

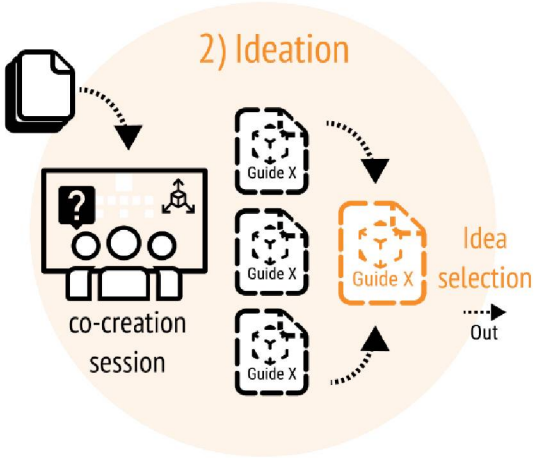
3.3.3 Phase 2: Ideation

The Ideation phase (Figure 3.4) aims to generate ideas for the guidelines. A co-creation session was held with the designer of the service project and 2 other collaborators related to the subject, a PhD professor in theater, and a service prototype professional. The input for this phase was the theoretical framework (see

Chapter 2) and a pre-selection of props from the follow-up of the service design real-world project.

The sessions occurred through videoconference (Teams), due to the restrictions imposed by the pandemic, and aided by virtual tools (Miro or Mural). In these sessions the researcher brought the theoretical framework and pre-selected props to create a dynamic for reflection on service prototyping, and stimuli for the co-creation of guidelines. All discussions carried on these remote sessions as well as the online boards were recorded, allowing the researcher to revisit its content.

Figure 3.4: Ideation phase.



Source: The author (2022).

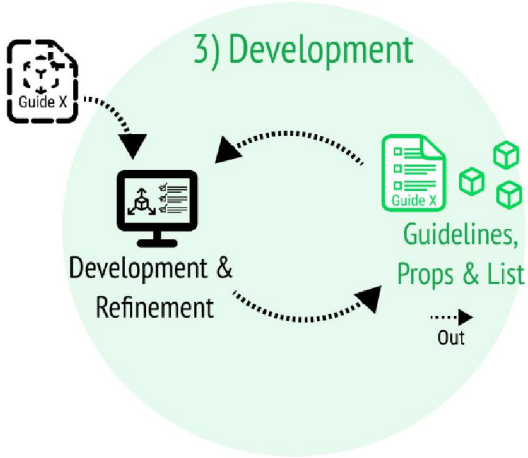
The output of phase 2 was a variety of insights and guidelines ideas for selecting, developing, and implementing props when prototyping services through staged representations. This output was organized, and the main propositions were selected in terms of their impact and relevance to the scope of the dissertation.

3.3.4 Phase 3: Development

In this phase the selected ideas for guidelines gathered from phase 2 were developed and listed in an initial form for application in the design project. The propositions that resulted from Phase 2 were refined through iterative cycles of application in the preparation of the props and workshops. They were synthetized on a checklist format (Figure 3.5). Notice that during the development of the guidelines the researcher revisited phase 2, generating new ideas or selecting other ones.

Furthermore, this phase included the development of the props which were used to evaluate the guidelines on a real-world project.

Figure 3.5: Development phase.



Source: The author (2022).

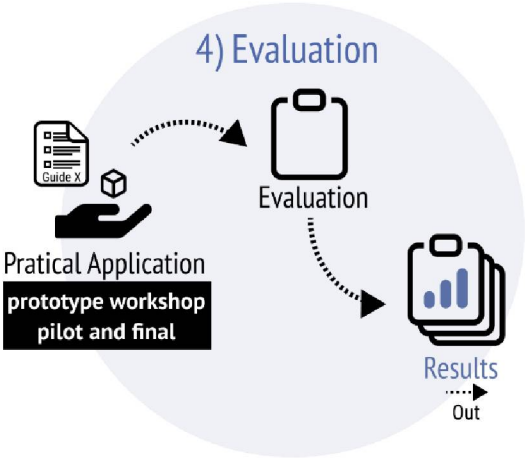
Data collection on Phase 3 occurred mainly through photos and documents, such as drafts and rapid prototypes. The output of this phase is the first set of guidelines, the structure of the workshop of prototyping, and developed props for the service project to evaluate the guidelines.

3.3.5 Phase 4: Evaluation

This phase (Figure 3.6) aims to evaluate the intended guidelines in a practical application of a staged representation. It occurred on the final phase of a real-world project, providing direct support to the service prototyping activity.

The technique chosen to stage the service was Service Walkthrough, as it has a holistic approach, being most suitable for prototyping at the service level. The service prototype was realized by applying the props in the Service Walkthrough technique, based on the service journey. To evaluate the application of the props as effective tools, the props were assessed according to their effective contribution to support service prototyping. At the end of the service prototyping activity, the researcher questioned the participants about the efficiency and efficacy of the props.

Figure 3.6: Evaluation phase.



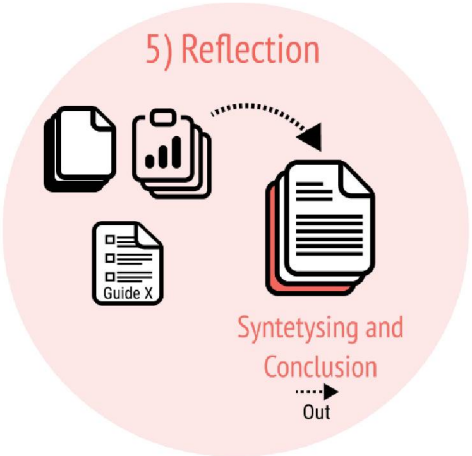
Source: The author (2022).

The output of this phase is a detailed assessment of the guidelines, with propositions to improve them for further applications. The data collection involved the use of video, notes taken during the prototyping process, and data gathered through the checklist developed on Phase 2 and 3.

3.3.6 Phase 5: Reflection

This final phase (Figure 3.7) consists of a critical reflection about the artifact (guidelines), not only regarding its efficiency and relevance to achieve the intended impact after the real-world application, but also comparing it with the concepts and principles presented on the theoretical framework (chapter 2).

Figure 3.7: Reflection phase.



Source: The author (2022).

This Reflection phase synthesizes and revisits the main data and information obtained in each phase, crossing the main learning outcome with the theoretical framework, with a view on obtaining refined guidelines, and final considerations.

4. RESULTS AND ANALYSIS

4.1 CONTEXT OF THE FIELD RESEARCH

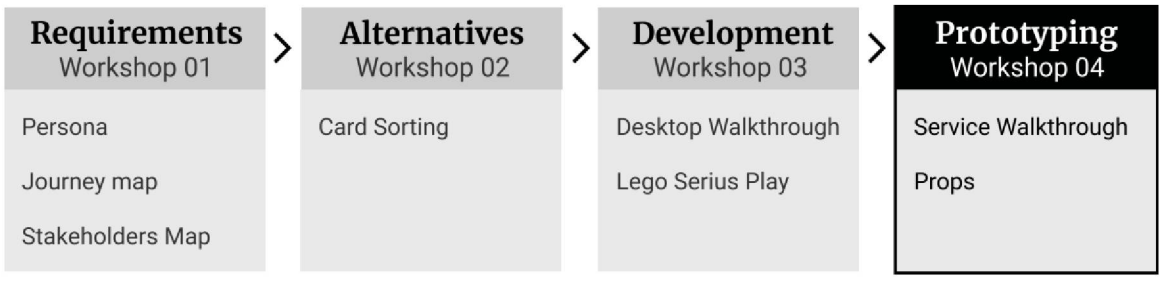
4.1.1 The Emunah Project

Since this dissertation has its focus restricted to “props” and its usage for prototyping, the other phases of the service design process were out of its scope. Hence, this dissertation worked in close collaboration with the ongoing doctoral research of Wellington M. Kihara, which dealt with the theme “Design for Sustainable Behavior Applied to Services: Model Proposition and Contribution to Social Cohesion”. Its empirical study would be carried out at Emunah Rehabilitation Clinic, focused on drug addicts.

The motivation of Kihara´s PhD thesis is that human behavior is accountable for multiple problems in the three dimensions of sustainability. Design for sustainable behavior can be an important strategy towards change for more sustainable paths. However, this topic is little explored in the sense of services. Kihara’s (2022) research proposes a model that integrates existing strategies associated with social cohesion into service design. In order to evaluate his model, it was necessary to develop a service for the Emunah Clinic.

The development of this service was planned to have 4 phases: 1) Definition of Requirements; 2)Generating and Selecting Alternatives; 3)Development; and 4)Prototyping. Each phase contained a collaborative workshop to develop a service through service design tools with employees of the clinic, co-designing the service. The last workshop (WS04), locus of the present dissertation, was meant to prototype the designed service. Figure 4.1 shows the phases of the Emunah project, highlighting the phase of prototyping in which this research has a direct interface:

Figure 4.1: Emunah’s service project phases.



Source: based in Kihara, 2022

Since the Emunah project involves people, it had to comply with ethical principles and procedures. Therefore, it has been applied and accepted on "Plataforma Brasil" (platform that assesses compliance to ethical principles on research methods), under the CAAE number 50468021.3.0000.0102. Notice that in order to allow the researcher to better understand the Emunah Clinic project and obtain better results, the author also assisted Kihara in the design of the service, facilitating the workshops.

The goal of the Emunah project was to improve social cohesion in the existing service of Rehabilitation Clinic Emunah by applying principles of Design for Sustainable Behavior with Service Design, making use of collaborative methods. The detailed development of the project will be possible to access through Kihara's PhD thesis, which is due to be presented late in 2022.

Next section presents a summary of the workshops that preceded the one in which this research is based upon.

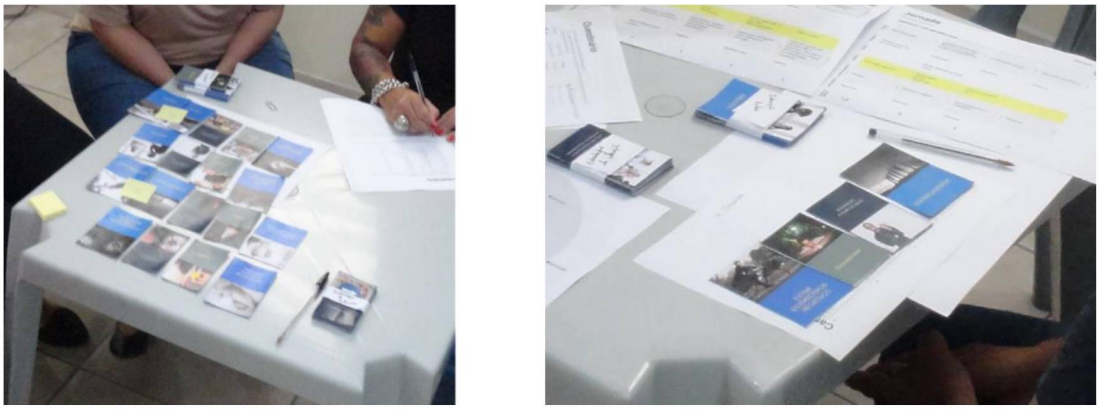
4.1.2 Summary of the Workshops that Preceded the Service Prototyping

In the first phase of the Emunah project a Literature review, four interviews with Emunah owners, and a workshop were conducted to better understand the service and establish the requirements. In the first workshop, 20 employees of Emunah participated, including staff that were previously also patients of the clinic. They were divided into four groups and each group received as an input a persona, a customer journey map, and a system map.

The main goal of the workshop was to understand the whole journey of the patient, which included four modules for the treatment, with the initial three modules delivering intensive care in the clinic site. Although the employees presented it as a single journey, their service description showed an intertwined array of alternative routes. The workshops occurred during the normal working hours and, thus, its duration had to be limited to 3 hours max. Therefore, after understanding the complexity of the service journey, the designer along with the stakeholders has narrowed successively the problem in every workshop.

Workshop 2 focused on Generating and Selecting Alternatives, using personas, customer journey and stakeholder map. Module 1 of the Clinic treatment procedure was selected by the participants as the main focus of the service design. In order to support the creativity of the participants, regarding the issue of social cohesion (focus of Kihara´s PhD thesis), four decks of inspirational cards were used, with content derived from the literature review.

Figure 4.2: Inspirational cards being used during the workshop 2



Source: The author (2022).

The first deck consisted of cards that presented Heuristics on Social Cohesion; the second deck presented Behavior Interventions and the last two on "Existing Strategies". These cards provided clues for the participants of the workshop to assist the brainstorming ideation process. With these, the group had essential information, enabling them to generate ideas for the pointed problems of the Emunah service on the customer journey. During the dynamic, they were asked to produce a phrase with four cards, one of each deck, and verbalize their choice and, also, explain their ideas. The groups also had to fill a form (Annex1) describing the idea, the likely steps to accomplish it, and key touchpoints required to support it. They were also challenged to incorporate other groups' ideas. At the end, the participants voted for the most viable, innovative, and feasible alternative.

Workshop 3 focused on detailing the selected service idea. It involved a Desktop Walkthrough (see item 2.8.2), using Lego Serious Play™ for the development of the selected service alternative. In this phase, the participants were divided into two groups. First each group built a miniature of the environment of the service (servicescape) with pieces of Lego (Figure 4.3). The representation of group 2 (G2)

was a room inside the administration building for welcoming new patients while the representation of group 1 (G1) was the entire clinic site.

Figure 4.3: Servicescape miniatures of group

G1:  G2: 

Source: The author (2022).

After building these structures they were invited to explain the service through the perspective of the customer, telling how the service would occur step by step, using the Lego components as a supporting mechanism to communication. The narratives of the two groups presented some overlap and, due to this circumstance, the decision was to merge the two ideas in order to test in the prototyping phase. For that, a service blueprint (Annex 4) was prepared to present the overall structure and dynamics of proposed service.

The proposed service consisted of a welcome experience for new patients coming out of the infirmary. Therefore, it was the first judgment of the patient at the beginning of module 1. The main social cohesion goal was building “trust” with the treatment and the clinic. For that, the designer defined a series of touchpoints connected with existing strategies for social cohesion and sustainable behavior, adding the suggestions provided by the group of stakeholders.

The application of service design tools provided the pieces to assemble a narrative, and a suggestive script to prototype the service. Also, from these workshops some artifacts mentioned in the tools were perceived as potential to be used during the prototyping as props. The developed personas contained a section about objects that identify them, these objects were used as inspiration to props to set these roles in a first assessment. The ideation form also contained a section about essential objects for the new service. In the development phase, the touchpoints proposed in the ideation phase were improved with the aid of Lego Serious Play™. In the synthesis of participants' testimonies (Annex 2), the stakeholders present a room named “Zé’s office room” where the new service could

take place (G1, Figure 4.3). The participants specified that this office presented a cozier atmosphere, more suitable to the concept of the service. They stated that it could be improved with a TV, water and tea space, a rug, plants, and a center table. Another participant highlighted the importance of comfortable armchairs in contrast with the plastic chairs that are part of the routine of the patients in the clinic. All these items provided strong clues of which objects could be applied as props in the service prototype.

4.2 PHASE 1: UNDERSTANDING PROPS IN SERVICE PROTOTYPING

4.2.1 Pilot Study: Virtualiza Project

4.2.1.1 Using props during prototyping

This initial exploratory study was a pilot conducted with the purpose to understand service prototyping with props by applying service walkthrough technique. This case is a prototyping session carried out during the design of a service, for the use of virtual reality (VR) as a therapeutic resource in the pediatric area of the Bone Marrow Transplant (BMT) sector of the UFPR' Clinic Hospital Complex (CHC-UFPR), called Virtualiza Project. This project has been developed since 2021 by the Occupational Therapy and the Product Design graduation courses of the university, involving both professors and students.

One of the motivations of the Virtualiza Project was the reduction of anxiety and discomfort among children, generated during the long hospital stays. Such conditions affect the development and performance of meaningful activities, also the process is traumatic for the child. Solving the problem is a complex issue since bone marrow transplant patients suffer from low immunity problems, being restricted to contact with people and external objects. At the same time, playing is encouraged as an activity that reduces the stress of the treatment and hospitalization process. Based on this, the Virtualiza Project proposes the use of playful videos using virtual reality with low-cost equipment: a cell phone and VR headsets made in a simple way.

Throughout the project, the need for designing the entire experience was perceived as necessary. That included a clear definition on how VR would be best inserted into the therapist's routine. The intention was that VR could be positioned as

a resource easy to handle and applied by the occupational therapist, bringing benefits to children without causing further frustration.

The researcher carried out an assessment visit to Virtualiza project group in order to understand the development stage of the project before the service prototype session. The project was on the “definition phase” of the Double Diamond Model (in the Design Council framework it would be the Catalize phase). It presented various gaps in the customer journey that required solutions. On top of that, due to the pandemic the project suffered from a unified vision regarding the most viable patient experience. Thus, it was established that they needed a prototype to create, develop and promote a shared vision of the service. The general assessment of this pilot study is synthesized in Table 4.1.

Table 4.1: Prototyping framework adopted on the Virtualiza Project

Item	Parameter
Level	Service
Technique	Service Walkthrough (process flow)
Fidelity	Low - medium
Type of prototype	Evaluate
Position in the Process	Catalize

Source: The author (2022).

From the outset it was established that the prototyping technique applied on this project would be a Service Walkthrough as it is suitable for seeking a holistic view of the service. This technique uses the customer journey as a base to develop a sequence of staged representations (BLOMKVIST; BODE, 2012). However, the team of the Virtualiza Project had only the service flow defined (see Appendix 5).

As it was suggested in the literature, it is possible to use different types of tools concurrently to supplement a broader view during the staged representations (KUURE *et al*., 2014). Thus, for this service walkthrough the process flow was used as an assisting tool for the development of the staged narrative and the journey was built collaboratively during the service prototype session. From the defined process flow and the explanation of the group regarding the concept of the new service, it was possible to select objects to be used as props.

The group had developed two product prototypes that were themselves one of the key touchpoints in the service. The first was a folder aimed at therapists, containing a brief explanation on how to use the VR in the smartphone and how to integrate this on the therapy. The other object was a 3D printed VR Glass. Although the general idea was to use low-cost and low fidelity props, these two were used as props of high fidelity in the session. Appendix 6 presents the full list of props planned for this session.

The workshop (Figure 4.4) for prototyping the service was held with 2 professors, and 2 students, one of each course (Design and Occupational Therapy). The activities (Appendix 5) started with an overview of the workshop structure, the room preparation, the actual representation of the service prototype, intervals between each action for the participants to reflect and, finally, a final discussion summarizing the main decisions and insights.

Figure 4.4: Virtualiza service prototyping



Source: PETRECCA *et al.*, 2022

In the overview phases the researcher presented to the participants the purpose of the workshop, which for the Virtualiza Project was to test and evaluate the proposed service concepts. It was suggested to develop the journey of the service, providing a centrality view to the service beneficiary during the development of the staged representation.

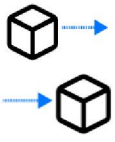
After that, the respective roles throughout the customer journey and for the dynamic were distributed among the group, including the child/patient, the occupational therapist professional and a technical support for preparing the VR videos. One supporting researcher was responsible for registering the evolving

problem understanding and respective insights. The author of this study took the role of the facilitator of the workshop.

The room was prepared with necessary props: chairs lined up to represent the bed and place the beneficiary's character in a lying position; side table as a hospital auxiliary table; objects representing alternative toys that are usually presented to patients; paper sheets; folder; VR glasses; cellphone; and a computer.

The props distributed in the room included: chairs lined up to represent the bed and place the beneficiary's character in a lying position; side table as a hospital auxiliary table; objects representing alternative toys that are usually presented to patients; paper sheets; folder; VR glasses; cellphone; and a computer (Table 4.2):

Table 4.2: Prop list after

#	Prop	Goal	Type	Interaction
01	Dust coat and Badge	To Identify the interpretation of the character - occupational therapist.	Belonging to Servicescape. Signs, Symbols and Artifacts: personal item.	More Providing 
02	Playful print face mask	To identify the interpretation of the character - child/patient.	Belonging to Servicescape. Signs, Symbols and Artifacts: personal item.	More Providing 
03	School desk (available on site)	To simulate the hospital auxiliary table.	Belonging to Servicescape. Space/Function.	More Providing 
04	Chairs - replaced the conference table (available on site)	Three chairs were joined to simulate a hospital bed.	Belonging to Servicescape. Space/Function.	More Providing 
05	Playful objects (bean bags toss toy, fidget toy, plastic chicken, mini plush)	Elements brought to prototyping to be used freely, being re-signified. It simulated different activity options that can be proposed during the OT service (competitors).	At first, they were exclusive prototyping props, but they were re-signified to props Belonging to Servicescape. Space/Function.	More Acquiring 
06	Markup Disks	To represent the beneficiary journey map while conducting the service staging representation.	Unique Prototyping Props.	Providing and acquiring 

07	VR glasses with smartphone (available on site)	High-fidelity prototype (close to the final product) of the VR glasses for the service.	Belonging to Servicescape. Signs, Symbols and Artifacts: equipment.	More Providing
08	Folder - "media advertising"	Element designed to assist the child and the therapist understand how the dynamics can happen.	Belonging to Servicescape. Signs, Symbols and Artifacts: Graphic material.	More Providing
09	Envelope with papers.	The extra papers assisted to understand the necessity of more options of "media advertising".	Belonging to Servicescape. Signs, Symbols and Artifacts: Graphic material.	More Acquiring
10	Computer and digital media (available on site)	Elements used to enable the operation of VR glasses and a smartphone.	Belonging to Servicescape. Space/Function: equipment.	More Providing

Source: The author (2022).

During the service representation, at the end of each beneficiary action the scene would be frozen and there was a moment for reflection in which the participants confirm or modify actions and concepts. Also, in each beneficiary action, the journey was made explicit, to be visualized by everyone, through props developed for this purpose (markup disks shown on Figure 4.5).

Figure 4.5: Markup disks filled during the session



Source: PETRECCA *et al*, 2022

Finally, a final conversation was held about the clarifications obtained, aligning the team's next steps. Data collection was performed through notes and video recording of the prototyping session.

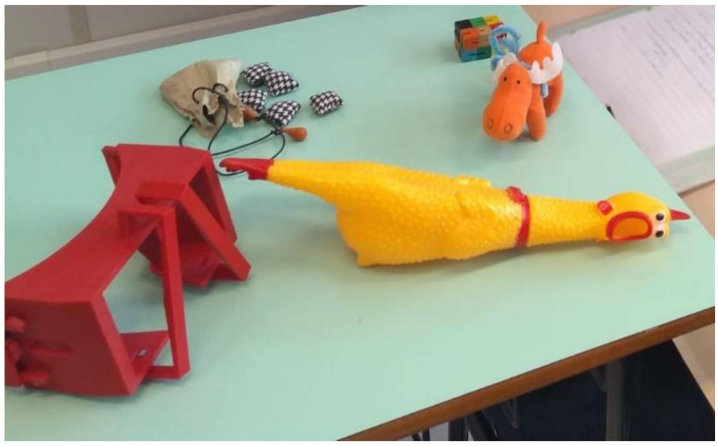
The Markup Disks (#06), Figure 4.5, were designed specifically for building up the beneficiary journey during prototyping. These were made with EVA (Ethylene Vinyl Acetate) #5mm and “whiteboard” adhesive vinyl surface. In each Markup Disk the researcher wrote the stage in the service process (example: Before, During and After), the beneficiary's action (which determined the separation of the prints in the staging), and the emotion expected at that stage of the customer journey. These facilitated the location of the phase of the journey in terms of time and space, allowing clear visualization and easy involvement of all participants.

Markup Disks can be easily arranged during prototyping by punctuating a specific location in the servicescape where an action is taking place. In the case of this prototyping exercise the actions all took place in the same location: on the bed of the patient's room. The use of these disks highlighted the need to review the final stage of the service. Indeed, the analysis has shown that the last action of the service provider would result in a high level of happiness for the child, which could cause disappointment due to the abrupt interruption. Notice these markup disks are exclusive to the prototyping activity, not referring to any object of the future service. The other props used on this exercise refer to artifacts that would be effectively present in the servicescape.

Markup Disks can be easily arranged during prototyping by punctuating a specific location in the servicescape where an action is taking place. In the case of this prototyping exercise the actions all took place in the same location: on the bed of the patient's room. The use of these disks highlighted the need to review the final stage of the service. Indeed, the analysis has shown that the last action of the service provider would result in a high level of happiness for the child, which could cause disappointment due to the abrupt interruption. Notice these markup disks are exclusive to the prototyping activity, not referring to any object of the future service. The other props used on this exercise refer to artifacts that would be effectively present in the servicescape.

The playful elements (#05) included a toy with a little bag and small bean bags to toss, a wooden fidget toy, a plastic chicken, a hand ball and a mini plush. These objects were initially brought as stimuli to the dynamic of improvisation required on Service Walkthrough. However, they were re-signified and used metaphorically, being presented to the child as "competitors" of the activity that would use Virtual Reality. These props caused some disturbances in the staging process. Their presence was important to realize that it would be complex and costly in time to present different options of toys and different options of VR videos to the patient. Based on such findings, the participants decided that it would be better to propose the use of VR separately from the other entertainment options, dedicating a specific day and time for the VR activity.

Figure 4.6 : Ludic Props and a mock-up of the VR glasses



Source: PETRECCA *et al.*, 2022

The layout elements (#03 and #04) helped the participants to understand spatial requirements and limitations, providing insights for onsite service activities. For example, the patient performs all actions on the bed, with limited movement possibilities. The side table, present in the scene, helped to organize the objects related to the service such as the selection of cards for the videos, the VR glasses and the cell phone. At first, to represent the bed (#03) a large meeting table was used as a prop. However, the participant who represented the child stated that he did not want to be too exposed. As the intention of using props was to promote collaboration, further understanding of the problem and stimulate creativity, the activity could result in embarrassing the participant. The table was replaced by three

chairs, allowing the participant to represent the child lying down on the bed, but occupying a smaller area and a smaller height.

The service objects (#07, #08 and #09) were considered props during the staging, providing greater proximity to reality as they are very close to how they will be in real life. The glasses (#07) and the information sheet (#08) have been fine-tuned regarding the service requirements. It was possible to provide feedback on the fitting of the eyeglass fixing straps and the need to facilitate the placement and removal of eyeglasses on the child's face, considering the dynamics of the service. It was evident that these could help the child's choice of media, in addition to supporting the development of activities by the OT (Occupation Therapist). Thus, the textual information could be reduced, and images added. In addition, it became clear that more media options are needed in order to fulfill the patient's expectations.

In the case of the computer (#8), at first the need of using this equipment during the service was questioned. However, throughout the exercise it became evident that it would be difficult for the therapist to guide the child and perform the dynamics without simultaneously monitoring what he would be seeing. Then the participants concluded that the equipment would be essential for achieving the expected performance of the service.

4.2.1.2 Lessons learnt

This pilot enabled a better understanding about the use of props and the role they played in a service prototyping session. It assisted in the understanding of the benefits of props, allowing the application of the criteria for characterizing props, and starting to comprehend factors that influence the effectiveness of props application in service prototyping.

When used as scenic resources, props can be considered inherent to the prototyping of services. However, the pilot study showed that these can be intentionally articulated, providing better understanding on the relevance of touchpoints, the adequacy of their position in time and space as well as their effective meaning and impact. The props can perform different functions, in the representation of specific scenarios, identification of characters and other roles, reinforcing the propositions identified during the literature review.

In this prototyping exercise, the playfulness of the props helped to establish a safe space in which the participants could express their understandings without inhibitions. An important point in this prototyping was that the participants were not professional actors, and not even stakeholders of the final service, and, yet they present the necessary empathy during the staging process. It was possible to observe that the props were able to help the participants during the staging, providing a safe space for creativity, helping to reduce the inhibition of the participants, and increasing their empathy with their characters.

Another point was that the props helped, in a collaborative way, to enable a better understanding of the fundamental elements of the servicescape. It was noticed that the use of many toys could hinder the practice of the service, as well as the presence of a computer would be essential for the accomplishment of the activity. Also, it was possible to perceive that the props can cause disturbances or discomfort to the participants of the prototyping, if the object is essential and is not present, as the computer, or if it is expendable, being considered a problem for the flow of the journey, as it was the outcome of having too many toy options.

Furthermore, the props provided bidirectional contributions to service prototyping, acting both as a channel to collect further service requirements and, at the same time, enabled testing out designer propositions. However, a prop understood as complete (directly related to the reality of a touchpoint) or not complete does not always generate a discussion. Such discussions can be intentionally provoked when an object is understood as “wrong” or missing in the context. Additionally, the “wrong” fidelity can generate uncontrolled or unintended disturbances which can take up valuable time that could be better used for more important discussions. This fine tuning can define the quality of the outcome of a prototyping activity.

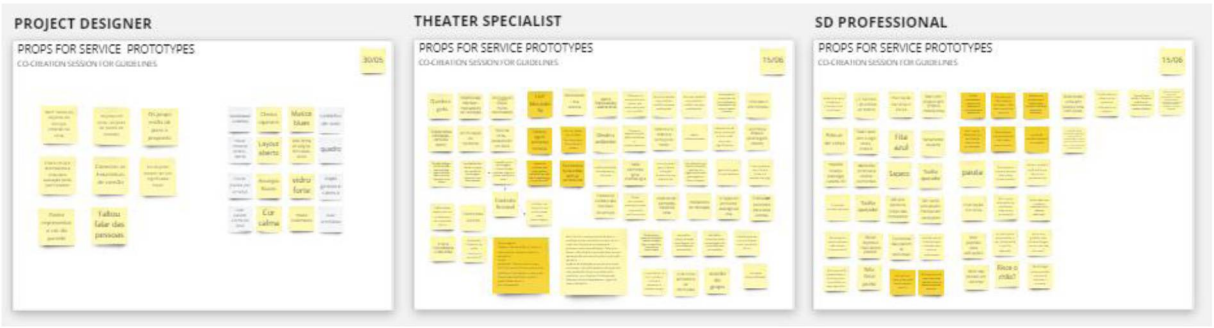
4.3 PHASE 2: IDEATION OF GUIDELINES FOR PROPS

For the ideation of the guidelines to prepare props for application in a service prototype, co-creation sessions were held with three collaborators. First, it presented an introduction of this research on service prototype and props, the Emunah service

design project (follow up), a pre-selection of props, and a general structure of the workshop for the service prototype. The section integrated the main insights gathered on the pilot study. After the presentation, a discussion was held collecting insights and views on the matter.

The theme of this research presented a high level of novelty to the collaborators. They included the designer of Emunah Service (Kihara); a Ph.D. professor specialist in theatrical studies; and a service design professional and Ph.D. candidate studying prototyping in design with connection to theater scenography. Because the participants live in different cities and had different schedules, these sessions had to be carried out individually and virtually. The tools used were Teams video conference, Google Slides for the presentation, and Miro board to compile the insights (Figure 4.7).

Figure 4.7: Ideation session boards



Source: The author (2022).

The discussion was held around how to prepare the props, factors that can affect their effectiveness in its application in a service prototype and how to select and evaluate them. The debate notes are in full on Appendix 8.

For the designer of Emunah Service, the props should reflect key servicescape elements. The objects are there for evaluation and, because of that, they should be only touchpoint objects, connected with the requisites of social cohesion heuristics. He also suggested the application of a checklist for the participants to give their opinion on each prop and associated action of the service.

The professor explained that in theater props must be seamless to the narrative and this is how it is possible to know if a prop is effective, as she said: "if the thing is fluid, you don't even notice the object". Another point was that props should not have guidelines for its application, because the intention is that the actor

“establishes the use for that prop”. Otherwise, this could interfere in the actor's perception of the object by the object dictating how its use should be. On the other hand, a prop is an immersion agent within a given context, in her words “All the elements that are there [on stage], affect behavior”. For example, placing fictional elements can assist in extrapolation, creating an analogous environment. That could enhance creativity in prototypes with the purpose to explore.

The professional had very practical insights on how the props should be prepared and affirmed the same as the professor about the seamless experience of props. For her the use should be observed and from there you can perceive problems: "you realize that the object is bothering when it's used". The other aspects commented were related to the practical preparation of these objects: colors selection (e.g., black could give a sadness sensation), brands and phrases of other business (create bias), safety of the use (e.g., slippery rug), and mobility of the items (for layout alterations). It was also commented on the fidelity of some props related to touchpoints such as evidence of the service, for her these should be more real (higher fidelity). Finally, she proposed the evaluation of the objects not during the acting but at the end of the dynamic, having a moment to specifically evaluate the servicescape and a conscious opinion about the presented items.

The collaborator’s overall suggestions were more related to enhancing the role of props on the experience than provoking creativity and collaboration. Nevertheless, it was strongly connected to the phase in the project and purpose of the prototype, i.e., to evaluate the service proposition. However, the observation from the professor on fictional objects could be useful for prototypes with the purpose of exploring alternatives, extrapolating normality, and changing participants' modus operandi. The professor also brought up the fact that props are immersion agents, they should be neutral in the narrative and the participants. The same was affirmed by the professional, which complemented her statement by saying that it is possible to evaluate if the props are “right” during its use.

The proposition of the professor and the professional together were in line with the results of the pilot study. Indeed, the effectiveness of applying props relates to the ability to manage disturbances and maintain a dynamic flow. In theater, props are effective when they are seamless to the narrative and actors. However, in service

prototypes props can be useful to clarify points of the project such as the relevance of a particular touchpoint, the adequacy of its distribution in time and space and the meanings according to its beneficiaries. Hence, props can help designers to review the script, creating alternative paths collaboratively, defining points in the project for further improvements. Thus, designers and stakeholders can have a productive discussion provoked by the presence of props, enhancing understanding, creativity, and collaboration. Furthermore, facilitators and designers can have some control over these disturbances, which might include intentionally causing them by adding or taking props from the scene.

4.4 PHASE 3: DEVELOPMENT

Table 4.3 presents the initial version of the guidelines for prop preparation, result of the ideation process (Phase 2) integrating insights gathered from the literature review as well as initial propositions derived from pilot study (Virtualiza project).

Table 4.3: First guidelines

Cod	Guidelines V1
#1	Avoid **single-use** artifacts.
#2	Select/ make objects that can be **reconfigurable** or adaptable.
#3	Select/ make objects that can be easily **moved** and **assembled**.
#4	Select props for **character identification**
#5	Provide **extra** items (special props) to be endowed if necessary.
#6	Include in the mix, props related to the ones pointed in other tools as the **servicescape** representation
#7	Provide artifacts that represent the **touchpoints** of the service to be delivered.
#8	**Avoid excessive** number of artifacts, prioritizing the most significant in the experience
#9	Specify **visceral characteristics** (vision, hearing, touch, smell, taste) aligned to the designed experience.
#10	Avoid stamps, phrases, or colors associated with **other brands**.
#11	Check for **safety** issues when selecting/ making objects.

Source: The author (2022).

The three first guidelines (#1 #2 #3) deal with the need of a fast and flexible prototyping structure that can be assembled in different forms to attend project changes. That includes the capacity of receiving interventions on the surface to represent different elements and inform different interactions. This simulacrum of

reality is usually manufactured using cardboard. However, if not conceived to be reusable, the amount of trash that cardboard prototypes can generate is considerable. By adopting flexible props configurations, the expectation is that it might contribute to an extension on their life cycle, reducing the environmental burden derived from prototyping.

The guidelines aiming at a clear identification of characters during prototyping (#4) and the provision of extra props (#5) derive from the learning obtained on the Virtualiza project and confirmed on the ideation phase. The pilot study showed that character identification might contribute to reducing inhibition of participants inexperienced in role-play, creating an atmosphere of a safe space. It also contributes to raising their empathy between service providers and the beneficiaries of the service.

The extra objects can be spare items brought also for reducing inhibition in case it is necessary to relieve tension of the group. It might include special props such as fantasy or fun items, e.g., rubber chicken. Therefore, these could be endowed during the activity and change the dynamic in the scene.

The guideline #6 was evidenced during the realization of the desktop walkthrough where some Lego objects were brought to represent elements of the servicescape. It was understood that these elements are an important part of the service that could be evaluated during a service prototyping activity.

The overall perception of the servicescape is a complex touchpoint to represent. For that, there are some objects that can be considered essential and can assist in this task. Usually, layout elements or artifacts that provide important information to support this perception of space when prototyping (ex: a table, a sign pointing directions, a wayfinding simulacrum). Service design tools, such as Customer Journey, Service Blueprint or script can assist in the task of defining such elements. Narrative resources, such as the desktop walkthrough or a storyboard, can exemplify even where the objects should be positioned in space and time when they appear.

In this sense, Guideline #7 highlights the importance of bringing objects that exactly represent touchpoints. Having the actual touchpoints might reduce the cognitive noise resulting from an excessive use of abstract representations that

demand imagination to be completely understood. Key touchpoints are the main target when selecting props, as mentioned by the service designer and the professor in the co-creation session (Phase 3). Touchpoints can be defined as points (people and objects) that interface the relation between customer and the organization (MORITZ, 2005). Touchpoints in the servicescape, including people, can be represented by props in the staged prototype.

Guideline #8 is about balance the quantity of elements. It is important to choose enough objects to represent the servicescape, and, at the same time, avoiding overcrowding the scene. As guideline #6, service design tools can support the Designer on the definition of the appropriate number of props, enabling a prioritization of key touchpoints and key elements on the servicescape. This guideline deals with the coherence of the props with the activities surrounding the proposed service. Its application contributes to obtaining a seamless experience for the participants, allowing a smooth flow of the prototyping.

Preparing props that have a clear and distinctive function contributes to this coherence, reducing the cognitive complexity of the service prototype. A prop should have a well-defined meaning in the activity or narrative, connected to the purpose of the prototype or the expected interaction between the customer and the touchpoint. On the other hand, since one of the purposes of a service prototype is to help the Design team to explore possibilities, fantasy props could help to exaggerate the situation, and stimulate the participants to perceive the service in another manner.

Another point of concern on unintended disturbances is the visceral characteristics of a prop (#9), which should be coherent with the project, such as colors and sounds. Similarly, avoiding brands (#10) can reduce the bias that their image might create on the participants, overshadowing characteristics of the service project.

Guideline #10 concerns the safety issues since ill-defined props can result in injuries on the participants. This is particularly relevant in the case of service prototyping since the situation that it intends to represent often entails a new context and new experience where the participants have reduced knowledge.

These guidelines provided adjustments in the props for the pilot application. The full list of props (pilot and WS04) and their specific guidelines is on Appendix 16.

After the pilot, the guidelines were iterated based on the adaptations made on the props for the final application (WS04), then they were validated or improved (see item 4.6.2).

4.5 PHASE 4: EVALUATION

4.5.1 Protops: a platform of props

The Protops platform (Appendix 17) was developed for this dissertation thinking of these structures for furniture and equipment representation that take most parts of cardboard applications. Protops is a system of boards with Velcro to be assembled and white surfaces for drawing. The idea was that it could be assembled in different shapes and sizes to assist staged representations and receive drawing interventions and notes. The use of soft Velcro on the edges enables the pieces to be moved, also protecting wood floors. Below are examples of some props assembled with the Protops platform:

Figure 4.8: TV Console, Coffee, and Side Table assembled with Protops



Source: The author (2022).

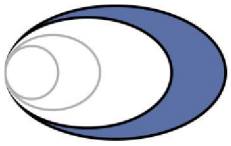
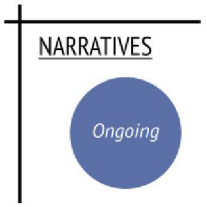
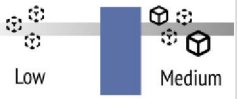
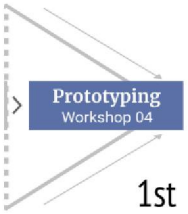
Notice that the characteristics of the props produced from this platform demanded the use of imagination from the prototyping participants, which could be useful on early prototyping efforts on the service design process. However, servicescape elements that require high fidelity cannot be assembled with Protops.

4.5.2 Pilot Prototyping

4.5.2.1 Pilot activity

As previously stated, the proposed guidelines were evaluated on a real-world service design project within the Emunah Project. The chosen technique for prototyping was Service Walkthrough with the use of Props. The prototype phase of the Emunah project intends to define some aspects of the developed idea, being this the final phase of the project. Other cycles of revision and improvement of the service concept were desirable and expected but this dissertation focuses solely on the first cycle. Having that in mind and crossing with the theoretical framework, Table 4.4**Errore. L'origine riferimento non è stata trovata.** describes the main parameters for carrying out the prototype at the Emunah project:

Table 4.4: Key parameters for carrying out the service prototype at the Emunah Project

Service Prototype Framework - Emunah Project				
Level	**Technique**	**Fidelity**	**Type**	**Position**
Service	Service Walkthrough	Medium	Evaluate	Prototyping (1st cycle)
				

Source: The author (2022).

Initially the intention of this research was to focus on low fidelity prototypes and consequently low fidelity props. However, the literature on the interactions with props showed that low fidelity props can be close to metaphors or simulacrums. Furthermore, the definition of the overall fidelity of a service prototype depends on the items that compose it. The purpose here was to evaluate the service concept, feeding back to the organization and to the designer's further adjustments that might be required.

The position of the service prototype in the service design process was the last phase, indicating that the group already had some definitions and wanted to test them. Moreover, the stakeholders of the service would be playing their own character on the final application. Such aspects could be considered as associated with a high-

fidelity prototype. Therefore, considering fidelity a graduation scale more than a discrete scale, this prototype can be considered overall closer to medium fidelity, between low and medium.

As for the designed service, after the workshop with Lego Serious Play the decision was that the prototype would be a “welcoming moment” for new patients with the main employees of his treatment. This was located on the first module of the treatment, when a first judgment of the patient occurs. On this concept, after the patient leaves the infirmary, he would be conducted by a senior monitor to a room in the administration building (called “big house”). Based on previous experiences of the employees, this would demonstrate that the clinic appreciates and respects the beneficiary of the service. Inside the room would be present the patient’ psychiatrist, phycologist and if possible one of the directors of the clinic. Together with the senior monitor they would explain basic points of this patient's treatment, anticipating key elements of the entire journey of the treatment, clarifying possible doubts that he might have. This would also shield this new member from false information delivered by other patients.

Through Kihara (2022)'s theoretical basis and the clinic employees, it was identified that the usual feelings during the drug treatment would be: sadness, shame, regret, anger, and frustration at the start and apex of the journey; and projection, self-pity, and confidence at the end. The service aims to change behaviors of denial, hostility, disorientation, anxiety, and mistrust that this patient may have, especially in the beginning of his journey through the treatment and other modules. The expected behaviors with this service are centrally oriented to an increase in “trust” on the treatment and on the people that provide the service.

The main servicescape for the designed service was the room where the welcome section would occur. The room would be prepared with elements that relate to comfort and calm such as: plants, art objects, rug, armchairs, water, and tea to offer. Furniture and equipment to support the activity should also contribute to the perception of comfort and calm. Based on Kihara (2022), the strategies for behavioral intervention applied in most of the items of the servicescape were:

- Restructuring the environment: changing the physical or social context.

- Persuade: using communication to induce positive or negative feelings or to stimulate action.

Other strategies for behavioral change were also considered (KIHARA, 2022):

- Educate: increase knowledge.
- Interact: configure the channels so that they allow the individual to initiate the interaction or only respond to stimuli.
- Motivate: create reward expectation; Seduce; Induce a behavior by pointing out benefits when using the product or service.
- Awareness: they help the individual to evaluate routine choices and reflect on a new perspective.

The products specifically developed for this service were a welcoming presentation and a kit to be delivered as a gift to the patient. It was proposed that the kit would have a pen, anonymous alcoholics (AA) book, a guidebook of the modules, a notebook and a wristband that would identify the module of that patient as a connection between more advanced patients in the treatment with this new member. It was also proposed a sports bag to group all objects together. The main strategy for the kit was to persuade.

The professional Service Designer from the co-creation session on Phase 2 recommended that the items of this kit should be presented with high fidelity to propitiate a more immersive experience to the participant of the prototype. Following the recommendation, the books were covered with colorful papers with the clinic logo:

Figure 4.9: books of the patient kit.



Source: The author (2022).

During the development of the service blueprint, the designer linked each touchpoint to a strategy. This was crossed with the list of props (Appendix 16) giving each object a goal in the servicescape. This helped identify the design level for each object and aligning it with the fidelity level. From the service blueprint (annex 5) a script was proposed, following the suggestions provided by the Emunah employees. This script followed a three-act structure, corresponding to the main moments of the service. Each act had one or more scenes describing the service experience. This first script (Appendix 11) was tested in a pilot application at UFPR´s premises, involving design students (Figure 4.10).

Figure 4.10: Pilot workshop with design students.



Source: The author (2022).

The workshop, where the service prototyping activity was carried out, started three hours before with the assembly of the scenery with the props. After that, once the participants arrived, an introduction on the activity was presented and, subsequently, they joined a warm-up exercise. Then, a set of key information was delivered to the participants: the personas (annex 1), service blueprint (annex 5) and

the service script. Once this information was presented, they staged the scenes of the service as they understood. A discussion was held after each act in the search for further improvements. The full schedule of the workshop is available on Appendix 11.

Below is the list of the selection of props prepared for the workshop with their type and design level based on its goal and the influence expected on interaction to generate interesting discussion or be seamless to the narrative:

Table 4.5: Prop list for the pilot application

COD	ITEM	GOAL	TYPE / LEVEL	EXPECTED INTERACTION
E1	Coffee table	Kit and cup support	Layout/ Behavioral	Acquire and provide
P02	Credenza - Protops	Tea/water set support	Layout/ behavioral	Acquire and provide
P03	Tv console - Protops	Tv support	Layout/ behavioral	Acquire and provide
P04	"Tv" - Protops	Presentation broadcast	Layout/ behavioral	Acquire and provide
P05	Gateway - Protops	Transition between environments and position	Layout/ behavioral	Acquire and provide
E7	4 Chairs (from the site)	Sit	Layout/ Behavioral	Acquire and provide
P08	Rug (TNT fabric + rubber mat)	Thermal and acoustic comfort	Environmental Conditions/ Visceral	Provide
E9	Paint	Calm down, part of the ambiance	Environmental Conditions/ Visceral	Provide
P10	3 Vases with plant	Calm down, part of the ambiance	Environmental Conditions/ Visceral	Provide
E11	Potpourri bowl	Calm down, part of the ambiance	Environmental Conditions/ Visceral	Provide
E34	Speaker	Calm down, part of the ambiance	Environmental Conditions/ Visceral	Provide
P12	2 mugs	Trust (no cheap material), part of ambiance	Environmental conditions/ visceral	Provide
P13	4 glasses	Trust (no cheap material), part of ambiance	Environmental conditions/ visceral	Provide
P14	Pitcher and thermos (tea)	Represent tea and water	Layout/ Behavioral	Provide
E14	Tea set	Trust, part of ambiance	Layout/ Behavioral	Provide
E16	Kit- Blue printed sports drawstring bag	Value the culture of the individual	Symbols/ Reflective	Acquire
P18	Kit - pen	Gift and persuade	Symbols/ reflective	Provide
P19	Kit - AA book	Clarify action plan	Symbols/ Reflective	Provide
P20	Kit - guide & notebook	Clarify action plan	Symbols/ reflective	Acquire
E20	Kit - Custom covers (Guide and notebook)	Clarify action plan	Symbols/ Reflective	Acquire

P21	Kit - bracelet	Identification and reception	Symbols/ reflective	Acquire
P22	4 badges	Identification and reception	Symbols/ reflective	Provide
E25	Projector & PPT - Slides about Emunah	Capacity building and empowerment	Symbols/ Reflective	Acquire
E35	Cap & hat	Identify a character	Symbols/ reflective	Provide
E36	Red luggage	Identify a character	Symbols/ Reflective	Provide

Source: The author (2022).

This selection of props included items based on the objects associated with the personas. That contained a Panama hat, a red cap, and a red bag (Figure 4.11). To represent other stakeholders, badges with the profession written were also created.

Figure 4.11: Props used character identification on the Pilot Prototyping of Emunah Project.



Source: The author (2022).

For representing an important touchpoint in the service journey, a sport drawstring bag was placed on the scene wrapping the patient kit. In a first assessment this was a black bag with an inspirational phrase from a church meeting advertisement. At first it seems fine to use it, however the professional from ideation session explained that the color could cause a bad impression (such as representing grief), also the brand would make people of the same church to establish unintended meanings. The bag was changed for a blue bag with a geometrical white stamp.

Figure 4.12: Sport drawstring bags



Source: The author (2022).

For the representation of a mat, a piece of TNT fabric was used, however, during the prototyping session, the professional pointed out that this would be dangerous because the participants could slip, so a rubber mat was added underneath.

4.5.2.2 Pilot results

The suggestion of the ideation phase was to observe the props and understand if they would fit into the dynamics of the staged representation. In addition, from the Virtualiza project, it was possible to perceive that some disturbances can be beneficial, helping to better define touchpoints in the project. Disturbances can generate fruitless discussions, interrupting the dynamics of the prototype activity but providing valuable insights. Therefore, after the workshop was held, the props received a categorization of the impact of a prop based on the feedback gathered from the participants:

- **Seamless**: no disturbance caused by that prop during the prototype dynamic.
- **Provocative disturbance**: caused by the prop, resulting in the revision of project definitions.
- **Unfruitful interruption:** caused by the prop, creating a break on the prototyping dynamics. The prop failed on delivering the expected influence (acquire or providing).
- **Prop modification:** improving the prop to better fit in the story and avoid an unfruitful interruption. The prop failed on delivering the expected influence (acquire or providing).

The Table 4.6 below shows a categorization of the props according to their impact on the prototyping activity. The codes with "E" mean that they were eliminated in the next application.

Table 4.6: Overview of the prop employed on the pilot workshop

COD	ITEM	RESULT
P02	Credenza - Protops	seamless
P03	TV Console - Protops	seamless

P04	“TV” - Protops	seamless
P05	Gateway - Protops	unfruitful interruption
P08	Rug (TNT fabric + rubber mat)	seamless
P10	3 Vases with plant	prop modification
P12	2 Mugs	seamless
P13	4 Glass	provocative disturbance
P14	1 Pitcher with water and 1 thermos (tea)	seamless
P18	Kit - Pen	seamless
P19	Kit - anonymous alcoholics (AA) book	seamless
P20	Kit - guidebook & notebook	seamless
P21	Kit - Bracelet	seamless
P22	4 Badges	seamless
E34	Speaker	OUT: provocative disturbance
E35	Cap & Hat	OUT: prop modification
E36	Red luggage	OUT: prop modification
E1	Coffee table	OUT: provocative disturbance
E11	Potpourri bowl	OUT: prop modification
E14	Tea set	OUT: prop modification
E16	Kit- Blue printed sports drawstring bag	OUT: unfruitful interruptions
E20	Kit - Custom covers (Guide and book)	OUT: unfruitful interruptions
E25	Projector & PPT - Slides about Emunah	OUT: unfruitful interruptions
E7	4 Chairs (from the site)	OUT: unfruitful interruptions
E9	Paint	OUT: prop modification

Source: The author (2022).

This pilot application did not generate many changes on the service concept since the participants were not involved in the design of the service and neither were stakeholders of it. However, some new items were suggested by the designer. Also, the window of the room was missed by the participants since it was cited in the script. This feeling of missing something also can be characterized as a provocative disturbance of the props by their absence.

The first provocative disturbance caused by props resulted in the definition that the patient should not have a soft drink alone, thus someone should accompany him, to not give the impression of different treatment. Thus, it was determined that there should be cups available for everyone (P13). The second decision was that the Coffee table (E1) should be replaced by a side one, to not be a barrier in the layout and the third one was that the music was creating an atmosphere of anxiety, so the music was not producing the desired intent.

The gateway was the only prop that caused an interruption but remained in the list for the second application, the others were removed. The participants tried to

move the structure, however it collapsed and had to be restructured, breaking the flow of activity. This was a reinforcement of the guideline #11 on safety. An improvement to the guideline is to previously check the state of the prop structures.

The P10 props were a group of vases that were exchanged for a flower, with the intent of bringing more color to the scenery and to be more coherent to the definitions of the project, reinforcing guideline #8 and #9. Similarly, the props E7 also had to incorporate a different color to change the perception of the group. Another point about the chairs (E7) was that they were first considered part of the servicescape (#6). However, it became clear that it was a relevant touchpoint (#7) and needed to express visceral characteristics of comfort, having a higher fidelity on the service prototype. This question of fidelity was first understood that it might be connected to the design level of the object. This refinement of the required fidelity also happened on other items of the kit (E16; E20) and the presentation (E25) that had to be swapped for a solution with lower fidelity.

The Paint (E9) was swapped for a more significant (guideline #8) item to the project. As the items E11, E14 were considered non-essential and not essential to the activity (guideline #8). Moreover, items E36 and E36 were connected to guideline #4, aiming to increase empathy with the beneficiary. However, in the final application the participants were role-playing their own roles in the clinic, also some of the participants were ex-addicts making some of these props unnecessary to the activity, and being eliminated, following guideline #8.

The pilot confirmed the validity of the guidelines #1,2,3, and 5, with the props resulting in positive response and remaining the same. Also, the other props were considered seamless since they did not demand any need for modification.

Table 4.7 presents the revised version of the guidelines, after this pilot application:

Table 4.7: Second version of the guidelines for using props on service prototyping

Category	Cod	Guidelines V2	Preview
	G1	Avoid **single-use** components and wasting.	#1
	G2	Plan **extra time** for the pre and post workshop activity.	new
	G3	Select/develop compact, unassembled, or foldable objects that are **easy to move**	#3
Versatility	G4	Select/develop objects that are **changeable**, with functionality and/or aesthetics (interventions) that can be easily modified or reconfigured.	#2

	G5	Consider the provision of **spare special** props that can be endowed with new meanings and **extra material** to realize interventions on high fidelity props.	#5
People	G6	Consider the possibility of aligning the props according to the participants **previous knowledge** associated with the service.	#4
Safety	G7	Check for **safety** issues a day before and on the day that they will be used, to avoid accidents*.	#11
	G8	Define **visceral characteristics** (vision, hearing, touch, smell, taste) aligned to the service project. If it does not have any definition, it is recommended to use neutral characteristics.	#9
Group Representativity	G9	Avoid **branding** material from other organizations that can cause bias, such as logos, shapes, or phrases.	#10
	G10	Prepare objects that are based on **touchpoint** and servicescape priorities.	#7; #6
Essentiality	G11	Avoid **excessive** number of artifacts, prioritizing the most significant in the experience	#8
Fidelity	G12	Connected the fidelity level of each prop with the **design level** of each touchpoint.	#8

*Such as electrical faults; structural problems; slippery floors, protection of heights and darkness; presence of hazardous chemicals; precautions when using guns and ammunition; protection when using fire or hot equipment near or in the scene.

Source: The author (2022).

Notice that on this second version of the guidelines they were grouped in categories and given new codes. The guideline Ve1 is connected to the logistics of the props. It was added after carrying out the pilot application and understanding that it is different from changeable structure. Other prototypes that are not disassembled must be compact to be transported, and the time for setting up and dismantling the scenery is essential for achieving efficiency during prototyping.

Guidelines #7 and #6 were grouped in Essentiality, since the servicescape overall perception can be considered a touchpoint. The main modifications were on the guideline #8 with a new item (Fi3), dealing with the issue of how to ponder the fidelity of the object with the touchpoint cognitive requirements during prototyping.

4.5.3 Workshop 04 (WS04)

4.5.3.1 Workshop 04 activity

In the second and final prototyping of the Emunah Project, with the clinic employees, a preliminary script was refined and sent to the participants for feedback. After this, a second iteration was carried out and this final script (Appendix 14) was brought for the service prototype activity.

Workshop 04 was held in one of the clinic headquarters. The preparation (Appendix 13) started on the day before, focusing on the overall scenery, since the time available for the service prototype dynamics were only 3 hours. The workshop began with recapitulation of the service concept and an introduction on the prototyping activity. They were invited to participate in one warm up activity and after that, the script was delivered to each participant. They would also first read one scene, and then they would stage the same scene as they understood it (Figure 4.13).

Figure 4.13: Workshop 04 with the clinic Employees.



Source: The author (2022).

After each act a discussion was held. At the end of the activity the participants had 15 minutes to walk around the props and make interventions. At the end the researcher promoted a final discussion on the props and the prototyping activity.

Below is the list of the selection of props prepared for this workshop. The items in bold are new:

Table 4.8: Prop list for the WS 04 application

COD	ITEM	GOAL	TYPE / LEVEL	EXPECTED INFLUENCE
P01	**Side table - Protops**	kit and cup support	Layout; Behavioral	acquire and provide
P02	Credenza - Protops	tea/water set support	Layout/ Behavioral	acquire and provide
P03	TV Console - Protops	TV support	Layout/ Behavioral	acquire and provide
P04	"TV" - Protops	presentation broadcast	Layout/	acquire and provide

			Behavioral	
P05	Gateway - Protops	transition between environments and position	Layout/ Behavioral	acquire and provide
P06	**Window (draw)**	position, view,	Layout; Behavioral	acquire and provide
P07	**4 Armchairs (from the site)**	sit, comfort, relaxation, touch	Environmental Conditions/ Visceral (senses)	provide
P08	Rug (TNT fabric + rubber mat)	thermal and acoustic comfort	Environmental Conditions/ Visceral	provide
P09	**Poster (from the site)**	calm down, part of the ambiance	Environmental Conditions/ Visceral (senses)	provide
P10	3 Vases with plant	calm down, part of the ambiance	Environmental Conditions/ Visceral	provide
P11	**Air freshener spray**	calm down, part of the ambiance	Environmental Conditions/ Visceral (senses)	provide
P12	2 Mugs	trust (no cheap material), part of ambiance	Environmental Conditions/ Visceral	provide
P13	4 Glass	trust (no cheap material), part of ambiance	Environmental Conditions/ Visceral	provide
P14	1 Pitcher with water and 1 thermos (tea)	represent tea and water	Layout/ Behavioral	provide
P16	**Kit - Plain sports drawstring bag**	value the culture of the individual	Symbols/ Reflective	acquire
P17	**Kit - Welcome message/card**	Identification and reception	Symbols/ Reflective	acquire
P18	Kit - Pen	gift and persuade	Symbols/ Reflective	provide
P19	Kit - AA book	clarify action plan	Symbols/ Reflective	provide
P20	Kit - Guide & Notebook	clarify action plan	Symbols/ Reflective	acquire
P21	Kit - Bracelet	Identification and reception	Symbols/ Reflective	acquire
P22	4 Badges	Identification and reception	Symbols/ Reflective	acquire
P23	**Room identification**	Identification and reception	Symbols/ Reflective	acquire
P24	**Company values poster - for the path**	Identification and reception	Symbols/ Reflective	acquire
P25	**Emunah Presentation (on paper sheets)**	Capacity building and empowerment	Symbols/ Reflective	acquire

Source: The author (2022).

Prop P05 had to be structurally reinforced in order to enhance safety in case it moved. P10 was adapted with flowers instead of just greenery, adding more color to the context and fitting better in the context of the service. New props were added following the results presented in the pilot application. Below is a comparison between the group of props applied in the pilot and in the second application at the Emunah Project:

Figure 4.14: Comparison between the two servicescape rooms



Source: The author (2022).

It can be perceived that the chairs in high fidelity with warmer colors changed the overall perception of the servicescape. On the first prototyping the selected chair had a color with hospital connotation for the pilot participants.

4.5.3.2 Workshop 04 results

The Table 4.9 below shows the props, the associated guidelines, and status evaluated on the prototyping activity:

Table 4.9: Overview of the prop employed on the WS04

COD	ITEM	RESULT
P02	Credenza - Protops	seamless
P03	TV Console - Protops	seamless
P04	"TV" - Protops	seamless
P05	Gateway - Protops	provocative disturbance
P08	Rug	seamless
P10	3 Vases with plant	provocative disturbance
P12	2 Mugs	provocative disturbance
P13	4 Glass	provocative disturbance

P14	Pitcher and 1 thermos	provocative disturbance
P18	Kit - Pen	seamless
P19	Kit - AA book	seamless
P20	Kit - guidebook & notebook	prop modification
P21	Kit - Bracelet	seamless
P22	4 Badges	provocative disturbance
P01	New: Side table - Protops	provocative disturbance
P06	New: Window	seamless
P07	New: 4 Armchairs	provocative disturbance
P09	New: Poster	seamless
P11	New: Air freshener spray	seamless
P16	New: Kit - Plain sports bag	prop modification
P17	New: Kit - Welcome card	prop modification
P23	New: Room identification	seamless
P24	New: Company values poster	seamless
P25	New: Emunah Presentation	provocative disturbance

Source: The author (2022).

In this second prototyping it was understood that most of the guidelines assisted in the preparation of props, reducing the number of unfruitful discussions, and reaching expected interactions with the objects. However, for a further application, the items P16, P17, P20 kit did not have a clear agreement if they should be on the prototyping, not achieving their expected interaction of acquiring new meanings. For creating more disturbance with the props, they could have a lower fidelity. Perhaps bringing something like a plastic grocery bag and the AA book only, to provoke a discussion on what is important to simulate the notion of a “welcome gift” to the patient. Adding and swapping items during prototyping would enrich the discussion.

The attempt to associate the fidelity level of pros with the emotional level of servicescape elements did not succeed. First it thought that because the prop had a visceral level, it would have a higher fidelity; reflexive items, focused on triggering previous memories, should have a lower level to acquire new meanings from the participants, and behavior items could have a medium fidelity. However, the AA book was considered a highly reflexive object, as its objective was to clarify the treatment plan, and it was provided in high fidelity during prototyping. The rug was represented via a low fidelity perspective, for it was used a TNT fabric and a rubber mat, with the goal of associating its presence with acoustic and thermal comfort on a visceral level. After the prototyping the analysis showed that actual definition of the object in

the design project and the necessity to evaluate certain characteristics is what determines the need of fostering a type of interaction and then this should match the fidelity.

The lesson learnt is that the definition of the object in the project and the necessity to evaluate certain characteristics is what determines the expected interaction, and this should match the fidelity of that characteristic. Fidelity can be seen as the group of elements in a macro aspect and to their specific qualities of the object (micro). Certain objects that have a visceral functional level are more described in the project because their characteristics are important to express feelings in the 5 senses. At the same time, since service design have a more holistic vision, the reflexive objects can be less defined, having a higher need to be comprehended in the context of the whole service. In this same logic, behavioral objects can have very clear functional characteristics and undefined ones about their color, smell, etc.

Once again, the observation showed that many props cause provocative disturbances generating feedback and new service definitions for the project. During the staged representation, the participants had doubts if the door was open or closed, because there was only the portal produced with Protops:

Figure 4.15: Provocative disturbance with the gateway prop



Source: The author (2022).

It was quickly defined by the participants that the door should stay open. Also, the low fidelity of the overall presentation, as a simulacrum of the future service, caused great discussions on what should be present to the patient and why the aspects were important.

The observations unveiled that the behavioral intervention strategies applied for the service design project via touchpoint were more related to Interact (configure the channels so that they allow the individual to initiate the interaction or only respond to stimuli) and Motivate (seduce and induce a behavior by pointing benefits when using the product or service), rather than Educate and Awareness. This was perceived by the insights from the participants on the value of the music and images of the video to calm the patient more than to inform him. The assumption is that the patient has been just released from the infirmary, being a little disoriented and much information probably would not be absorbed. In contrast, it was also perceived that the items in the kit could work as the strategies to: Educate (increase knowledge) and enhance Awareness (help the individual to evaluate routine choices and reflect on a new perspective). This was particularly true regarding the welcome kit, as it had information for self-study. For the kit it was also suggested the addition of a voucher, to be spent at the on-site cafeteria, and a Bible. The voucher reinforces the strategy of Persuade.

The tea and water elements were evaluated in accordance with their strategies of Restructuring the Environment (changing the physical or social context) and Persuade (Using communication to induce positive or negative feelings or to stimulate action). They also highlighted many safety concerns. The glass was considered dangerous and should be changed for plastic cups. The participants agreed to change the mugs for little plastic cups to serve a small quantity of coffee, since the patient would probably ask for that. Also, they positioned the flasks for water and coffee away from the patient and close to a professional.

In accordance with these elements, other servicescape objects were evaluated also on Restructuring the Environment. The group asked to use 4

armchairs with the same design. They also asked for a small coffee table in the middle to position the cups and the kit together.

All vases contained natural flowers, this allowed plastic arrangements to be specified. The participants express their belief that natural arrangements do not survive inside the room due to the emotional charge of the patients. Another element connected to the strategy of Restructuring the Environment showed itself a relevant touchpoint: the identification of staff. It was mentioned that it would be important to bring identifications through uniform, badges, and the clinic logo in different places, showing professionalism. As a suggestion in a next application, uniforms and logos could be added.

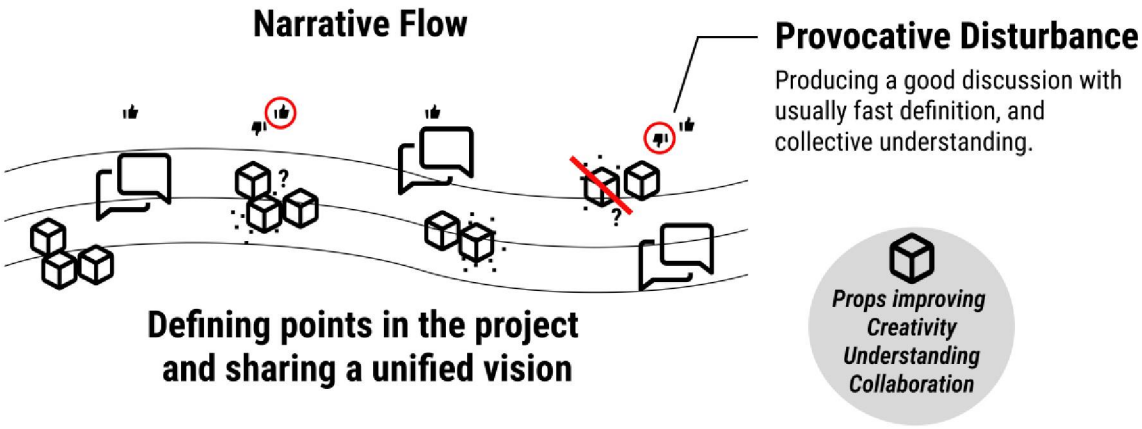
Overall, the props collaborated to express behavior intervention strategies, assisting the participants to understand and define points for improvement after prototyping the service concept.

4.6 PHASE 5: REFLECTION

4.6.1 The Contribution of Props for the Narrative Flow on the Service Prototype

In the prototyping sessions, the collaborators explained that the effectiveness of the application of props was enhanced when it achieved neutrality in creating a seamless experience. Moreover, the control of disturbances can enable the facilitator and other participants of the staged service prototype to use props as tools for developing interesting conversations. Such conversations on the field study resulted on the proposition of service refinements, as illustrated in Figure 4.16:

Figure 4.16: Positive disturbances provoked by props during service prototyping



Source: The author (2022).

Subtitle: Props benefiting the prototype activity.

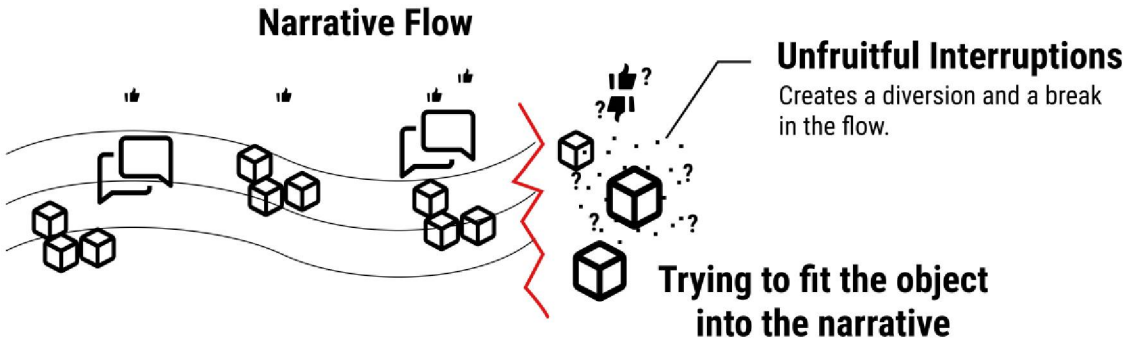
Disturbances during service prototyping can be purposefully managed and graduated through the application of the developed guidelines for the preparation of props. These can focus on the uncertainties and variability that are always present in real world settings, helping designers and service stakeholders to explore different scenarios and hypotheses.

The feedback of the prototyping participants along with the direct observation allowed assessing their effective contribution to assess the service concept. These contributions were grouped in the following categories:

- Seamless: no disturbance caused by that prop during the prototyping dynamic;
- Provocative: there were disturbances caused by the prop, resulting in the revision of project definitions;
- Disruptive: when it caused unfruitful interruption, creating a break on the prototyping dynamics;
- Modified: when it was required to improve the prop during prototyping to better fit in the story and avoid an unfruitful interruption.

The observation showed that some disturbances can cause unfruitful discussions that can break the flow of the narrative and the activity. This happened because the participants tried to force the prop into the narrative and it deviate their attention away from the prototyping purposes, as the Figure 4.17 illustrates:

Figure 4.17: Unfruitful Interruptions and breaking the narrative flow.



Source: The author (2022).

The observation on the prototyping section showed that the mere application of the guidelines is not a guarantee that the prototype will follow a seamless flow. Service prototyping is a highly complex activity and involves an elevated number of dependent and independent variables and anticipates all possible uncertainties is virtually impossible. In order to overcome the limitation of props the facilitator has an essential role during prototyping.

4.6.2 Final version of guidelines

The final list of guidelines presented on Table 4.10 summarizes the lessons learnt throughout the pilot prototyping and the prototyping developed during Workshop 04. The intent during both exercises was using props to produce a more conscious discussion of the service concept, confirming, or challenging the validity of the proposition. They should enhance creativity, understanding, and collaboration and, at the same time, avoid a deviation of the focus of the participants on the service prototype activity.

The preparedness of the facilitator was paramount for the success of the props. Indeed, it contributes to avoiding unnecessary disturbances during the staged representation, demanding the definition on the spot of countermeasures that guide the dynamic back to fruitful discussions.

Table 4.10: Guidelines for prop preparation.

CATEGORY	COD	GUIDELINES V3
	Ve1	Avoid single-use components and **wasting**.
	Ve2	Plan **extra time** for the pre and post workshop activity (transport, assemble and disassemble).
Versatility	Ve3	Select/develop compact, unassembled, or foldable objects that are **easy to move**

	Ve4	Select/develop objects that are **changeable**, with functionality and/or aesthetics (interventions) that can be easily modified or reconfigured.
	Ve5	Consider the provision of spare special props to be used as metaphors and **extra material** to realize interventions on high fidelity props
People	Pe1	Align the props according to the **participants** intent and previous knowledge associated with the service.
Safety	Sa1	Check for **safety** issues, a day before and on the day that they will be used, to avoid accidents*
	Re1	Define **visceral characteristics** (vision, hearing, touch, smell, taste) aligned to the service project. If it does not have any definition, it is recommended to use neutral characteristics.
Representativity	Re 2	Avoid **branding** material from other organizations that can cause bias, such as logos, shapes, or phrases.
Essentiality	Es1	Prepare objects that are based on **touchpoint** and **servicescape** priorities.
	Fi1	Understand how much of the object is **defined** in the project.
	Fi2	Define its **key characteristics**.
Fidelity	Fi3	Match these to the need to evaluate or discuss this characteristic to an expected type of influence (providing or acquiring meaning) during the interaction and consequently a fidelity for that.

*Electrical equipment and cables; structural problems of objects and the floor; Heights and darkness; hazardous chemicals; use of guns and ammunition; use of fire or hot equipment near or in the scene.

Source: The author (2022).

These six categories group the factors that are related to the efficiency of a prop application. Each category has corresponding guidelines connected to it. Notice that since the field study was limited in time and scope the list of guidelines is likely to expand with further studies on the subject. Versatile can be understood as an object passive to change (Ve4), such as structural change in its form, has the possibility to be moved (Ve3) for layout change or is easily re-signified. Also, it is connected to how easy it is to transport, assemble the scene before and disassemble it after (Ve2). The Protops platform, developed to enable the field prototyping sections (see Appendix 17 - Protops manual) showed a good fit to the proposed guidelines. Its modules can be reconfigured in different shapes and their surface can be used as a whiteboard, accepting draws, and writing observations.

In the case that the props are not that reconfigurable, it is recommended to consider spare special props to be used as metaphors, and side material (Ve5), such as post its, sheets of paper and tape, to realize interventions and even prepare simple props if is necessary.

Preparing props aligned to the participants' intents and involvement to the project (Pe1) was demonstrated in the field study as very important to achieve

prototype effectiveness. As an example, the kit notebook and guidebook should have a lower fidelity to enable the exploration of new meanings of these touchpoints.

The safety (Sa1) of the participants is a guideline that originated from the feedback gathered from theater professionals and literature on the early stage of the research. Safety is a major concern for prop masters especially if it involves weapons. All the props should be evaluated for probable safety issues, considering changes during the prototype activity, such as the gateway when it was moved. This can avoid participants getting hurt and stop the entire activity. In theater some props will not be touched by actors, however, in service prototypes it should be assumed that all props can be interacted with and moved by the participants.

In the fourth category (**Representativity**), how the object visceral aspects provide a first assessment to what that object is for, and the view of the group of objects provides an overall impression on the servicescape. Since the color was not completely defined for the servicescape, it followed a principle of evaluating the color perception of objects starting with a light color (ALBERS, 2021) in most of the objects. This did not provide a neutral assessment, instead it brought the unwanted association with an extension of the infirmary. Also, the color of the rug was determined by its function: since people would step on it, it was chosen a dark brown. The color or other sensorial characteristic of props (Re1) should be selected based on the goal of that prop, its fidelity (lower fidelity usually applies white color to look like a white sheet of paper), and the intended meanings of a touchpoint.

Another matter in visual representativity is branding material from other organizations (Re2). In the case of the sports drawstring bag, integrated on the welcome kit prop, an encouraging phrase from another organization seemed interesting at first. However, it impacts the participant's judgment, creating unwanted associations and discussions.

In the final prototyping session, some props were brought to reinforce the idea of the offer of water and tea. However, these objects were not necessary and could have caused discussion on non-important items. Thus, they were removed, leaving only the essential props for the activity (Es1) of serving the tea or water: cups, mugs, a thermos, and a jar.

Since the literature review, fidelity was a concern (e.g., STICKDORN *et al.*, 2018; KRONQVIST *et al.*, 2013). At first it seemed to be connected to the function of the object. Seemed that Visceral objects would have a higher fidelity than Reflexive ones for example. Therefore, props with visceral attributes tend to be more well defined.

The field observation showed that more innovative touchpoints of a service usually present a reflexive function. Hence, they are usually presented with a medium fidelity, letting some aspects to be imagined by the participant.

During the prototyping section it was important to assess as many touchpoints as possible. In the final application the props did not produce unproductive discussion or unnecessary interruptions. Although some props could be swapped for lower fidelity representatives to have more discussions over them, the levels of fidelity adopted on the prototype had a positive result. Therefore, the guideline Fi1 was split into three new ones:

Fi1 - Understand how much of the object is defined in the project.

Fi2 - Define its key characteristics for the project.

Fi3 - Match these to the need to evaluate or discuss this characteristic to an expected type of influence (providing or acquiring meaning) during the interaction and consequently a fidelity for that.

These guidelines approach the learned lesson on macro and micro aspects that fidelity can be related in service prototype. If a specific aspect is considered key for the project in an object it should be pinpoint and matched to the type of expected influence and its related fidelity level. Such as the feeling of comfort from the chairs.

5. CONCLUSION

5.1 FINAL CONSIDERATIONS

Props are complex elements and, yet an almost unavoidable item for staged representation in service prototypes. They can represent servicescape elements with different emotional levels or facilitate prototype activities, such as fantasy or historical items to force imaginations (BRANDT; GRUNNET, 2000). In the process of interacting with them, designers gather data and information from participants on issues such as service requirements, expected service constraints, perception of innovation and the most appropriate temporal and spatial narrative flow (MARGOLIES, 2017). They can be also endowed, expanding their meaning (HOWARD et al., 2002) having a supportive role as metaphors or simulacrums. Furthermore, props in service prototype can be the exact artifacts to be adopted on the final service.

Props can provide an overall sight of the servicescape, especially in evaluative purpose prototypes, allowing the assessment of issues such as aesthetic comfort (BUCHANEU; SURI, 2000). At the same time, props are powerful enablers of staged representations, assisting participants to understand the situation (BLOMKVIST; BODE, 2012), supporting project decisions beyond the servicescape elements, such as sequential actions of the service and people's position in the space.

Chapter 2 of this dissertation fulfilled the objective of discussing service prototype concepts, principles, and resources associated with staged representation. For that, a service prototype framework was presented providing the background for understanding the adequate use of props. The analysis of the literature resulted in a proposition of props categories and descriptive attributes, which are useful for those involved in specifying a prop for a service prototyping.

The study has contributed to deepen our understanding regarding the impacts of props on service prototyping. It was also suggested a classification based on Biter's (1992) dimensions of the servicescape, and the existing relations between the prototype participant, and props. Finally, the effectiveness of props in

service prototypes were identified as connected to the seamless experience or provocative disturbances throughout a prototyping activity. As a general objective, this research aimed to develop guidelines for selecting, developing, and implementing props when prototyping services through staged representations. These guidelines aided in the preparation of props aiming for a more fruitful experience of service prototype staged representations. They target the factors that contribute to its effectiveness, to improve props versatility, better adapt them to the participants of the prototype, check its safety already expecting possible changes, and adequate their representativity, essentiality and level of fidelity according to the proposed activity and service.

In fact, it is not possible to avoid all unwanted disturbances without testing the activity. However, it is expected these guidelines can provide a starting point to assist designers in consciously preparing props for prototype application using them as tools that have the potential to generate discussion and definitions. Moreover, this dissertation can be a starting point for future studies on props in service design.

5.2 RESEARCH METHOD CONSIDERATIONS

The research method chosen for this dissertation was Design Science Research (DSR). The method proved to be suitable for this research as the subject was of great novelty, combining theoretical and practical learning to deepen the theme. Nonetheless, it was a challenging process due its high level of complexity of the flow between the five phases.

Another point was that the selection of proceeding for each phase was altered. The Virtualiza project opened an opportunity to further understand the application of service prototype and it was included in the phase “understanding” of the process. The selection of specialists for the co-creation session was readjust for collaborators with affinity to the theme and the dynamic was adequate to attend their availability. For the workshops, it was planned to use a form to be filled in by the participants at the end of the activity, which proved to be less valuable than their verbalizations and actions, because at the end of the activity both the pilot application and WS04 groups were tired, giving shallow answers.

Furthermore, due to limited time, it was not possible to test different layouts or major changes with the props. This was limited to verbalizations and noted actions with the available distribution. Nevertheless, this proved sufficient to understand the effectiveness of the guidelines. Therefore, the applications of two pilots and a final workshop assisted in the development of knowledge.

5.3 SUGGESTIONS FOR FUTURE STUDIES

During the co-creation sessions, the collaborators have given hints on how to improve the evaluation of efficiency and effectiveness of a prop on a service prototyping. The “professor” suggested an activity called “Light and blackout”, where the facilitator says "blackout!" and people move objects around, and then it says “light!” and freezes the position to evaluate, repeating that 3 times. Another idea was from the professional in which the scene is played twice, one without props and one with props and then it would be comparable. Also, the literature suggested gradually increasing the fidelity of the objects until it reaches a pilot application. To commit to the time available for the workshop, these suggestions were not applied, however, they may be useful for future research and validations.

This research was realized in an interpersonal service of the health sector, with non-actors. It is possible to evaluate the guidelines in other services and to use professional actors, especially for the beneficiary role representing variations of humor and personality. Another point is to test props in prototypes of different purposes and positions in the process, such as using metaphorical relations, and fantasy or historical props in explorative prototypes to extrapolate the normality.

Furthermore, props can be used concomitant to emerging technologies (e.g., IoT, Blockchain, Augmented Reality, Virtual Reality, Artificial Intelligence, etc.) to enhance the prototype experience and even collect better data on the use of the servicescape during a service prototype activity. Immersive prototypes that use these types of technology can use props such as the developed Protops as surface to create haptic perception or projections over the surfaces.

REFERENCES

ALBERS, J. **A Interação da cor.** São Paulo: WMF Martins Fontes, ed. 2, 2021.

ARDOINO, J. Using Role-Playing (Or the Psychodrama) as a Means of Training**.** **Management International**, Springer, v.4, n.5/6, p.13-20, 1964.

ASCIP - Alliance on Schools for Cooperative Insurance Programs. **Theater Safety Guidelines.** Cerritos, 2018. Disponível em: <https://ascip.org/wp-content/uploads/2014/05/Theatre-Safety-Guidelines-2018.04.27-ASCIP.pdf> Acesso em: 01 jun. 2022

BAE, D. J.; LEEM, C. S. A visual interactive method for service prototyping. **Managing Service Quality**, v. 24, n. 4, p. 339–362, 2014.

BAYAZIT, N. Investigating Design: A Review of Forty Years of Design Research. **Design Issues**, v. 20, n. 1, p. 16–29, 2004.

BAXTER, M. **Product Design.** 1st Edition, CRC Press,1995.

BITNER, M. J. Servicescapes: The Impact of Physical Surroundings on Customers and Employees. **Journal of Marketing**, v. 56, n. 2, p. 57–71, 1992.

BLOMKVIST, J. **Representing Future Situations of Service:** Prototyping in Service Design, 2014. Thesis (Ph.D.), Department of Computer and Information Science, Linköping University.

BLOMKVIST, J. Benefits of Service Level Prototyping. **Design Journal**, v. 19, n. 4, p. 545–564, 2016. Routledge.

BLOMKVIST, J.; BODE, A. Using Service Walkthroughs to Co-Create Whole Service Experiences: A Prototyping Technique for Service Design. **Proceedings of the 3rd International Service Innovation Design Conference, Holistic Service Innovation & Co-Creation Experience**, p. 1–6, 2012.

BLOMKVIST, J., FJUK, A., & SAYAPINA, V. Low Threshold Service Design: Desktop Walkthrough. **ServDes2016**, 2016.

BLOMKVIST, J.; HOLMLID, S. Service Prototyping According to Service Design Practitioners. Linköping: **ServDes2010**, p.1–11, 2010.

BLOMKVIST, J.; HOLMLID, S. Existing Prototyping Perspectives: Considerations for Service Design. **Nordic Design Research Conference**, n. May, p. 1–10, 2011.

BOAL, A. **Teatro do Oprimido e Outras Poéticas P**

MINISTÉRIO DA EDUCAÇÃO
SETOR DE ARTES COMUNICAÇÃO E DESIGN
UNIVERSIDADE FEDERAL DO PARANÁ
PRÓ-REITORIA DE PESQUISA E PÓS-GRADUAÇÃO
PROGRAMA DE PÓS-GRADUAÇÃO DESIGN - 40001016053P0

TERMO DE APROVAÇÃO

Os membros da Banca Examinadora designada pelo Colegiado do Programa de Pós-Graduação DESIGN da Universidade Federal do Paraná foram convocados para realizar a arguição da dissertação de Mestrado de **ALESSANDRA CAROLINE CANFIELD PETRECCA** intitulada: **Props as a Service Prototyping Tool**, sob orientação do Prof. Dr. AGUINALDO DOS SANTOS, que após terem inquirido a aluna e realizada a avaliação do trabalho, são de parecer pela sua APROVAÇÃO no rito de defesa.
A outorga do título de mestra está sujeita à homologação pelo colegiado, ao atendimento de todas as indicações e correções solicitadas pela banca e ao pleno atendimento das demandas regimentais do Programa de Pós-Graduação.

CURITIBA, 25 de Outubro de 2022.

Assinatura Eletrônica
25/10/2022 21:23:51.0
AGUINALDO DOS SANTOS
Presidente da Banca Examinadora

Assinatura Eletrônica
25/10/2022 19:15:14.0
MARCIO FONTANA CATAPAN
Avaliador Interno (UNIVERSIDADE FEDERAL DO PARANÁ)

Assinatura Eletrônica
27/10/2022 15:29:40.0
MARI SUOHEIMO
Avaliador Externo (THE OSLO SCHOOL ARCHITETURE AND DESIGN)

RUA GENERAL CARNEIRO, 460 - CURITIBA - Paraná - Brasil
CEP 80060-150 - Tel: (41) 3360-5238 - E-mail: ppgdesign@ufpr.br
Documento assinado eletronicamente de acordo com o disposto na legislação federal Decreto 8539 de 08 de outubro de 2015.
Gerado e autenticado pelo SIGA-UFPR, com a seguinte identificação única: 230736
Para autenticar este documento/assinatura, acesse https://www.prppg.ufpr.br/siga/visitante/autenticacaoassinaturas.jsp e insira o codigo 230736

ol. 6º ed. Rio de Janeiro: civilização brasiliera, 1991.

BRANDT, E.; GRUNNET, C. Evoking the future: Drama and props in user centered design. **Proceedings of Participatory Design Conference PDC 2000**, , n. November, p. 11–20, 2000.

BUCHENAU, M.; SURI, J. F. Experience prototyping. Proceedings of the Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques, DIS, p. 424–433, 2000.

BURNS, C.; DISHMAN, E.; JOHNSON, B.; VERPLANK, B. "Informance": Min(d)ing future contexts for scenario-based interaction design. San Francisco: **BayCHI**,1995. Access in: <http://www.baychi.org/meetings/archive/0895.html> Acesso em: 10 ago. 2021

BURNS, C.; DISHMAN, E.; VERPLANK, W.; LASSITER, B. Actors, hairdos & videotape: Informance design. New York: **Conference Companion on Human Factors in Computing Systems**, p.119-120, 1994.

CAPES. Manual de Acesso. **Periódicos CAPES** - Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, 2019. Disponível em: <https://www.periodicos.capes.gov.br/images/documents/Portal_Peri%C3%B3dicos_CAPES_Guia_2019_4_oficial.pdf> Acesso em: 10 ago. 2021

CARNEIRO, L. TI cresce 95,6% desde 2012 e ganha impulso na pandemia. **Valor**, 2021. Disponível em: <https://valor.globo.com/brasil/noticia/2021/02/12/ti-cresce-956-desde-2012-e-ganha-impulso-na-pandemia.ghtml> Acesso em: 15 jun. 2021.

CIPOLLA, C.; MANZINI, E. Relational Services. **Knowledge, Technology & Policy**, v. 22, n. 1, p. 45–50, 2009.

CIRAVEGNA, E. Design Drama : A Person-Oriented Method to Foster Creativity and Holistic Human Development. **diid**, n. 73, p. 48–59, 2021.

CONFORTO, E. C.; AMARAL, D. C.; SILVA, S. L. DA. Roteiro para revisão bibliográfica sistemática : aplicação no desenvolvimento de produtos e gerenciamento de projetos. **8° Congresso Brasileiro de Gestão de Desenvolviemnto de Produto - CNGDP 2011**, n. 1998, p. 1–12, 2011.

DESIGN COUNCIL. **Beyond net zero:** a systemic design approach. London, UK, 2021. Disponível em: <https://www.designcouncil.org.uk/fileadmin/uploads/dc/Documents/Beyond%2520Net%2520Zero%2520-%2520A%2520Systemic%2520Design%2520Approach.pdf> Acesso em: 15 jun. 2021.

DEITERING, A. M.; FILAR-WILLIAMS, B. Make It Work: Using Service Design to Support Collaboration in Challenging Times. **International Information and Library Review**, v. 50, n. 1, p. 54–59, 2018. Taylor & Francis.

DIANA, C.; PACENTI, E.; TASSI, R. Visualtiles: Communication tools for (service) design. **DeThinkingService ReThinkingDesign**, p. 1–12, 2009.

DRESCH, A.; LACERDA, D. P.; JR., J. A. V. A. **Design Science Research: a method for science and technology advancement**. Porto Alegre: Springer, 2015.

FACCA, C. A. O Designer como Pesquisador: Relações entre Design, Pesquisa e Metodologia. **design, arte e tecnologia**, v. 4, n. January 2008, p. 23, 2008.

FORTY, A. **Objetos de Desejo**. Dumfriesshire: Cosac Naify, 2009.

GLYNN, W. J; BARNES, J. G. **Understanding Services Management**. New York: John Wiley & Sons, 1995.

HART, E. **The Prop Building Guidebook:** For Theatre, Film, and Tv. Taylor &Francis, 2013

HOLMLID, S.; EVENSON, S. **Prototyping and enacting services: Lessons learned from human-centered methods**. Orlando : Quality in Services, QUIS 10, 2007.

HOLMQUIST, L. E. Prototyping: generating ideas or cargo cult designs? **Interactions**, v. 12, n. 2, p. 48–54, 2005.

HOSS, M. J. **Prototipagem de Serviços:** um Estudo Exploratório com Foco na Iluminação de Habitações de Interesse Social, 2014. Dissertation (Master in design), PPGDesign, UFPR, Curitiba.

HOWARD, S.; CARROLL, J.; MURPHY, J.; PECK, J. Using "endowed props" in scenario-based design. **ACM International Conference Proceeding Series**, v. 31, n. October 2002, p. 1–9, 2002.

IACUCCI, G.; KUUTTI, K. Everyday Life as a Stage in Creating and Performing Scenarios for Wireless Devices. **Personal and Ubiquitous Computing**, n.6(4), p.299-306., 2002.

ITHACAa - College Department of Theatre. **Prop Lending Procedures.** Disponível em: <https://www.ithaca.edu/academics/school-music-theatre-and-dance/student-resources/theatre-department-handbook/theatres-and-shops-information/prop-lending-procedures> Acesso em: 01 jun. 2022

ITHACAb - College Department of Theatre. **Props Master Guidelines**. Disponível em: <https://www.ithaca.edu/academics/school-music-theatre-and-dance/student-resources/theatre-department-handbook/designertechnician-guidelines/props-master-guidelines> Acesso em: 01 jun. 2022

KELLY, J. F. An Iterative Design Methodology for User-Friendly Natural Language Office Information Applications. **Transactions on Office Information Systems 2**, n.1, p.26-41, 1984.

KIMBELL, L.; BAILEY, J. Prototyping and the new spirit of policy-making. **CoDesign**, v. 13, n. 3, p. 214–226, 2017. Taylor & Francis.

KÖCHE, J. C. **Fundamentos de Metodologia Científica**. 14º ed. Petrópolis, RJ: Editora Vozes, 2011.

KRONQVIST, J.; LEINONEN, T.; ERVING, H. Cardboard Hospital - Prototyping patient-ventric environment and services. **Nordic Design Research Conference**, p. 293–301, 2013.

KONTTINEN, J.; SMEDLUND, A.; RILLA, N.; KALLIO, K.; VAN DER HAVE, R Service innovation corner (SINCO). **VTT Publications**, v.776, p.61-68, 2011. Disponível em: <https://www.vttresearch.com/sites/default/files/pdf/publications/2011/P776.pdf>. Acesso em: 10 ago. 2021

KUURE, E.; MIETTINEN, S.; ALHONSUO, M. Change through Service Design – Service Prototyping as a Tool for Learning and Transformation. **Proceedings of DRS 2014**, p. 469–482, 2014.

LACERDA, D. P.; DRESCH, A.; PROENÇA, A.; JÚNIOR, J. A. V. A. Design Science Research Método de pesquisa para a engenharia de produção. **Gest. Prod.**, v. 20, n. 4, p. 741–761, 2013. São Carlos.

LIM, Y. K.; STOLTERMAN, E.; TENENBERG, J. The anatomy of prototypes: Prototypes as filters, prototypes as manifestations of design ideas. **ACM Transactions on Computer-Human Interaction**, v. 15, n. 2, p. 27, 2008.

MARGOLIES, E. **PROPS**. 1º ed. Hampshire: Palgrave - Macmillan, 2017.

MERONI, A.; SANGIORGI, D. **Design for Services**. Surrey: Gower, 2011.

MIETTINEN, S. Service Prototyping in Action! **Touchpoint**, v. 3, n. 2, p. 64–65, 2011.

MIETTINEN, S.; KOIVISTO, M. **Designing Services with Innovative Methods**. Keuruu: Taik, 2009.

MIETTINEN, S.; RONTTI, S.; KUURE, E.; LINDSTRÖM, A. Realizing Design Thinking through a Service Design Process and an Innovative Prototyping Laboratory : Introducing service innovation corner (SINCO). Bangkok: **DRS 2012 Bangkok,** p.1202–1214, 2012.

NORMAN, D. A. **Design Emocional:** Por que adoramos (ou detestamos) os objetos do dia-a-dia. Rio de Janeiro: Rocco, 2008.

NORMAN, D. A. Signifiers, not affordances. **Interactions**, v. 15, n. 6, p. 18–19, 2008.

NORMAN, D. A. **The Design of Everyday Things.** Basic Books, 1988

NORMAN, D. A. Affordance, conventions, and design. **Security and Privacy**, n.May, p. 38–42, 1999.

OXFORD. **Oxford English Dictionary: Pocket**. New York: Oxford University Press, 2005.

PAUL, R.; PONNAM, A. Teaching Customer Experience Quality and its Significance in Retail Management: A Role Playing Game using Chinese Puzzle 'Tangram'. **Decision Sciences Journal of Innovative Education**, v. 16, n. 2, p. 126–139, 2018.

PENIN, L. Designing the Invisible: an introduction to service design. London: Blomsburry, 2018.

POLAINE, A.; LØVLIE, L.; REASON, B. **Service Design: From Insight to Implementation**. 1° ed. New York: Rosenfeld Media, 2013.

PRCOMICCON - Puerto Rico Comic Con. Weapons & Prop Rules and Regulations. Puerto Rico. Disponível em: <https://www.prcomiccon.com/prop-rules> Acesso em: 01 jun. 2022

RAZEK, A. R. M. A. **Investigating Immersive Technologies Impact on Service Prototyping**. Thesis (Ph.D.), École Doctorale Sciences des Métiers de L'ingénieur, Laboratoire De Recherche – Campus de Laval, HESAM Université, 2020.

RODRIGUES, V.; HOLMLID, S. Discovering Service Variations through Service Prototyping. **Design Journal**, v.20, n.sup1, p.S2247–S2257, 2017. Routledge.

RØISE, Ø. Situating situation-based design - The integration of prototyping to change the scope of design competence. **13th International Conference on Engineering and Product Design Education**, n.September, p.666–671, 2011.

RONTTI, S.; MIETTINEN, S.; KUURE, E.; LINDSTRÖM, A. A Laboratory Concept for Service Prototyping – Service Innovation Corner (SINCO). Helsinki: **ServDes2012**, p. 229–241, 2012.

SANDERS, E. B. N.; STAPPERS, P. J. Co-creation and the new landscapes of design. **14th International Conference on Tangible, Embedded, and Embodied Interaction**, v.0882, p.799–809, 2007.

SANGIORGI, D.; PRENDIVILLE, A. **Designing for Service: key issues and new directions**. London: Bloomsbury, 2017.

SANTOS, A. dos; LOPES, C. S. D.; SAMPAIO, C. P. de; MARTINS, S. B.; TREIN, F. A.; CHAVES, L. I.; LIBRELOTTO, L. I. ; FERROLI, P. C. M. ; LEPRE, P. R. ; ENGLER, R. C. ; NUNES, V. G. A. **Design para a Sustentabilidade:** Dimensão Econômica. Curitiba, PR: Insight, 2019.

SANTOS, A. DOS. Seleção do método de pesquisa: guia para pós-graduando em design e áreas afins. 1° ed. Curitiba, PR: Insight, 2018.

SANTOS, A.; GARCIA, A. M.; ALVES, M. C.; SILVEIRA, E. L. Bodystorming : lessons learnt from its use on a service design undergraduate discipline. ServDes. **Anais...** . p.216–226, 2018.

SATO, S.; SALVADOR, T. Methods & tools: Playacting and focus troupes - theater techniques for creating quick, intense, immersive, and engaging focus group sessions. **Interactions**, n.6(5), p.35-41, 1999.

SHOSTACK, G. L. How to Design a Service. **European Journal of Marketing**, v. 16, n. 1, p. 49–63, 1982.

SHOSTACK, G. L. Designing services that deliver (Blueprint). **Harvard Business Review**, , n. 84115, p. 132–139, 1984.

SONOMA State University. **Prop Weapons.** Disponível em: <https://theatreartsanddance.sonoma.edu/current-students/callboard/policies-procedures/prop-weapons> Acesso em: 01 jun. 2022

STICKDORN, M.; SCHNEIDER, J. **This is service design thinking. Basics, Tools, Cases**. 1º ed. Amsterdam: BIS, 2011.

STICKDORN, M.; HORMESS, M. E.; LAWRENCE, A.; SCHNEIDER, J. **This is Service Design Doing:** Applying Service Design Thinking in the Real World a Practitioners' Handbook. Sebastopol: O'Reilly Media, 2018.

STICKDORN, M.; HORMESS, M.; LAWRENCE, A.; SCHNEIDER, J. This is service design doing: Tools. **This is service design doing portal**, 2017. Disponível em: <https://vufind.lboro.ac.uk/Record/522558>. Acesso em: 12 out. 2021.

STICKDORN, M. **Journey Map Ops.** Dallas: Service Design Network Dallas Chapter, 2020. Disponível em: <https://www.youtube.com/watch?v=GAZhvcaTElA&ab_channel=ServiceDesignNetworkDallasChapter> Acesso em: 12 out. 2021.

SYSTEM CONCEPTS. **Expanding a customer journey map to create a service blueprint.** System Concepts website. Disponível em: <https://www.system-concepts.com/insights/service-blueprint/> Acesso em: 12 fev. 2021.

SOFER, A. **The stage life of props**. University of Michigan Press, 2010.

TASSI, R.; BRILLI, A.; RICCI, D. Digital Methods for Service Design. **Service Design and Innovation Conference**, , n. June, 2018.

THOMSON, A.; RIVAS, C.; GIOVANNONI, G. Multiple sclerosis outpatient future groups: improving the quality of participant interaction and ideation tools within service improvement activities. **BMC Helth Services Research**, p. 1–11, 2015.

TIRONI, M. Prototyping public friction: Exploring the political effects of design testing in urban space. **British Journal of Sociology**, v. 71, n. 3, p. 503–519, 2020.

TRAPP, R. Technology Is Key to Future Success, Despite Setbacks in Pandemic. **Forbes**, 2021. Disponível em: <https://www.forbes.com/sites/rogertrapp/2021/05/30/technology-is-key-to-future-

success-despite-setbacks-in-pandemic/?sh=242941263f98> Acesso em: 15 jun. 2021.

VARGO, S. L.; LUSCH, R. F. Evolving to a New Dominant Logic for Marketing. **Journal of Marketing**, v. 68, n. January, p. 1–17, 2004.

VELTRUSKÝ, J. Man and Object in the Theater in **A Prague School Reader on Esthetics, Literary Structure, and Style**. Washington: Georgetown University Press, 1964.

VIECELI, L.; CUCOLO, E. Setor de serviços, o principal do PIB, tem alta de 0,4% no primeiro trimestre: Indústria cresceu 0,7% no período, diz IBGE. São Paulo: **Folha de S.Paulo**, Industria, 2021. Disponível em:< https://www1.folha.uol.com.br/mercado/2021/06/setor-de-servicos-o-principal-do-pib-tem-alta-de-04-no-primeiro-trimestre.shtml> Acesso em: 22 set. 2021

WATERMAN, N. A.; DICKENS, P. (1994). Rapid product development in the USA, Europe and Japan. **World Class Design to Manufacture,** Vol. 1 No. 3, pp. 27-36, 1994.

WGP. Zukunftsorientiertes Technologiemanagement in Unternehmen**. Wissenchaftliche Gesellschaft für Produktionstechnik**, v. 102, n. 1-2, p. 8, 2007.

WORLD BANK. Services, value added (% of GDP). **World Bank national accounts data, and OECD National Accounts data files**, 2020. Disponível em: <https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?end=2020&start=2020&view=map> Acesso em: 10 ago. 2021

WILDMAN, G. Touching Evidence. **Design Management Review**, v. 24, n. 3, p. 22–29, 2013.

YU, E.; SANGIORGI, D. Service Design as an Approach to Implement the Value Cocreation Perspective in New Service Development. **Journal of Service Research**, v. 21, n. 1, p. 40–58, 2018.

APPENDIX 1 - PLANNING THE SLR

Phase 1: Planning	
Problem:	
What are the concepts and resources for service prototyping and its props?	
General Objective	
State of Art: To identify concepts and resources for service prototyping and props	
Specific Objectives	
#2	Identify service prototype concepts and frameworks
#3	Identify resources and practices in cases and labs.
Search Strategy	
Bases	CAPES - www.periodicos.capes.gov.br
Keywords (01)	"Servic* Prototyp*"; Prototyp*; Mock-up; Model; "Low Fidelity"; Rapid; Fast; lo-fi; Simulation*, representation, Embodied; "Diegetic prototyp*"; Script; "Role Play"; Lab; Theater; Prop; Drama*; Prop*; Rehearsal; Walkthrough; signage; surrogate; Service; "Service Design"; "New Service Development"; Co-creation; Co-design; Collaboration; "Collaborative Design"; "Service Innovation"; "Product-service system"; "Physical service"; Servicescapes; Guideline*
Language	English
Years	2011 - 2021
Selection criteria	C1: Interpersonal service prototype C2: Service Prototype Definition C3: Definitions of resources
Other criteria	Open Articles; Peer reviewed; Search in subject and general; Exclude: software, machine learning, cloud computing, algorithms, computing and processing, cloud computing, and related.
Phase 2: Conducting Searches	
Activity	**Description**
Filter 1	reading titles, keywords, and abstracts;
Filter 2	reading introductions, and conclusions.
Filter 3	reading full texts
Phase 3: Reporting and Disclosure	
Activity	**Contents**
synthesis and reflection	state of art - chapter 2

APPENDIX 2 - RESEARCH STRINGS

Phase 2: Conducting the Search

Total found 547 Utilization coefficient 1.5%

String (results >0): Keyword 01 AND keyword 02 on the subject (sub) or general (all)

							Funnel		
ID	**Keywords 01**	**on**	**Keywords 02**	**on**	**Date**	**Results**	**Filter 1**	**Filter2**	**Filter3**
S01	"servic* prototyp*"	sub		sub	20/05/2022	5	1	1	**1**
S02	"service design"	sub	prototyp*	sub	20/05/2022	5	3	3	**2**
S03	"service design"	sub	Simulation*	sub	20/05/2022	19	6	3	**0**
S04	service*	sub	prototyp*	sub	20/05/2022	119	22	13	**1**
S05	"service design"	sub	lab	sub	20/05/2022	3	2	1	**0**
S06	service*	sub	Embodied	sub	20/05/2022	9	4	0	**0**
S07	"product service system"	sub	prototyp*	sub	20/05/2022	10	4	3	**1**
S08	"physical service"	all	prototyp*	all	20/05/2022	13	4	1	**0**
S09	"new service development"	all	prototyp*	all	20/05/2022	83	23	9	**1**
S10	"service design"	all	prototyp*	all	20/05/2022	293	34	17	**2**
					TOTAL	559	103	51	**8**

Fail Strings

ID	Keywords 01	on	Keywords 02	on	Date	Results
00	service*	sub	"physical interaction"	sub	20/05/2022	**0**
00	service*	sub	"physical touchpoint"	sub	20/05/2022	**0**
00	service*	sub	"Low Fidelity"	sub	20/05/2022	**0**
00	service*	sub	"Rapid Prototyp*"	sub	20/05/2022	**0**
00	service*	sub	mock-up	sub	20/05/2022	**0**
00	service*	sub	diegetic	sub	20/05/2022	**0**
00	service*	sub	"diegetic prototype"	sub	20/05/2022	**0**
00	service*	sub	Script	sub	20/05/2022	**0**
00	service*	sub	Prop	sub	20/05/2022	**0**
00	service*	sub	Rehearsal	sub	20/05/2022	**0**
00	service*	sub	"Role Play"	sub	20/05/2022	**0**
00	service*	sub	Walkthrough	sub	20/05/2022	**0**
00	"service design"	sub	representation	sub	20/05/2022	**0**
00	"service design"	sub	Drama*	sub	20/05/2022	**0**

00	"service design"	sub	Theater	sub	20/05/2022	0
00	"service design"	sub	Prop*	sub	20/05/2022	0
00	"service design"	sub	model	sub	20/05/2022	0
00	servicescape*	sub	prototyp*	sub	20/05/2022	0
00	"service development"	sub	prototyp*	sub	20/05/2022	0
00	"service co-creation"	sub	prototyp*	sub	20/05/2022	0
00	"physical service"	sub	prototyp*	sub	20/05/2022	0
00	"service Innovation"	sub	prototyp*	sub	20/05/2022	0
00	"service simulation"	sub	model	sub	20/05/2022	0
00	"physical touchpoint"	sub	prototyp*	sub	20/05/2022	0
00	Service Innovation	sub	prototyp*"	sub	20/05/2022	0
00	"servic* prototyp*"	all	Low Fidelity	all	20/05/2022	0
00	"servic* prototyp*"	all	Rapid	all	20/05/2022	0
00	"servic* prototyp*"	all	Fast	all	20/05/2022	0
00	"servic* prototyp*"	all	lo-fi	all	20/05/2022	0
00	"servic* prototyp*"	all	"physical"	all	20/05/2022	0
00	"servic* prototyp*"	all	co-design	all	20/05/2022	0
00	"servic* prototyp*"	all	Co-criation	all	20/05/2022	0
00	"servic* prototyp*"	all	Collaboration	all	20/05/2022	0
00	"servic* prototyp*"	all	Collaborative Design	all	20/05/2022	0
00	"servic* prototyp*"	all	Service Innovation	all	20/05/2022	0
00	service*	all	prototyp*	all	20/05/2022	0
00	"servic* prototyp*"	all		all	20/05/2022	0
00	"servic* prototyp*"	all	prop	all	20/05/2022	0
00	guideline*	all	prop	all	20/05/2022	0
00	prototyp*	all	prop	all	20/05/2022	0
00	guideline*	all	"servic* prototyp*"	all	20/05/2022	0

APPENDIX 3 - SELECTED ARTICLES

Phase 3: Reporting and Disclosure				
ID	**Title**	**Country**	**Authors**	**Year**
NLR	Dissertation: Conceptualising Prototypes in Service Design	Sweden	Blomkvist	2011
NLR	Existing Prototyping Perspectives: Considerations for Service Design	Sweden	Blomkvist;Holmlid	2011
NLR	Prototype Evaluation in Service Design	Sweden	Blomkvist	2011
NLR	Service prototype according to practitioners	Sweden	Blomkvist;Holmlid	2011
NLR	A Laboratory Concept for Service Prototyping – Service Innovation Corner (SINCO)	Finland	Rontti, Miettinen;Kuure;	2012
NLR	Realizing Design Thinking through a Service Design Process and an Innovative Prototyping Laboratory: Introducing service innovation corner (SINCO)	Finland	Miettinen; Rontti, Kuure;	2012
NLR	Using Service Walkthroughs to Co-Create Whole Service Experiences: A Prototyping Technique for Service Design	Sweden	Blomkvist; Bode	2012
NLR	Cardboard Hospital - Prototyping patient-centric environment and services	Sweden	Kronqvist; Leinonen; Erving	2013
NLR	Service Design: From Insight to Implementation	UK	Polaine; Løvlie; Reason	2013
NLR	Benefits of external representations in service design: A distributed cognition perspective	Sweden	Blomkvist; Segelström	2014
NLR	Change through Service Design – Service Prototyping as a Tool for Learning and Transformation	Finland	Kuure; Miettinen; Alhonsuo	2014
NLR	Dissertation - Prototipagem de Serviços: um Estudo Exploratório com Foco na Iluminação de Habitações de Interesse Social	Brazil	Hoss	2014
NLR	Thesis - Representing Future Situations of Service: Prototyping in Service Design	Sweden	Blomkvist	2014
NLR	Benefits of Service Level Prototyping	Sweden	Blomkvist	2016
NLR	Dissertation - Avaliação estética de protótipos no design de serviço	Brazil	Francisco	2016
NLR	Innovation with Service Prototyping Innovation by Service Prototyping	Germany	Razek; Husen; Pallot; Richir	2017
NLR	Bodystorming: lessons learnt from its use on a service design undergraduate discipline	Brazil	Santos; Garcia; Alves; Silveira	2018
NLR	Designing the Invisible: an introduction to service design	USA	Penin	2018
NLR	This is Service Design Doing: Applying Service Design Thinking in the Real World a Practitioners' Handbook	USA	Stickdorn; Hormess;Lawrence; Schneider;	2018
NLR	Thesis - Investigating Immersive Technologies Impact on Service Prototyping	Germany	Razek	2020
NLR	Dissertation - Observando Experiências de Serviços em Ambientes Imersivos: Uma Análise Sobre a Aplicabilidade da Realidade Virtual como Meio de Pesquisa em Design de Serviços.	Brazil	Oliveira	2020
NLR	Low Threshold Service Design: Desktop Walkthrough	Sweden	Blomkvist; fjuk; sayapina	2016

SLR	Service Design as an Approach to Implement the Value Cocreation Perspective in New Service Development	Korea; Italy	Yu; Sangiorgi,	2018
SLR	Discovering Service Variations through Service Prototyping	Sweden	Rodrigues; Holmlid	2017
SLR	Multiple sclerosis outpatient future groups: improving the quality of participant interaction and ideation tools within service improvement activities	UK	Thomson; Rivas; Giovannoni	2015
SLR	Prototyping and the new spirit of policymaking	UK	Kimbell; Bailey	2017
SLR	Prototyping public friction: Exploring the political effects of design testing in urban space	Chile	Tironi	2020
SLR	Make It Work: Using Service Design to Support Collaboration in Challenging Times	USA	Deitering; Filar-Williams	2018
SLR	A visual interactive method for service prototyping	Korea	Bae; Leem	2014
SLR	Teaching Customer Experience Quality and its Significance in Retail Management: A Role-Playing Game using Chinese Puzzle 'Tangram'	india	Paul; Ponnam, Abhilash	2018

APPENDIX 4 - VIRTUALIZA PROJECT: TERM EXAMPLE[5]

FREE AND CLARIFIED CONSENT TERM

We, Professor Aguinaldo dos Santos and student Alessandra Caroline Canfield Petrecca from the Federal University of Paraná, invite you to participate in the study entitled "Virtualiza Project Service Prototype". The results of this research can contribute to the development of guidelines for prototyping services.

a. This research aims to understand the service prototyping application.
b. If you participate you will be required to actively participate in the role-play for service representation and group discussion by a facilitator. We also ask that you assist in the preparation of the room for the activity.
c. The activity will last approximately two hours.
d. Participants will be able to deepen their knowledge in service design and prototyping for future applications in different projects.
e. To clarify any doubts about the study, researcher Prof. Dr. Aguinaldo dos Santos (supervisor) and student Alessandra Caroline Canfield Petrecca (researcher, responsible for this study, can be located at the address of the Graduate Program in Design at UFPR, Rua General Carneiro, 460 - Dom Pedro I building - 8th floor - Curitiba - Paraná - Brazil CEP: 800060 -150, by calling 3360-5238 during business hours or by electronic means at the e-mail a.canfield.p@gmail.com;
f. Participation in this study is voluntary and if you no longer want to be part of the research, you can withdraw at any time and request that you return the signed free and informed consent form.
g. The information related to the study will be known only by authorized persons (researchers and advisors), and the information will be disclosed in a coded way so that your identity is preserved, and confidentiality is maintained.
h. The expenses necessary to carry out the research are not your responsibility and for your participation in the study, you will not receive any cash value.
i. When the results are published, your name will not appear, but as a code.

j. **I authorize ( ), I do not authorize ( ),** the use of my image for research purposes, its use being restricted to transcription and content analysis.

I, _____, have read this informed consent form and understood the nature and purpose of the study in which I agreed to participate. The explanation I received mentions the risks and benefits. I understand that I am free to discontinue my participation at any time without justifying my decision. I understood my role in participating in this study and the means of contacting those responsible.

I voluntarily agree to participate in this study.

_____ (signature)

_____ Alessandra C. Canfield Petrecca

Curitiba, 14th of April of 2022

[5] This Research was realized in Brazil. To facilitate understanding, most documents here were translated from Portuguese.

APPENDIX 5 - VIRTUALIZA PROJECT: SCHEDULE

Schedule

Service Prototyping Workshop (PILOT)

Project: Virtualiza - Prototyping a service for the therapeutic use of virtual reality (VR) in a hospital context.

INTRODUCTION (20min):

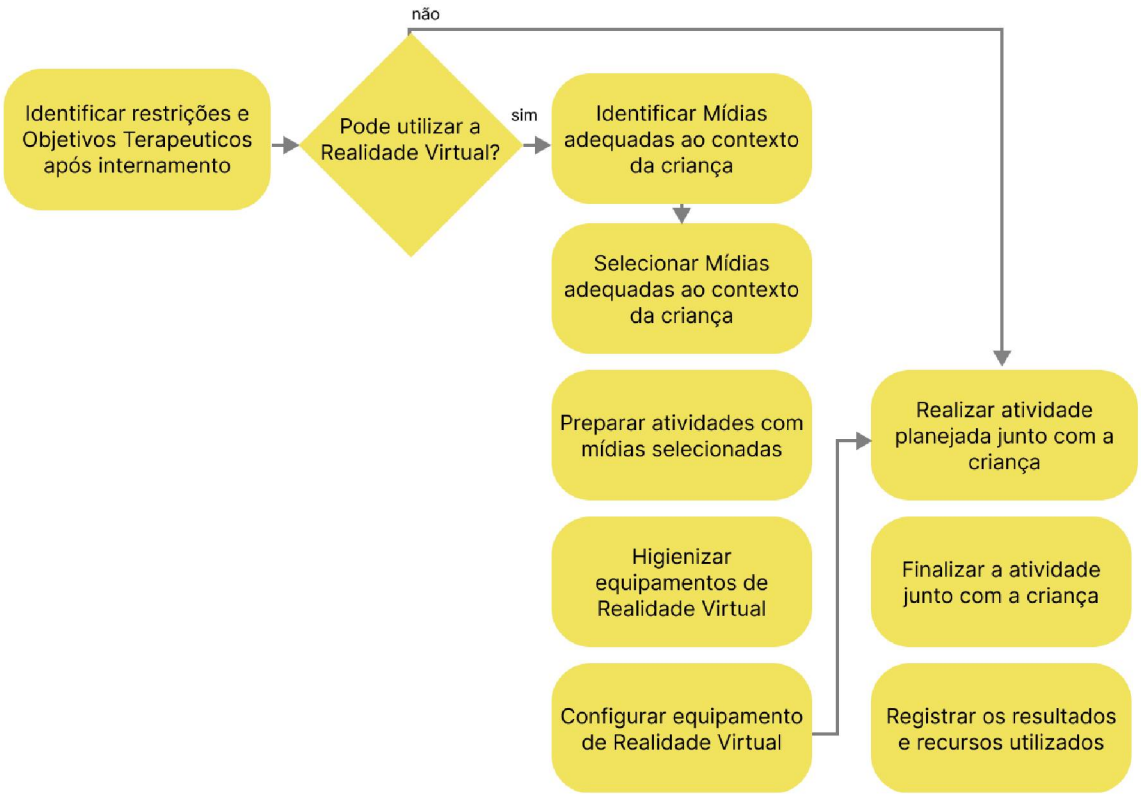
- Recap of the project, align new information since last meeting (updates);
- What service prototype is;
- What the service walkthrough technique is;
- What is our purpose and goals;
- How the dynamic will work;

SET UP (20min):

- Show available props.
- Distribute the roles of each participant: Occupational therapist; child/patient; observers/ facilitators.
- Set the props in the room and with participants.

STAGING (~1h30min)

- The group did not have a journey map. Instead, they have a flowchart that is used as reference here to develop the service walkthrough scenes:



- Dynamic: Develop one action, stop, and evaluate. Observers should take notes of the insights.
- With the User Action Markup Disks, write the action and emotion of the user in the disk and place where the action happened.
- After a complete cycle, start iterations. Redo scenes that should be different.

DISCUSSION (10min)

- Synthesis, project alterations, improvement, and refinement.

APPENDIX 6 - VIRTUALIZA PROJECT: PROP LIST

Prop selection for the application of service walkthrough for Virtualiza project service prototype.

#	Prop	Goal
01	Dust coat and Badge	To Identify the interpretation of the character - occupational therapist.
02	Playful print face mask	To identify the interpretation of the character - child/patient.
03	Yoga mattress	To simulate a hospital bed.
04	Bed Sheet	To simulate a hospital bed.
05	Conference table *available on site	To simulate a hospital bed, laying down the actor as child/ patient.
06	Playful objects (bean bags toss toy, fidget toy, plastic chicken, mini plush)	Free use, facilitating mediation, can be re-signified to something for servicescape.
07	User Action Markup Disks	To represent the user journey map while conducting the service staging.
08	VR glasses with smartphone *available from the project	High-fidelity prototype (close to the final product) of the VR glasses for the service.
09	Folder - "media advertising" *available from the project	Artifact designed to help the child and the therapist understand how the dynamics can happen.
10	Envelope with papers.	To simulate a sort of graphic material needed.
11	Gift box	To simulate a sort of graphic material needed.

APPENDIX 7 - VIRTUALIZA PROJECT: NOTES

Highlighted quotes:

Professor 1 (role child/patient): “I don't want to lay on the table, I will feel too exposed” - about the use of a table for being the hospital bed of the patient. Here we swap it for chairs aligned to not constrain the participant.

Student 1 (role OT professional): “Do I really have to put that on?” - about an overall prop for the doctor character. It was answered that it was optional. Them after said:

> Student 1 (role OT professional): “I felt a little ridiculous and so I was not ashamed anymore to role play”

Me (role Facilitator): “ok, and if we have many options for the child, how will this happen?” - Adding props to understand if the variety of elements could be a problem for the service process.

> Professor 1 (role child patient): “it won’t work, it must be just this activity. “
> Professor 2 (role observer): “and I believe we could have many options of videos”
> Professor 1 (role child patient): “and display that in very visual cards” acting as the child, “I prefer to see things, I am 3 years old, and I can't read”

Professor 2 (role observer): “I see that the computer is essential, we cannot do it without one.” - a computer was used to assist the process, first just to set up the VR glasses, but it became part of the scene, because it had to be set up during the service.

Professor 2 (role observer): “To put and take the glasses has to be easy for the therapist and the child, because it is important for the child to feel comfortable and safe”

General notes:

- The props assist to inhibition of the participants. Specially considered fun items, such as the identification and the toys.
- The participants felt the absence of the item computer in the service journey, which generated a discussion to include it in the service.
- The insertion of items during the action promotes an important discussion on how the patient would choose an item to play with.
- The VR glass and folder prototypes had fine refinements, about how to display information for the child and how the fit of the glasses should be. They were considerate props of higher fidelity.

APPENDIX 8 - CO-CREATION SESSIONS: NOTES

EMUNAH PROJECT DESIGNER

- Props must be related to the touchpoints, and are there to be evaluated: "if they won't be evaluated why would they be there?" "The props should have a greater meaning", not just to facilitate the staging.
- Connection with the project requisites: "each prop should connect with a social cohesion heuristic or reference in the literature to be present"
- "the presented pre-selection is ok"
- Evaluation checklist by participants

*In the Virtualiza project prototype, other non-touchpoint props helped with certain specific aspects of prototyping. Their goal was not only to be there to be evaluated but to help the moment/dynamics of prototyping. They helped the participants to become more uninhibited and relaxed.

THEATER SPECIALIST

- If the objective is to evaluate the object, then there should be no guidelines for the moment of application: "The person will have a spontaneous use or some objective with that prop. [The actor] establishes the use for that prop."
- The prop works if it doesn't bother you (seamless to the narrative): "if the thing is fluid, you don't even notice the object"; "I will only know if the object works if the focus is not the object."
- Two paths: "Do you want to determine the object from the use or the use from the object?"
- Placing fictional elements can help in extrapolation; Creating an analogous environment: "By distancing the person from the situation, the person can deal with it in a less stereotyped way"
- Character Element: "I would bring an element to each person... preferably manipulable"
- Not only character identification assists in uninhabited participants: "Breaking the ice is very important [to not waste time for the person to get in the mood, uninhibited.]" "Take the person out of criticism and put them in the game state".
- Fictional contract, and group agreement, create an atmosphere of intimacy and freedom: "the environment, the light, the smell, [also] puts the person in the game state"
- Prop is an immersion agent within a given context. "All the elements that are there affect behavior"
- Touchpoint objects: "interface objects mediate relationships, so they are fundamental in the project, no?"
- Light and blackout activity. Say "blackout!" and people move objects around, and then they say "light!" and freezes to evaluate. Repeat 3 times.

*In the Virtualiza project prototype forcing new objects and the absence of an object caused important discussion. In Service prototype these discussions can lead to definitions in the project, however they should be conscious to not waste time.

PROFESSIONAL SD

- "Props cannot stand out, they are not a work of art"; "If you haven't perceived the scenery and the props, it's because the scene was good"; "he has to help the story be told, but without him standing out"
- Do not use anything that refers to something else; neutrality "I think that if you use something that is from another (elsewhere), the person will try to associate it"
- Color can influence "wouldn't do black, it gives a [sad] feel"
- Mobility of objects; "Didn't you think of wheels?" "If I move I can damage the floor"
- Object safety: "The rug can slip, and the person may fall"
- Scenario assessment activity: "I would do it later so the person doesn't bring bias"
- Prop evaluation activity: "Two scenes, one without props and one with props"

- Observing people using ends up bringing questions of change: "See how they act, manipulate objects" "you realize that the object is bothering when it's used"

APPENDIX 09 - EMUNAH PROJECT PROTOTYPE PILOT: TERM EXAMPLE

FREE AND CLARIFIED CONSENT TERM

We, Professor Aguinaldo dos Santos and the students Alessandra Caroline Canfield Petrecca and Wellington Minoru Kihara, from the Federal University of Paraná, invite you to participate in the study entitled "Service Prototyping: Welcoming Service for Addiction Recovery Clinic". The results of this research can contribute to the development of guidelines for prototyping services.

a. This research aims to evaluate the prototyping and welcoming service for an addiction recovery clinic.
b. If you participate in the survey, you will be required to actively participate in the role-play for service representation and group discussion by a facilitator. We also ask that you complete a questionnaire about the service represented and the prototyping of the service.
c. The activity will last approximately two hours and the room will be prepared specifically for the activity.
d. Participants will be able to deepen their knowledge in service design and prototyping for future applications in different projects.
e. To clarify any doubts about the study, researchers Prof. Dr. Aguinaldo dos Santos (supervisor) and students Alessandra Caroline Canfield Petrecca (researcher) and MSc. Wellington Minoru Kihara (researcher, responsible for this study, can be located at the address of the Graduate Program in Design at UFPR, Rua. general Carneiro, 460 - Dom Pedro I Building - 8th floor - Curitiba - Paraná - Brazil CEP: 800060 -150, by calling 3360-5238 during business hours or by electronic means at the e-mails a.canfield.p@gmail.com; wellington.kihara@gmail.com; asantos@ufpr.br.
f. Participation in this study is voluntary and if you no longer want to be part of the research, you can withdraw at any time and request that you return the signed free and informed consent form.
g. The information related to the study will be known only by authorized persons (researchers and advisors), and the information will be disclosed in a coded way so that your identity is preserved and confidentiality is maintained.
h. The expenses necessary to carry out the research are not your responsibility and for your participation in the study, you will not receive any cash value.
i. When the results are published, your name will not appear, but as a code.
j. **I authorize ( ), I do not authorize ( ),** the use of my image for research purposes, its use being restricted to transcription and content analysis.

I, _____,
have read this informed consent form and understood the nature and purpose of the study in which I agreed to participate. The explanation I received mentions the risks and benefits. I understand that I am free to discontinue my participation at any time without justifying my decision. I understood my role in participating in this study and the means of contacting those responsible. I voluntarily agree to participate in this study.

_____ _____

(signature) Alessandra C. Canfield Petrecca

Curitiba, 27th of June of 2022

APPENDIX 10 - EMUNAH PROJECT PROTOTYPE PILOT: PLAN

Pilot Workshop (Emunah Service)
Date: 27th Jun, 4-7pm
Local: UFPR, Rua General Carneiro, 460 - Dom Pedro I building - Exhibition Hall - Curitiba - Paraná - Brazil.
Participants: Design students
*Covid measures (no coffee break)

Plan:

Before

1. Invites through WhatsApp groups of UFPR and subscription in Sympla platform for confirmation and control.
2. 3h Setting the scene, positioning the props

During

3. Open for the participants (~3h of activity):
4. Signing free consent form
5. General explanation
   What is the activity, what is the project.
6. Warming up - connected with the activity
7. Start:
   - Act 1
     - Script reading without props - scene 1
     - Execution of scene 1
     - Script reading without props - scene 2
     - Execution scene 2
     - pause and evaluation
   - Act 2
     - Script reading without props - scene 3
     - Execution of scene 3
     - pause and evaluation
   - Act 3
     - Script reading without props - scene 4
     - Execution of scene 4
     - Script reading without props - scene 5
     - Execution of scene 5
8. Final evaluation / Debate

After

9. E-mail Certificates

APPENDIX 11 - EMUNAH PROJECT PROTOTYPE PILOT: SCHEDULE

schedule

Service Prototyping Workshop (PILOT)

Project: Welcoming service for patients of a rehab clinic.

INTRODUCTION (10min):
The project, prototyping and what the goal is.

ICE BREAKER (15min)

01: 2 Truths and 1 Lie

The group stands in a circle and 1 participant holds a ball. Whoever is holding the ball introduces himself with his name and why he is participating in the workshop, then he tells two truths and a lie about himself. Then he passes the ball to a new participant who must guess which one is the lie and repeats the line.
Intentions: Knowing and disinhibiting

02: Ping pong ball

PASS THE SOUND. **The Ping Pong Ball_Warm Up.** Available at: <https://www.youtube.com/watch?v=sQUI04CIZ0M&ab_channel=PasstheSound>

The group stands in a circle. The imaginary ping pong ball runs around the circle and people jump as it passes. Repeat the movement until people are more coordinated. You can increase the speed, change the type of ball you run (e.g. Ping-pong for basketball) and add other moves to coordinate together (clapping).
Intentions: Reaction; Object in Space: Making the Invisible Visible

03: What are you doing?

HYPER ISLAND TOOLBOX. **What are you doing?** Available at: <https://www.sessionlab.com/methods/what-are-you-doing>

The group stands in a circle. A person enters the circle and begins to imitate an action (eg brushing hair or frying an egg). They continue until another group member enters the circle and asks, “What are you doing?” The first person responds by describing any action other than what they are doing. For example, if she's pretending to brush her hair, she might say something like, "I'm playing hockey." The second person should then begin to mime playing hockey.
Continue until most or all members have a chance in the middle. Encourage participants to be creative with actions.

Intentions: Non-Verbal Communication; Show, Don't Tell; Object in Space: Making the Invisible Visible

Obs.: The patient is referred to as a “participant”. “Hn” (eg. H1) refers to a different situation/ hypothesis.

STAGING (~1h30min)

ACT 1 (START) ~ 15min

Scene 01: JOURNEY BETWEEN THE INFIRMARY AND THE BIG HOUSE

Characters: Monitor (Zé); Participant (Carlos/Thiago)

Environment: Path from the infirmary to the “big house": lawn with accommodations around it and the "big house"(a two-story house where the administrative office is located) on the opposite side of the infirmary.

Scene objective (focus): Welcoming and guiding the participant to the big house.

Instructions:

The monitor goes to meet the participant at the door of the infirmary ; Welcoming posture, Interaction strategy (facilitating interaction in order to establish calm); Persuasion; Valuation; and Motivation.

M: - Hello, my name is Zé. Are you Carlos/Thiago?

P: - Hi, yes I'm Carlos/Thiago.

The participant observes the monitor badge.

M: - Pleasure Carlos/Thiago. How are you?

P H1 tearful: - I'm very bad, I don't know why I'm here.

P H2 aggressive: - I don't want to stay here, I already said that I only talk to the owner of this place.

P H3 suspicious: - I'm fine and you?

M H1 and H2: - I understand, I came here to go to the administrative office and talk. Can I hug you?

M H3: - Good, I'm fine too. I came here to go to the administrative office and talk. Can I hug you?

P: Yes./No!

M: - Can you accompany me?

P: - I want to go home, what are we going to do there?

M: - We will give you all the information there, you can take your suitcase.

Participant picks up the suitcase, accompanies the monitor. Notice the environment on the way.

P: Can people smoke there?

M: Yes, then we introduce you to the clinic spaces and the other participants. We have space for football, gym too.

Participant reads part of the plate with values.

Scene 02: ARRIVAL - WELCOME

Characters: Senior Monitor (Zé); Participant (Carlos/Tiago), Physician (Marcos); Psychologist (Vanessa); Director (When available/H2B)

Environment: The "Big house" and room where the welcome service will take place in order to establish trust. The space seeks to bring the idea of professionalism, calm, and trust. The position and comfort of the furniture, chair so that the participant can see the door, can see all the professionals present, cleaning, hygiene materials, color of the environment, Art objects; Window or door overlooking nature; The smell of the room; The message on television; The sound of the environment; Objects that show organizational values.

Purpose of the scene (focus): Welcoming the participant in the room, arousing emotion through sensory perception

Instructions:

Participant perceives the environment;

M: - Good afternoon guys, I came to accompany Thiago/Carlos. Thiago/Carlos, this is Marcos, our team doctor. And this is Vanessa, she is one of the psychologists on the team.

Phy: Hold out your hand. - Hello good afternoon.

Psi: Hold out your hand. - Good afternoon.

P H1 and H3: Handshake. - Good afternoon.

P H2: Refusal to greet. And the owner, will he be here?

M H1 and H3: Please sit down.

M H2: We need to give you some rules about the place and also more information about why you are here. Please have a seat.

M\Dir H2B: - Nice to meet you, I'm Sadala. We need to give you some rules about the place and also more information about why you are here. Please have a seat.

P: sit down

M: Would you like some tea or water?

P: Yes, Water/Tea please.

Monitor prepares tea/water

Psi: We will present you a short video about Emunah.

Monitor delivers the drink with a napkin to place on the table

Psychologist starts the video.

Participant watches the video

P H2: - I don't want to watch the video, I want to know why I'm stuck here, this is false imprisonment!

ACT 2 (APEX) ~ 30min

Scene 03: CLINICAL PRESENTATION AND TREATMENT

Characters: Senior Monitor (Zé); Participant (Carlos/Thiago), Physician (Marcos); Psychologist (Vanessa); Director (When available/H2B)

Environment: Remain in the room

Purpose of the scene (focus): Introducing the clinic and treatment, training and empowerment.

Instructions:

Psi H1 and H3: - Now we will present you with more details of the treatment. Have a question?

P H1 and H3: - Am I not leaving today? I'm here against my will.

Mother: - The decision to intern the addict for treatment, even against his will, is supported by Law 10.216. Ensuring family members the full right of intervention in the face of the need to save their life.

P H1: Cry. - There's no way they're going to do this to me!

P H2: Get up. - I want to leave, I don't think that's right.

P H3: But what are you going to do with me?

/P H3B: Again with this story, you want my family's money!

Psi: - Please calm down. We understand it is a very difficult situation indeed. But realize that you are not doing yourself or your family any good. It wasn't just one time you went overboard, was it?

P: I know I'm not perfect. I don't know what to do to change. My family thinks it's easy. I try hard, I want the best for them.

Psi: You have a disease, which has no cure, and needs to be treated. People come here because they need help, and you are not alone on this journey. We will give you all the support you need. Can I show you our structure?

P: Downcast. - Yea...

The psychologist Starts the video presentation on TV.

Psi: (Psychologist explains therapeutic activities and benefits)- We want you to find the best version of yourself. May you discover that you can be a better Father and Husband (Carlos)/Son (Thiago), a gift for your family and for yourself.

- We have meetings twice a week. You will go through 3 modules while you are here, today you are in the first so-called pre-contemplation. In each module, you are evaluated by everyone in the clinic, including your intern colleagues. We will give you a handout with more details and explanations. And also a book about your addiction. You need to study and reflect on who you want to be and your behavior change.

P: What is GDA?

Psi: Ah yes, they are the support groups, also weekly meetings where you and the other interns will participate and share your experiences.

- We also have meetings to work on spirituality, which is one of our values. We've had people from different religions and we haven't forced anyone to follow a specific one. But we would like you to develop the spiritual side as well.

P: - Do I really need to participate in everything?

Psi: - Yes, it is necessary for you to evolve within the treatment.

Phy: (Physician explains about medication and physiological aspects for recovery) - Well, I will present the part of the psychiatric treatment. You have gone through part of the detox but we will continue your treatment. You have here at the clinic a follow-up of specialists and if you feel pain or present other pathologies, we will be here to treat you. We even have a dentist who sees us right here at the clinic.

P: - ok, I understand

M or Dir: (Monitor Explains the importance of willpower to overcome a situation, recognizes competencies, and informs about the reintegration process) - Before you go out there, I want to introduce you a little bit about the structure and about our values. We believe in interdependence and that we can work together. We seek to value the culture of each one, with respect, humility, and courtesy. We offer comprehensive care to meet the basic needs of all treatment participants. We value learning, honesty, perseverance, open-mindedness, and discipline. We share solidarity and tolerance. We also seek that all this is reciprocal. We are here to support you in the best possible way.

M: Explains assertively - The Clinic follows the rules of health surveillance. And it has a space prepared to guarantee reception and quality of life for the resident.

- But we have rules. Small acts of indiscipline, irresponsibility, and aggression will be penalized in the same way as in real life, thus bringing reflection and learning about their behavior.

- We need you to learn so that you can be reintegrated into society and overcome obstacles that you may have.

- Here you are not allowed to keep your cell phone, if you need to talk to one of our professionals, you can tell a monitor that he will take the necessary measures.

- As Vanessa said, there are 4 modules, after the treatment at the Clinic you move on to module 4, called clinic day. In this, you will have meetings to continue your treatment because what you have is a disease that needs to be treated and cannot be neglected. Do you understand? Have doubts?

P: - Got it, this time I'll get better.

Psi: - We will work together with you and we need you to collaborate for your change.

ACT 3 (CLOSURE) ~ 30min

Scene 04: KIT DELIVERY

Characters: Senior Monitor (Zé); Participant (Carlos/Thiago), Physician (Marcos); Psychologist (Vanessa); Director (When available/H2B)

Environment: remain in the same room

Purpose of the scene (focus): Deliver the welcome kit, clarify the action plan, provide means of contact

Instructions:

Psi/Phy: -This is the kit with the materials for you to know more about the treatment and what the next steps will be.

Delivers the Kit / Opens the sports bag and shows the items

- Inside is a book on addiction, your workbook, your notebook, and a pen. We ask you to take care of your kit, it is also part of your score.

The participant receives the Kit.

P: - Thank you, do I have to fill in and deliver something here? Does it stay with me?

Psi/Phy: No, this material is yours alone.

P: - Thank you, where do I go now?

M: - Please accompany me, I will introduce you to the leader of your room.

Participant accompanies the monitor. They both leave the room to find the Room Leader.

- This stuff is really cool. I believe you will get a lot out of it, take care of it, ok?

- Oh yes. Put on the wristband, it identifies which module you are on. You will see Blue Module 1, Yellow Module 2, and Purple Module 3 colors on the wrists of other participants.

P: Put on the bracelet. - OK

Scene 05: ROOM DIRECTION

Characters: Participant (Carlos/Thiago), Room Leader (Lucas)

Setting: Patio

Scene Objective (Focus): Introduce the room leader.

Instructions:

M: - Thiago/Carlos, this is the leader of your room, Lucas. He's here with us in Module 3, Purple Wristband.

L: - Good afternoon. Extends hand to greet.

P: - Good afternoon. Greet the Leader.

M: Saying goodbye to the participant, handshake or Hug - This is an important step toward change. Glad you're here with us. Lucas will show you where you are going to sleep and the spaces for exercise, canteen, kitchen, and smoking area.

- He will also explain the rules to you so that you can have a peaceful interaction with the other participants. If you need to talk to any of us, you can let a monitor know and he'll call us. OK?

P: - Right, thank you.

L: - Well then I'll show you your room so you can leave your things. You can follow me.

APPENDIX 12 - EMUNAH PROJECT PROTOTYPE PILOT: NOTES

[16:45-19:00, 27/06/2022]

Scene 01 and 02 - Suggestions from the participants

“Giving a hug is too informal we should change that”
“[for the patient] The monitor is the hope to leave the place!”
“The monitor should introduce himself better”
“The organizational values should be along the path”
“I think that if the patient is sitting, he has to bend down to be in his field of vision”
"And they don't wear uniforms?"
“It looks like they try to make the addict a part of it, but he doesn't feel like it.”
“The information that the staff of the clinic are ex-addicts is very important”
“I think it should have two doors, one for exiting the ward and one for entering the room. Shall we move this one?” The door dismantled and the participants had difficulty putting it back together, causing insecurity.

“When the participant drinks something, someone should drink together, so not let him alone” “Should have glasses for everybody”
“The speech about religion is unnecessary”
“It has a window, where is it?” "What's in the window view?" “[is the window] on the opposite side of the door?”
“These chairs, along with the furniture and the wall, all white, give me the impression of a hospital”
“I could change the white a little and round off the furniture, bring something less like an office”
“Does the patient sit sideways to the screen?”
“The coffee table blocks [the flow of people], it is too big” “a smaller coffee table or a side one” “It produces a hierarchical level” “it is difficult to move”
“The arrangement of chairs and its proximity is important to be closer to the patient”

Scene 03 - Suggestions from the participants

“There is too much information, it can cause anxiety”
“The guidelines gave an initial sense of cause, but then it sounded like a demand”
“It is unnecessary to approach spirituality”

Scene 04 and 05 - Suggestions from the participants

“Say that in the sequence the patient can smoke outside, this can calm him down”
“The kit could be outside the bag, so the participant would put the things inside” “Instead of putting everything inside the bag, if it is a present, it should be a box with a window to see what is inside without opening it. So, the person would open the items inside his bedroom later.” - followed a long discussion on the items inside the kit, how they should look or be presented. *Fidelity adjustment?
“The action plan (modules) should be simplified”

APPENDIX 13 - EMUNAH PROJECT PROTOTYPE WS04: PLAN

Workshop 04 (WS04 Emunah Service)
Date: 26th Jul, 9am-12pm
Local: Emunah Office
Participants: Emunah Employees (stakeholders)

1. Invitation and Send the script to participants for feedback.
2. Setting up the scenario 1 day before (min 2h)

Dynamics (~2h30')
*Record with more than one camera!!

3. Introduction (10'):

Wellington: Brief explanation of what we are prototyping (recap); One A3 sheet of each scene and each time, storyboard on the wall.

Alessandra: why we are staging (holistic thinking of service design, seeking to represent people, space, context, speeches, synesthetic issues in order to understand and evaluate the designed service).

4. Staging + Discussion (2h'):
   Select who will be the characters: Participant, Senior Monitor, Psychologist, Psychiatrist and Room Leader.

   Divide people who are left out into two groups / angels and demons: Angels: say what they think is positive / Demons: say what they think is wrong (problems). After the interval invert

   Before each act, do a critical reading for the participants. If possible, do the staging without the script in hand.

   Script is for reference only, can be modified.

   After each act, the scenes are evaluated. There are 5 to 10 min data to open discussion, through brief focus groups. If necessary, the scene will be repeated to iterate or stage another hypothesis.

   Key questions for the focus group:

   - Do you believe that the purpose of the scene was met?
   - Do you believe that it is possible to facilitate the expected behavior of the participant?
   - Is there anything that is important to consider in this scene?

   BREAK 5-10' between acto 2 and 3:
   Act1 reading > act 1 representation (Scene 1,2) > act 1 discussion >
   act 2 reading > act 2 representation (Scene 3)> act2 discussion >
   // BREAK >
   act3 reading > act3 representation (Scene 4)> act3 discussion >

5. Interventions in the scenario(10')
   Give post-its, paper, pen and marker to carry out interventions in the props

   Allow them to build/ assemble other artifacts

6. Closure (20'-30'):
   Wellington (15'): back to the storyboard (what has changed?). Conclusions and Service Definitions, what was changed, what remained.

Alessandra (10'): Conversation about insights into prototyping and objects
Speak with collective response - 5 questions max

a. What went well and you would repeat it for a new representation of the service?
b. What wasn't good?
c. Knowing that we are representing the service with simpler elements, not exactly how it would be in the final service, how do you see this structure? Does it work or not and what would you change?
d. Do you have any recommendations for future applications?

7. Thanks,
8. Emunah closing
9. group photo
10. Disassembly (~1h)

APPENDIX 14 - EMUNAH PROJECT PROTOTYPE WS04: SCHEDULE

schedule

Workshop 04 - Service prototype (staging)

Service: Beginning of module 01 (pre-contemplation) - Welcome
Expected Consistency in Service: Establish trust.

INTRODUCTION (10 min)

Recap

ICE BREAKER (5 min)

What are you doing?

HYPER ISLAND TOOLBOX. **What are you doing?** Available at: <https://www.sessionlab.com/methods/what-are-you-doing>

The group stands in a circle. A person enters the circle and begins to imitate an action (eg brushing hair or frying an egg). They continue until another group member enters the circle and asks, "What are you doing?" The first person responds by describing any action other than what they are doing. For example, if she's pretending to brush her hair, she might say something like, "I'm playing hockey." The second person should then begin to mime playing hockey.
Continue until most or all members have a chance in the middle. Encourage participants to be creative with actions.
Intentions: Non-Verbal Communication; Show, Don't Tell; Object in Space: Making the Invisible Visible

The script is for reference only and can be completely modified.

STAGING (~1h30min, *10 min break after act 2)

/ACT 1 (START) ~ 15min

Scene 01: JOURNEY BETWEEN THE INFIRMARY AND THE BIG HOUSE

Characters: Monitor Senior; Participant (Carlos/Thiago)
Setting: Courtyard Servicescape
Scene objective (focus): Welcoming and leading the participant to the big house.
Context: The participant has just left the ward, after a period of abstinence, is disoriented. He is informed that today (day of the week/period) will be received by the clinic staff. The monitor goes to the participant to introduce himself and take him to the reception room, inside the big house, where other professionals are.
11. The path from the infirmary to the big house: large lawn with quarters around it. The big house is the tallest house, with two floors where the administrative office is located, on the opposite side of the infirmary.

Flow of patients on the way, a lot of patients in the smokehouse.

I - STRATEGIES TO BE USED
Use strategy for behavioral intervention:
Interact
Use ideation strategy:
Listen and Link
Use heuristics for social cohesion:
Highlight organizational values
Stimulate a sense of belonging
Factors associated with behavior change:
Get attention
Awakening and/or controlling and/or Avoiding Emotion(s)
Stimulate motivation
Using Symbols to Help Persuade
Be context sensitive

II - SCRIPT FOR SCENE SIMULATION
What will be simulated: Meeting with the participant, greeting and walking talking to the Big House.
Expected behavior of the participant: Perception of time and space
Expected feeling of the participant: Sadness, shame
Monitor presentation:
Identification badge (name, photo, title, and template)
Appropriate clothing (professional uniform/Emunah clinic)
Appropriate aesthetic look (visual aspects)
Behavior to be simulated:
(1) Greeting

Modelo de cumprimento de acolhida



Prioritize facial expression, courtesy, easy communication and empathy.

(2) Walk while dialoguing

Modelo para caminhar dialogando



Prioritize listening, easy communication and empathy.
Walking by the window, for safety reasons, as there have been cases in which disoriented patients have broken objects (glass) on the way.
Start showing some physical points of the institution's courtyard.
Walk along the sidewalks and greet participants who are along the way.

III - SCRIPT FOR VERBAL AND NON-VERBAL COMMUNICATION
Script for Verbal Communication:

Paralinguistic Elements
Latency: Shorter speeches
Duration: Control breathing while speaking
Volume: voice pitch between medium and high
Speed: moderate the amount of words over time
Rhythm: speaking with small (almost imperceptible) pauses between one sentence and another
Tone: between soft and sharp
Fluency: articulating words to facilitate understanding

Script for Non-Verbal Communication:

Sensory: sensitivity to the participant's emotional state
Gaze and eye contact: looking into the eyes
Smile: when relevant
Gestures: little gesticulation
Facial expression: welcoming
Body Posture: Upright, but also hunched over when necessary to capture attention
Head movements: directed at the participant
Physical contact (touch): in moderation
Distance/proximity: close but not touching

IV - SPEECH SCRIPT

Matters:
Time and space orientation:
Example: "Today is Friday, in a little while we will have lunch, this is the Emunah Clinic."

Highlight organizational values
Example: "This place you are in today is very good." (Talk a little about the positive aspects of the service)

Stimulate a sense of belonging
Example: "I hope you like this place as much as I do." (talk a little about the help you had)

Speech **(*the letter "H" represents the speech hypothesis)**

Participant (P) has just left the ward, observes Senior Monitor (M) and Servicescape from the courtyard.

> Start of interaction
Senior Monitor introduces himself, speaking his name calmly, looking into the participant's eyes, with a calm expression and a smile and extends his hand. If the participant is seated, she tries to stay in the same line of sight as the participant, that is, by bending down:

M: -Hello, my name is _____.
Participant greets the monitor:
P: -Hi, _____.
Participant observes badge.
Monitor respectfully responds:
M: -Pleasure Carlos/Thiago. Come with me, please

They walk along the sidewalk dialoguing (monitor next to the windows, participant on the patio side). Monitor shows some physical points of the institution's courtyard and greets other participants who are along the way.

Participant responds:

P H1 sad: -I'm very bad, I don't know why I'm here. I want to talk to my family!
P H2 hostile: -I don't want to stay here, I already said that I only talk to the owner of this place. I wasn't even using that much of drug.
P H3 shame: -I'm ashamed. How long will I be here?

Monitor talk a little about his own experience at the Emunah Clinic:

M: -I understand, I came here to go to the administrative office and talk. Everything will be clarified, we want to help you. Can you accompany me? I will introduce you to the institution and all sectors. You will meet your psychologist, with whom you can talk more about these matters.
P: -I want to go home, what are we going to do there?
M: -We will give you all the information there. Everyone here has been through this situation. We can help you.

The participant is disoriented.

Scene 02: ARRIVAL AND WELCOME

Characters: Participant (Thiago); Monitor; Doctor; Psychologist
Setting: Servicescape of the room in the big house
Purpose of the scene (focus): Reception of professionals at the Casarão
Context: The participant arrives in the room after having observed the entire journey, the reception/entrance of the big house to the entrance door, which is already open. Senior monitor and participant enter.

Room where the welcoming service will take place in order to establish the participant's trust in the treatment and in the clinic: It is imagined that the space brings the idea mixed between professionalism and family, aiming to inspire calm and confidence. The color of the walls are warm but not strong, referring to calm and the elements in the room are cold colors, referring to confidence and professionalism. The position of the furniture establishes good circulation, without barriers between the participant and the professionals, without establishing hierarchies, suggesting a position of equality, and sharing. Comfort is also important, such as upholstered armchairs with armrests, thermal comfort and air quality and furniture with rounded corners. The room is clean and with hygiene materials (alcohol gel). Some vases, a painting, the view from the window to nature, a light scent of cypress seek to provide calm and demonstrate professionalism in a synesthetic way. In the corner of the room, a round side table. Under this table, a thermos, a box of tea options, a water bottle, reusable plastic cups, a cookie jar, and napkins.
The TV presents the cover of the presentation with an image related to the clinic and logo.
The participant stands so that he can see the door, the professionals, and the TV.

I - STRATEGIES TO BE USED

Use strategy for behavioral intervention:
Persuade
Use ideation strategy:
Easily identifiable reception that reflects treatment goals and expectations
Use heuristics for social cohesion:
Highlight organizational values
Stimulate a sense of belonging
Factors associated with behavior change:
Using elements in the environment to sharpen sensory perception (performed before and during service)
Awakening and/or Controlling and/or Avoiding Emotion(s)
Use Symbols
Be context sensitive

II - SCRIPT FOR SCENE SIMULATION
What will be simulated: The reception of the participant by the professionals in the Casarão room
Expected behavior of the participant: Perception of time and space
Expected feeling of the participant: Anxiety
Professionals:
Identification badge (name, photo, title, and template)
Appropriate clothing (professional uniform or Emunah clinic uniform)
Appropriate aesthetic look (visual aspects)

Behavior to be simulated:
(1) Team greeting

Modelo para cumprimento de recepção



Prioritize facial expression, empathy and courtesy.

III - SCRIPT FOR VERBAL AND NON-VERBAL COMMUNICATION OF PROFESSIONALS

Script for Verbal Communication:

Paralinguistic Elements

Latency: short speeches
Duration: Control breathing while speaking
Volume: voice pitch between low and medium
Speed: few words
Rhythm: speaking with small (almost imperceptible) pauses between one sentence and another
Tone: soft
Fluency: articulating words to facilitate understanding

Script for Non-Verbal Communication:

Sensory: sensitivity to the participant's emotional state
Gaze and eye contact: looking into the eyes
Smile: simple, avoiding laughter
Gestures: little gesticulation
Facial expression: welcoming
Body Posture: Upright, but also hunched over when necessary to capture attention
Head movements: directed at the participant
Physical contact (touch): in moderation
Distance/proximity: close but not touching

IV - SPEECH SCRIPT

Matters:

Time and space orientation:
Example: "This place you are now is a welcome room, where we can talk a little about ourselves and get to know each other better."

Highlight organizational values
Example: "You are at the Emunah Clinic, we are a reference in the service we provide."

Stimulate a sense of belonging
Example: "You are very welcome, we hope you feel comfortable. We will try to help you in the best way possible."

Speech

Monitor introduces the professionals in the room:

M: -Good morning everyone, I came to accompany Thiago/Carlos. Thiago/Carlos, this one is _____, our team doctor. And this is the _____, he/she is one of the Psychologists on the team.

Doctor and Psychologist (if they are seated, they stand up) and introduce themselves, with a calm expression and a smile, calling the participant by name, looking him in the eye. And extend their hand:

Psy: -Good morning Thiago/Carlos. I am the doctor responsible for your treatment from the ward.

Ps: -Good morning Thiago/Carlos. I am the psychologist who will accompany your trajectory here.

P H1 Anxiety: -I'm afraid of what people are thinking of me out there

P H2 Anxiety: -I don't know if I'll be able to stay in this place

P H3 Anxiety: -How long will I stay here?

Ps: -Don't worry, the time spent here will be shorter than in conventional Therapeutic Communities. Also, most patients like to be here after a while.

Q H1: -When will I be able to talk to my family?

P H2 hostile: -It is illegal to keep me here against my will!

Doctor and Psychologist seek to convey calm through a light tone of voice and a certain proximity to the participant:

PsyH1: -Please, can you sit down.

PsyH2: -We need to give you some rules about the place and also more information about why you are here. Please have a seat.

Participant sits.

The Monitor offers tea or water to the participant and then to everyone in the room, if the participant accepts, someone else must also accept so as not to leave the participant isolated:

M: -Would you like some tea or water?

P: -Yes, Water/Tea please.

Psy: -Me too, please.

The Monitor prepares tea/water and delivers it with a napkin to place on the table and to be used if the participant cries.

Psi: -Let's explain to you what's going on.

P H1: -Okay

P H2: Be silent

//ACT 2 (APEX) ~ 30min

Scene 03: CLINIC AND TREATMENT PRESENTATION

Characters: Participant (Thiago); Monitor; Psychiatrist; Psychologist
Setting: Servicescape of the Casarão room
Purpose of the scene (focus): Provide information to the participant, raise awareness

Context: They continue in the same room and start the individual presentations of each professional (one at a time)
Professionals use or not audiovisual resources to support their guidelines. In case they use audiovisual support, transmit more images and less texts.

I - STRATEGIES TO BE USED

Use strategy for behavioral intervention:
Aware
To educate
Motivate
seduce

Use ideation strategy:
Training and Empowerment

Use heuristics for social cohesion:
work on interdependence
The importance of respect
Inform the activities that provide comprehensive care
Show humility, courtesy, honesty, loyalty, tolerance, perseverance, open-mindedness, solidarity and discipline.
Evidence that the service meets basic needs

Factors associated with behavior change:
get attention
Awakening and/or controlling and/or Avoiding Emotion(s)
Stimulate motivation
Use Symbols
Be context sensitive
Provide new experiences
raise awareness
Alert to rules

II - SCRIPT FOR SCENE SIMULATION

What will be simulated: Guidance carried out by professionals
Expected behavior of the participant: Perception of losses
Expected feeling of the participant: Fear, frustration, and regret

Behavior to be simulated:
(1) Provide information

Modelo para fornecer informações



Prioritize one line at a time.

III - SCRIPT FOR VERBAL AND NON-VERBAL COMMUNICATION OF PROFESSIONALS

Script for Verbal Communication:

Paralinguistic Elements

Latency: longer speech

Duration: Control breathing while speaking

Volume: voice pitch between medium and high

Speed: moderate the amount of words over time

Rhythm: speaking with small pauses (almost imperceptible) and medium pauses (noticeable) between one sentence and another

Tone: medium/high

Fluency: repeating phrases that need to be highlighted

Script for Non-Verbal Communication:

Sensory: sensitivity to the participant's emotional state

Gaze and eye contact: eye gaze and presentation

Smile: when relevant

Gestures: medium/high

Facial expression: serious

Body Posture: Upright, but also hunched over when necessary to capture attention

Head movements: targeted at the participant and the presentation

Physical contact (touch): little or none

Distance/proximity: close

IV - SPEECH SCRIPT

Matters:

Guidance on Basic Needs/Comprehensive Care

Explain about medication and physiological aspects for recovery, medications, length of stay, law 10216 (medical)

Promoting a shared future vision and interdependence

Explanation of therapeutic activities and benefits, contact with the external environment, personal issues (money, work) (psychologist)

Facilitate group interaction and the importance of Respect

Informs about the reintegration process, institution/patio routine (cigarettes, room, groups, gym, canteen, schedules), relationship with other participants (monitor)

Highlight organizational values

Explain the importance of humility, courtesy, honesty, loyalty, tolerance, perseverance, open-mindedness, solidarity, and discipline

Speech

The participant is seated with the professionals seated around him. The glasses are supported on the side tables and the psychologist starts the speech by changing the slide of the TV presentation:

Psi: -We will introduce you to the details of your treatment with us. Have a question?
Participant is outraged at not being able to leave:
P: -I'm not leaving today? I'm here against my will!

Psychiatrist informs about the law, medication, and physiological aspects for recovery:

Psy: -The decision to intern the addict to undergo treatment, even against his will, is supported by Law 10.216. Ensuring family members, the full right of intervention in the face of the need to save their life.
Psy: -Well, I'll introduce the part of the psychiatric treatment. You have gone through part of the detox, but we will continue your treatment. You have here at the clinic a follow-up of specialists and if you feel pain or present other pathologies, we will be here to treat you. We even have a dentist who sees us right here at the clinic. (...) Do you have any doubts?

Participant reacts:

P H1 regret: (Stays silent, nods in the affirmative)
P H2 fear: I didn't understand anything
P H3 frustration: Can you explain a little more about (...)

Psychologist calms the participant:
Psi: -Please calm down. We understand, it is a very difficult situation indeed. (...) You must understand that you have a disease, that there is no cure, and that it needs to be treated. Let's talk better.
The seated participant is crestfallen and sad.
Psychologist resumes presentation and explanation of therapeutic activities and benefits:

Psi: -We have meetings ___ times a week. (....) and also support groups (...).

Participant asks:

P: -Do I really need to participate in everything?
Psychologist affirms the importance:
Psi: -Yes, it is necessary for you to evolve within the treatment (...)

A psychologist explains the objectives of the first treatment module. As well as about voluntariness and involuntariness.
Participant asks:

P H1: -I will not participate in anything.
P H2: -My parents will see, I'll leave the house and I'll never talk to them again.
Q H3: -I want to call my family.

Monitor explains about the reintegration process:

M: It is important that you respect the institution's internal regulations. Although you don't want to stay here for treatment, we need to have a good relationship here.

Talking about the three no's (SEX, DRUGS, VIOLENCE)

Participant asks:
P: -But how do I know that I can leave?

Monitor explains the system:
M: -You will go through 3 modules while you are here, today you are in the first. In each module you are evaluated by everyone in the clinic, including your intern colleagues. We will give you a handout with more details. You need to persist in your recovery. (...). We are here to help you.
P: -I think I understand.

Psychologist reinforces:
Psi: -We will work together with you, but we need you to collaborate for your change. Psychiatrist evidence positive results of the therapeutic program.
Participant is silent.

///ACT 3 (CLOSING) ~ 30min

Scene 04: KIT DELIVERY

Characters: Participant (Thiago); Monitor; Psychiatrist; Psychologist
Setting: Servicescape of the Casarão room
Scene objective (focus): Deliver welcome kit, clarify action plan
Context: They remain in the room. The monitor picks up the kit from the TV rack to deliver to the participant.
The kit is imagined as an expression of the clinic's values, with professional visual communication that values the individual's culture.
Kit hypotheses: Book, notebook, pen, handout, silicone bracelet, individual message to the new participant. Or +sports bag; Or +gift box.

I - STRATEGIES TO BE USED

Use strategy for behavioral intervention:
Persuade
Use ideation strategy:
Clarify the action plan
Use heuristics for social cohesion:
Stimulate a sense of belonging
Foster communication channels
Promote permanent education strategies
Highlight organizational values
Foster a shared future vision
Factors associated with behavior change:
Awakening and/or controlling and/or Avoiding Emotion(s)
Evidencing values
Stimulate motivation

Use Symbols
Be context sensitive

II - SCRIPT FOR SCENE SIMULATION

What will be simulated: Delivery of the KIT and explanation of the items
Expected behavior of the participant: Expanded awareness, acceptance
Expected feeling of the participant: projection, self-pity, confidence
Behavior to be simulated:
(1) Gift



Prioritize packaging for pleasant sensory perception.

III - SCRIPT FOR VERBAL AND NON-VERBAL COMMUNICATION OF PROFESSIONALS

Script for Verbal Communication:
Paralinguistic Elements
Latency: Shorter speeches
Duration: Control breathing while speaking
Volume: middle voice pitch
Speed: moderate the amount of words over time
Rhythm: speaking with small (almost imperceptible) pauses between one sentence and another
Tone: medium
Fluency: objective sentences

Script for Non-Verbal Communication:
Sensory: sensitivity to the participant's emotional state
Gaze and eye contact: look into the eyes and towards the KIT
Smile: more frequent
Gestures: medium/high
Facial expression: excited
Body Posture: hunched over emphasizing KIT materials
Head movements: directed to the participant and to the KIT
Physical contact (touch): little
Distance/proximity: close

IV - SPEECH SCRIPT

Matters:
Stimulate a sense of belonging
Example: “This KIT has some items that have been customized for you. We are here to help you.”

Speech

Psychologist delivery kit | opens the kit and shows the items to the participant:

M: -This is our welcome kit for you.
A psychologist explains the KIT:
Psi: -This is the kit with the materials for you to know more about the treatment and what the next steps will be. We ask you to take care of your kit, it is also part of your score. (...)

The participant receives the Kit and asks:

P: -Thanks, Do I have to fill in and deliver something here? Does it stay with me?
Psi: -No, this material is yours alone.
P H1 projection: I think other people were doing me harm
P H2 Self-pity: I deserve more than this
P H3 confidence: I want to know a little more about where I am

Monitor asks the participant to put on the wristband and accompany him/her again:

M: -Please put the bracelet on, it identifies which module you are on. You will see Blue Module 1, Yellow Module 2, Purple Module 3 colors on the wrists of other participants. And you can accompany me, I will introduce you to the leader of your room.

Farewell to professionals.

At the invitation of the monitor, the participant puts on the wristband and follows him or her. They both leave the room to find the Room Leader in the courtyard.

On the way, the monitor speaks positive reinforcement about the material:

M H1: -This material is really cool. I believe you will get a lot out of it, take care of it, ok? Come on, I'll take you to know the other spaces of the Emunah Clinic.
M H2: -Now, you will meet other people who are here too. I'm going to introduce you to a leader who can help you with a lot too. We will.

APPENDIX 15 - EMUNAH PROJECT PROTOTYPE WS04: NOTES

[09:53-12:00, 28/07/2022]

Scene 01 - Suggestions from the participants

To the senior monitor: “Explain what is happening, say the name of the clinic.”
Monitor observation on the script: “I could have more empathy, say that everything is fine, welcome.”
“Important to say what will happen inside the room, repetition so that the participant understands what is happening”. "Be warm and patient."
*The group explained that there are previous steps before leaving the ward.
Physical orientation to the monitor: “You should walk beside the windows to avoid an accident, it has happened that the patient gets nervous and breaks the glass.” “Also explain the places in the yard.”
To the senior monitor: “It lowers to be at the same level as the patient. It's more empathetic."
Notes - Thiago's personality changed to test variations, from confrontational to sad/repentant.

Scene 02 and 03 - Suggestions from the participants

Monitor: “Oh, the door is open from the beginning”
Group: “people inside the room should stand up to greet”
“Also exchange cups and mugs for plastic ones, in case they are thrown.”
“Do not spend time listening, it is not an anamnesis, but just an introductory presentation of the clinic as a professional and reliable space.”
Group: “[the patient] leaves there and goes to have a coffee in the canteen and smoke a cigarette” Monitor: “It is possible to offer coffee, a small cup.”
Group: “The chairs should be the same and having a table in the center I think would be easier”
*If there is a coffee table, choose a round small version so as not to obstruct the passage or create a barrier.
For the psychologist and the psychiatrist: "It shouldn't be so confrontational" “It should provide information about the time [of each module]. Be more informative, talk about the law, explain about the drug program, connection procedures, modules, among others.”
For the psychologist: “Talk about the purpose of the speech (now you will meet the team, show a video, etc.).”
Very united/messy explanations: “be more punctual” “it starts with the treatment plan, then with medication, then with time, and finally with the schedule/routine.”
*Some colleagues disagreed since the video provided for the service would have this information.
Group: “We can also alert the patient about other patients.” - About other patients passing wrong information.
Psychiatrist's comment: “this is not real! The individual approach is more effective. The patient will not absorb it.”
Group comment: “The video would have the function of calming the patient and relaxing images of the clinic.” "The information will probably not be absorbed by the participant, but it can serve as a relaxing break."
Director: “You don't need to do an analysis, the idea is to be more punctual and informative.” “lead the meeting”
“The clinic logo should be on the board, video, presentation, etc.”
“I don’t like the monitor serving the coffee and water, it seems that the monitor is less important.”
“Someone should lead the meeting, it could be the psychologist”
Notes - It was emphasized that there are different types of patients and therefore the approach should be different. It should be adapted according to the patient, but it should not be confrontational, always trying to be patient and informative.

Scene 4 - suggestion by the participants

“We should welcome the monitor with a hug. It is symbolic!”.
“Also, talk about the number of professionals and meals in the previous scene - as it should demonstrate how good the clinic is.” “Rethink the really relevant information, because if it's too much, it's hard to assimilate.”
“The importance of demonstrating that you master the subject was discussed so that the patient can be influenced.” “Suggestion of always being the reference professional (who will serve that patient - psychologist, psychiatrist and monitor) who performs the reception.”

- “Goal is for the patient to understand that the clinic is competent before going out and talking to other patients.”
They gave an example of a patient that he entered by himself, however he got scared with the small talks of other

Answers about prototyping

1) what to repeat in the next application?

“The whole process was good, I could understand the process.” “I believe that it is possible to reproduce this method [service design] in all the clinic's services.”

2) How did the structure help?
“It just helped, I wouldn't change a thing. I could see that it was cozy, I could put things from here to there, but in general it was good.”

4) what would you change?
“The picture is nice, with a message is better than an image.” “The plants for plastic ones. They will not survive because of the emotional charge of the patients”
“Bring this idea of family image of the clinic. Home concept. Important to bring these things.”

5) what was not good and what would not be used?
“Table elsewhere.” “ The Glass. It's dangerous.”
“The patient stayed out of the group, somewhat confrontational. In the middle is more effective.”
Standardization of uniforms and badges: “Think about standardization of uniforms, put the logo of the clinic to reaffirm the organizational culture.”
Equal seats: “Equal armchairs so it doesn't look like people are more important than others.”
“Small coffee table. No porcelain mugs.”
“Thermos flasks away from the patient and close to a professional.”
“Add a canteen voucher in the kit to compensate until the patient can have credit!”
“If there is an opportunity, give the participant a hug when delivering the kit.”

Prop lists (pilot and WS04)

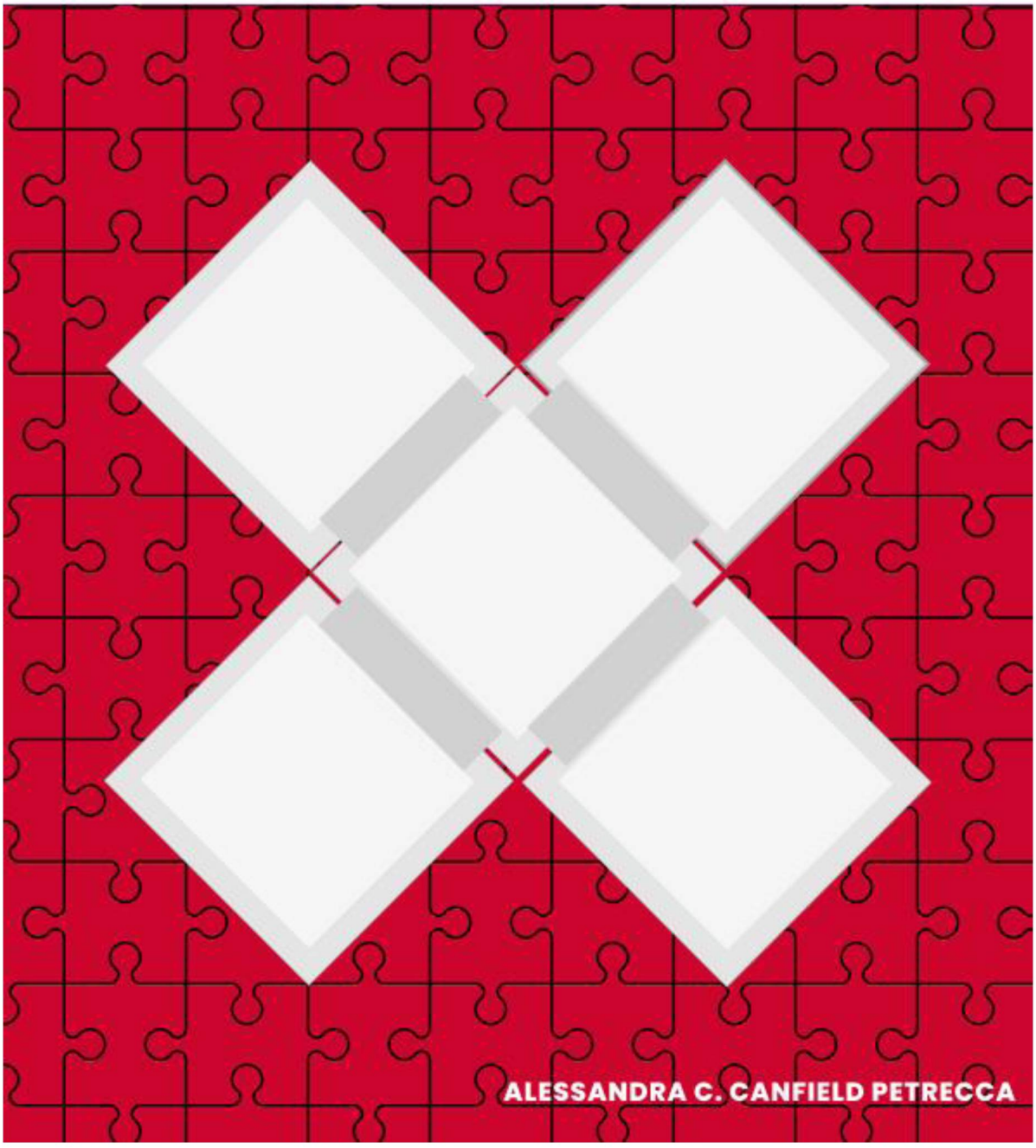
Emunah Service Prototype
Level: Service
Resources: Service Walkthrough and props
Overall Fidelity: Medium
Purpose: Evaluate the service
Position in the process: Prototyping (4th phase of 4th) - 1st cycle

*E = eliminated for WS04			Prop Structure		Pilot			WS 04	
COD	**ITEM**	**GOAL**	**TYPE / LEVEL**	**EXPECTED INTERACTION**	**FID.**	**PILOT WORKSHOP NOTES (with students)**	**RESULT STATUS**	**WS04 NOTES (with stakeholders)**	**RESULT STATUS**
P01	**Side table - protops**	kit and cup support	Layout; Behavioral	acquire and provide		Project definition: Replace coffee table with a side one to clear the way	NEW: provocative disturbance	Project definition: The participants asked for a small coffee table at the end of the dynamic. Perhaps with more time we could try the alteration during the staged representation.	provocative disturbance
E1	Coffee table	kit and cup support	Layout/ Behavioral	acquire and provide	L- M	project definition: Replaced by side table	OUT: provocative disturbance	-	-
P02	Credenza - protops	tea/water set support	Layout/ Behavioral	acquire and provide	L- M	No changes - approved the general idea of servicescape	seamless	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P03	TV Console - protops	TV support	Layout/ Behavioral	acquire and provide	L- M	No changes - approved the general idea of servicescape	seamless	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P04	"TV" - protops	presentation broadcast	Layout/ Behavioral	acquire and provide	L	Just was change the cloth for black because it was more connected to a tv.	seamless	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P05	Gateway - protops	transition between environments and position	Layout/ Behavioral	acquire and provide	L- M	Participants tried to move and the **door fell apart,** needed to be reassembled. Gateway must be strengthened. FAIL TO AQUIRE NEW MEANING	unfruitful interruptions	Project definition: Participants had doubts if the door was open or closed, because there was only the portal, but this was quickly defined by the participants.	provocative disturbance
P06	**Window (draw)**	position, view,	Layout; Behavioral	acquire and provide		Project definition: The Window's position was a discussion for the group. Use a whiteboard with a pedestal for a window painting.	NEW: provocative disturbance	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape. This item and the door helped to understand where to position the paciente in the layout.	seamless
P07	**4 Armchairs (from the site)**	sit, comfort, relaxation, touch	Environmental Conditions/ Visceral (senses)	provide		Replace chairs with armchairs for comfort and **calm color (not white)**. Chairs with pillows were not comfortable and were white, giving the feeling of a hospital site. Also, it is a **touchpoint** as the patient sit on it.	NEW: unfruitful interruptions	Project definition: Equal seats. There were two pairs of armchairs and the group asket to use 4 igual places to sit.	provocative disturbance
E7	4 Chairs (from the site)	sit	Layout/ Behavioral	acquire and pro	L- M	Replaced by armchairs. FAIL TO PROVIDE MEANING	OUT: unfruitful interruptions	-	-
P08	Rug (TNT fabric + rubber mat)	thermal and acoustic comfort	Environmental Conditions/ Visceral	provide	M-H	This tnt had a rubber mat under for **safety**.	seamless	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P09	**Poster (from the site)**	calm down, part of the ambiance	Environmental Conditions/ Visceral (senses)	provide		The paint was replaced with a frame available at the institution with a encouragement phrase, more connected to the values of the clinic.	prop modification	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
E9	Paint	calm down, part of the ambiance	Environmental Con Visceral	provide	M-H	project definition: replaced by posters FAIL TO PROVIDE MEANING	OUT: prop modification	-	-
P10	3 Vases with plant	calm down, part of the ambiance	Environmental Conditions/ Visceral	provide	M-H	Replace some vases on the sideboard with flowers following the literature. Adaptation that better fit the project.	prop modification	Project definition: All vases contained natural flowers, being of high fidelity, this allowed plastic arrangements to be specified. According to the participants, natural arrangements do not survive inside the room due to the emotional charge of the patients.	provocative disturbance
P11	**Air freshener spray**	calm down, part of the ambiance	Environmental Conditions/ Visceral (senses)	provide		Replace the potpourri bowl. Leave only blueprint items. Simplify for evaluation.	prop modification	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
E11	Potpourri bowl	calm down, part of the ambiance	Environmental Conditions/ Visceral	provide	M-H	Replace by the Air freshener. too much information. FAIL TO PROVIDE MEANING	OUT: prop modification	-	-
E34	Speaker	calm down, part of the ambiance	Environmental Conditions/ Visceral	provide	M-H	project definition: Participants decided that ambient music could cause irritation. FAIL TO PROVIDE MEANING	OUT: provocative disturbance	-	-
P12	2 Mugs	trust (no cheap material), part of ambiance	Environmental Conditions/ Visceral	provide	M-H	No changes - approved the general idea of servicescape	seamless	Project definition: The participants agreed to change for little plastic cups to serve a small quantity of coffee.	provocative disturbance

P13	4 Glass	trust (no cheap material), part of ambiance	Environmental Conditions/ Visceral	provide	M-H	Project definition: Add more cups to serve everyone	provocative disturbance	Project definition: The glass was considered dangerous. Change for plastic cups	provocative disturbance
P14	1 Pitcher with water and 1 thermos (tea)	represent tea and water	Layout/ Behavioral	provide	M-H	No changes - approved the general idea of servicescape	seamless	Project definition: The participants agreed that the paciente would want coffee instead of tea,even if is not indicated. Also they positioned the flasks away from the patient and close to a professional.	provocative disturbance
E14	Tea set: Table towel, Tea box, Napkin holders, spoons and sugar packets in a jar	trust, part of ambiance	Layout/ Behavioral	provide	M-H	Take out spare items, leave only cups, mugs and bottles, only items highlighted in the blueprint. Remove excesses. FAIL TO PROVIDE MEANING	OUT: prop modification	-	-
P16	**Kit - Plain sports drawstring bag**	value the culture of the individual	Symbols/ Reflective	acquire		Replace **printed sports drawstring bag** with a white plain one, leaving more low fidelity. The KIT design refinements is something that can be worked out later. It is important to know that there is a kit and what could be inside it in a more general manner.	NEW: unfruitful interruptions	In a further prototype, maybe more focused or with the purpose to explore alternatives, the whole kit could have an even lower-fidelity, perhaps something like a plastic grocery bag and the AA book only, to provoke a discussion on what is important to gift the patient and why. Some props did not have a clear agreement if they should be there in the kit or not, these ones could be with lower fidelity. FAIL TO AQUIRE NEW MEANING	prop modification
E16	Kit- Blue printed sports drawstring bag	value the culture of the individual	Symbols/ Reflective	acquire	M-H	It ended up providing too specific definitions, also had a stamp from a company. FAIL TO ACQUIRE MEANING	OUT: unfruitful interruptions	-	-
P17	**Kit - Welcome message/card**	Identification and reception	Symbols/ Reflective	acquire		project definition: Designer's suggestion - a personalized message to stimulate a sense of belonging.	NEW: provocative disturbance	Project definition: Workshop participants suggested the addition of a voucher to be spent at the on-site cafeteria and a Bible. There were no discussions on removing any items.	provocative disturbance
P18	Kit - Pen	gift and persuade	Symbols/ Reflective	provide	M-H	No changes - approved the general idea of the kit	seamless	In a further prototype, maybe more focused or with the purpose to explore alternatives, the whole kit could have an even lower-fidelity, perhaps something like a plastic grocery bag and the AA book only, to provoke a discussion on what is important to gift the patient and why. Some props did not have a clear agreement if they should be there in the kit or not, these ones could be with lower fidelity. FAIL TO AQUIRE NEW MEANING	prop modification
P19	Kit - AA book	clarify action plan	Symbols/ Reflective	provide	M-H	it was a book with a blue cover, however they have a copy in the local. This copy was used here instead.	seamless	No changes - approved the general idea of the kit. There were no discussions on removing any items.	seamless
P20	Kit - Guide & Notebook (personal jornal)	clarify action plan	Symbols/ Reflective	acquire	M-H	The covers generated a lot of discussions of refinement which was not the intention, the goal was to understand in context which set of objects would make sense. recommendation: Cover with white paper, leaving more low fidelity to provoke more general insights	seamless	In a further prototype, maybe more focused or with the purpose to explore alternatives, the whole kit could have an even lower-fidelity, perhaps something like a plastic grocery bag and the AA book only, to provoke a discussion on what is important to gift the patient and why. Some props did not have a clear agreement if they should be there in the kit or not, these ones could be with lower fidelity. FAIL TO AQUIRE NEW MEANING	prop modification
E20	Kit - Custom covers (Guide and notebook)	clarify action plan	Symbols/ Reflective	acquire	M-H	It ended up providing too many definitions. FAIL TO ACQUIRE MEANING	OUT: unfruitful interruptions	-	-
P21	Kit - Bracelet	Identification and reception	Symbols/ Reflective	acquire	M-H	No changes - approved the general idea of the kit	seamless	No changes - approved the general idea of the kit. There were no discussions on removing any items.	seamless
P22	4 Badges	Identification and reception	Symbols/ Reflective	acquire	M-H	Primarily for character identification, it will be used to stimulate organizational values as a **touchpoint**. Approved the general idea of servicescape	seamless	Project definition: It was mentioned that it would be important to bring identifications through uniform, badges and the clinic logo in different places, showing professionalism lin a next application, uniforms and logos could be added.	provocative disturbance
P23	**Room identification**	Identification and reception	Symbols/ Reflective	acquire		Project Definition: Designer's request to identify the room, stimulating organizational values.	NEW: provocative disturbance	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P24	**Company values poster - for the path**	Identification and reception	Symbols/ Reflective	acquire		Project Definition: Designer's request to put company values on an A3 poster, highlighting these.	NEW: provocative disturbance	It was asked about the items and some were cited by the participants, but had no changes - approved the general idea of servicescape.	seamless
P25	**Emunah Presentation (on paper sheets)**	Capacity building and empowerment	Symbols/ Reflective	acquire		Replace projector with slideshow for A3 sheets of paper, leaving more low fidelity	NEW: unfruitful interruptions	Project definition: The low fidelity of the item (a simulacrum) caused great discussions on what should be present to the patient and why the aspects were important.	provocative disturbance
E25	Projector & PPT - Slides about Emunah	Capacity building and empowerment	Symbols/ Reflective	acquire	M-H	Replaced by low fidelity presentation. It generated specific insights such as color, image presented, but since in the project it was not defined it was necessary to know more about general points. FAIL TO ACQUIRE MEANING	OUT: unfruitful interruptions	-	-
E35	Cap & Hat	identify a character	Symbols/ Reflective	provide	M-H	Leave only items highlighted in the blueprint, personal items will not be so necessary to get into the character. Participants will role play their own role and are codesigner of the project. UNECESSARY FOR WS04	OUT: prop modification	-	-
E36	Red luggage	identify a character	Symbols/ Reflective	provide	M-H	Leave only items highlighted in the blueprint, remove excesses. It caused unnecessary discussion whether or not the patient had a suitcase. FAIL TO PROVIDE MEANING	OUT: prop modification	-	-

APPENDIX 17 - PROTOPS MANUAL

MANUAL PROTOPS



EN

WHAT IS PROTOPS?

Protops is a 400 x 400 x 15mm MDF boards system with soft velcro glued to the edges. These boards are held together by loose strips of rough Velcro.

The Protops were developed with the purpose of replacing single-use cardboard in prototyping, mainly in setting up scenarios for prototyping services.

The name comes from the words prototype + props, being low-fidelity prototypes of servicescape objects.

Its measure of 40cm was designed mainly for the development of furniture.
40cm was set thinking of seat heights and low furniture, such as coffee tables, side tables, and TV counter. When adding two heights we have 80cm, thinking about an approximate height of office tables, dining tables, and sideboards. And 120cm for counters.

But don't let your imagination be limited to that. This simple system can help you assemble different artifacts.

The white faces allow drawing with a whiteboard pen and should only be cleaned with alcohol 70 for durability. It is possible to use them as a faux prototype. drawing on their faces the epures of technical draw.

The version shown in the photos in this manual used 15mm MDF boards because it has a white BP finish on both sides and because it aims at furniture prototypes that are more functional than just volumetric, bearing a certain weight. However, it is possible to use thinner plates and with them to take more risks in the forms. It can be safer and easier to structure with less weight. It is also possible to make pieces of different shapes and sizes.

The use of Velcro on the edges protects wooden floors in case you need to drag the assembled object. But remember that you need to structure it well.



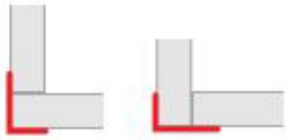
▲ Protops prototype in raw MDF

EN

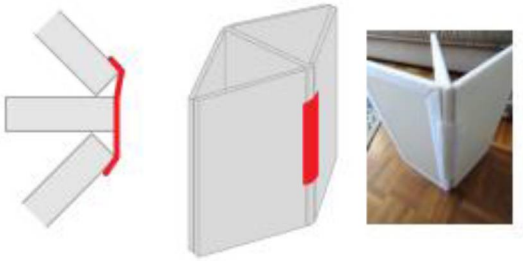
HOW TO USE IT?

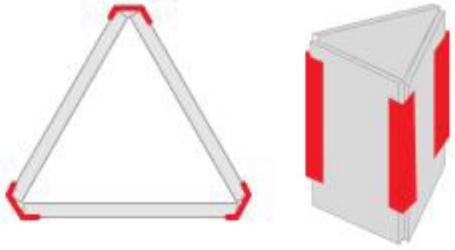
The system is very simple, the boards are joined by strips of rough velcro.
Some important tips are:

- First think about security. Will people interact with the structure? Can it fall on people? Will the weight and ends hurt? So better rethink.
- Triangular structures provide firmer.
- To think that the plates have thickness. You need to carefully secure the joints and think about stacking. Do it with more patience and it will last longer standing.
- When tearing off the Velcro, do not force the glue. Do not pull perpendicular to the plate.



Alguns possíveis encaixes:





Alguns exemplos de uso:



▲ Rack, Aparador e mesa de centro com bases triangulares



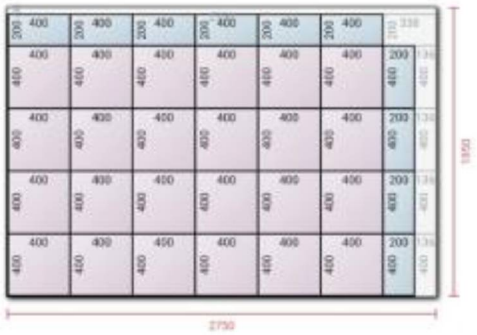
▲ Portal de 160cm estruturado em triangulo

EN

HOW IT WAS MADE?

Material (48 boards 40x40)
2 boards of MDF 2750x 1850 x 15mm
90m Velcro 50mm
730g of contact glue
1 empty 600ml pet bottle
1 old shirt or sock

In an MDF board there will be 24 pieces of 40x40cm and it is possible to make 10 more in 20x40cm. Cut suggestion:



When cutting the soft velcro strips at 45°, take into account the thickness of the sheet (#). It is necessary to coat the tops and sides, "dressing" the edge with the width of the Velcro strip.
The rough velcro can be cut a smaller amount and should be smaller than the side.



To make an efficient glue dowel, I suggest placing the glue in a 600ml pet bottle and closing the opening with a piece of fabric, tied with a string or elastic (see image). This will allow you to apply a very thin layer of glue and accurately glue the Velcro to the edges. Do not forget to apply the glue to the MDF and the strips, and wait for the time to put the parts together.

When gluing the strip, some glue will be left out, for cleaning you can use thinner. Use just a little to clean, because this abrades the BP surface.
Another tip is to make a ball with old glue and rub it through the dirt like an eraser. This helps to get rid of the excess.

You must wait for 24 to use the boards.



ANNEX 1 - EMUNAH PROJECT FOLLOW UP: IDEATION FORM

Cards board

Deck 01: HEURISTICS FOR SOCIAL COHESION
(Choose a heuristic for social cohesion that would be used in the participant's journey)

Deck 02: BEHAVIORAL INTERVENTION
(Choose an intervention strategy that contribute to behavior change)

Deck 03: IDEATION
(Choose an ideation strategy that contribute to behavior change)

Deck 04: EXTRA IDEATION
(Choose an extra ideation strategy that contribute to behavior change)

Form

- What material resources will be needed? e.g., paper, pen, telephone, a room with furniture and art objects, sporting goods, professionals, etc.

☐ balcão	☐ bola de futebol	☐ balde	☐ _____
☐ cadeira	☐ camisa de time	☐ vassoura	☐ _____
☐ sofá	☐ caneta	☐ talher	☐ _____
☐ poltrona	☐ papel	☐ prato	☐ _____
☐ mesa	☐ envelope	☐ copo	☐ _____
☐ mesa baixa	☐ celular	☐ garrafa de café	☐ _____
☐ quadro	☐ telefone	☐ jarra de água	☐ _____
☐ esculturas	☐ produtos de limpeza	☐ _____	☐ _____
☐ troféu	☐ pano	☐ _____	☐ _____

- What human resources will be needed? List the human resources specialties from the stakeholder map.

_____
_____
_____
_____
_____
_____

- How long will the service be performed? e.g., 1 hour, 1 week, 2 months, 3 months, during the entire treatment, etc.

_____
_____
_____
_____
_____
_____

- How will it be carried out? Detail how the service will be performed step by step. e.g. 1st invites you to participate in an activity; 2° give a verbal incentive for him to participate in the activity; 3° reinforce the importance of participating in the activity; 4th detail the activity; and so on.

1°_____
2°_____
3°_____
4°_____
5°_____
6°_____
7°_____

About the Benefits:

- What present behavior will be changed? e.g. perceives the need for treatment.

_____
_____
_____
_____
_____

- What is the expected feeling? e.g. regret

_____
_____
_____
_____
_____

- What are the expected changes in thinking? e.g. “I will believe in my recovery”

_____
_____
_____
_____
_____

ANNEX 2 - EMUNAH PROJECT FOLLOW UP: SERVICE DESKTOP SYNTHESIS RESULT

Group 1:

P1“So, the patient left the infirmary.”

P2“Our group was organized to have a debate on two specific important moments in the first days of our patient in the clinic according to alternative 4 [selected alternative] of the previous workshop.”

P2“The debate was about the time in the infirmary and when he leaves the infirmary.”

P2“We decided to develop the reception service that already exists” “to establish and standardize [the process]”

P2 “The patient arrives at the clinic, and he is received”

P1 “he enters through the gate and is taken to the clinical infirmary and is contained.” “8 people will receive him.” “He spends 5 days in isolation in the infirmary” “at that moment [after 5 days], he will have the welcoming meeting” “At the welcome meeting, he will get to know the entire clinic” “Rooms, canteen, offices, gym, administrative office, soccer field, laundry, kitchen, meeting room”

P2 “he spends 5 days in the infirmary and the monitor goes to pick him up and informs him that he is released to leave in one of the rooms. Patient leaves the infirmary and goes to a meeting room with the senior monitor with other patients in the help group and the room leader. Before going to the room, he is released by a nurse.” “They go to a meeting where the patients will tell him how the treatment works, - look, I arrived and I was like this, today I understand that the treatment is better. Because we must overcome denial in order to interact” “creating a culture of recovery within the institution” “so this support group takes with them a guitar and they play religious songs” “after this song each one shares their experience” “the senior monitor during this meeting presents [the book of] the set of rules and combined and the schedule that is to learn about the routines of the clinic" "an initial idea of how it works is presented by the senior monitor" "he also meet the leader of the room..”. “He will clear up any doubts he has with the leader” “do that, he will visit the courtyard” “he leaves together with the senior monitor and the monitor will explain to him, - here are the rooms, your room will be this one, here are the offices...” “monitor makes a presentation of the physical environment” “then he receives a kit that is his kit. Which is a booklet of songs, a notebook, a basic textbook on narcotics anonymous, a bible... in short, this is the reception meeting, after which he goes to his room...”

Group 2:

P1 “moment of reception, of passing information to this patient and bringing confidence”

P1"focused here on Zé's office room, which we will host inside the “big house” [administrative house]" "this is the zoom [referring to the other group's model]" "this room will be more comfortable , there will be a TV, water space, coffee, entrance, rug, plants, table, welcome kit for the patient and a multidisciplinary team that is the psychiatrist, monitor and the psychologist " " bringing the patient inside the “big house” he feels a little more part of the institution's team, so take him inside [the administration], not just stay outside, so he can also get to know the internal environment of the institution.” “The moment he will arrive in this room is when he leaves the infirmary, so it would be a process prior to that of the other team [between the infirmary and the support group meeting]”

P2“this meeting is a new thing”

P3 “it is that he leaves there [the infirmary] and the patient does not know anything, he does not know what happens, how many days he stays, when he will call [the family], he has a series of questions and doubts. For fear of having contact with people who give out small or open information, for example, if he is going to talk to his psychologist! He doesn’t know who the psychologist is, what the treatment process is.”

P1 “He arrives in the room and there will be a meeting, in the room there will be a script” “but the reception covers what, there will be no coffee, there will be tea because coffee is very stimulating. When he leaves, he will get a hug.”

P3 “and the idea is for him to feel a comfortable environment, for him to feel exclusive there and for him to be on the team's side and have confidence. And he will realize that he has access to the team, that he does not need to look for another patient.” “He is in a family environment, there will be a presentation for him, he knows the name of the professionals who will be there.” "Psychologist, psychiatrist, monitor and if possible, when one of the directors is there will also participate." "The idea is to pass all the information there. Because the guy gets anxious, but what about my dog? When am I going to call my mom? and that takes the focus away from his treatment. He has a lot of doubts about his future.”

P1 “and this will be with a maximum of 2 patients for an intervention like this”

P3 “being the ideal one, exclusive to him” “the script will be explained now...”- P3 giving the space for P4 explanation.

P4 “So the idea is to pass on as much information as possible to this patient who is arriving, because they always come with many doubts." "Then each of the members would solve these doubts. “The psychiatrist would talk about the medication, how it works, length of stay and the law of involuntary care.” “The psychologist explains how the treatment works, each of the stages, the modules, and how it evolves.” "Family processes: when am I going to see my family? And personal questions that they have questions about: ah, I need to pay the bill, I need to work, a certificate..." "then the monitors come in talking about the routine, where he goes, talking about the groups, schedule meal, waking up, taking medication, when you can go to the gym....” “Then talk about critical points and relationships with other patients, because there are patients who want to be treated and patients who don't” “at each stage he can ask questions" “and then our finalization would be to deliver the bracelet [module identification bracelet - idea generated by the group], the welcome kit and a collective hug for him to feel welcomed, welcome”

P3 “An interesting statement. R1 was hospitalized there and said that when he went to this room, he felt super good, because you access the big house, which is the place of the team.” “There is the most comfortable place because it has armchairs, and they are not plastic chairs.” “We even joked, - from now on it’s the last time you sit in an armchair, from here on it’s just plastic chairs [the chairs available for patients at the clinic are plastic for safety]” “but R1 felt important in that moment there”

P3 “[the kit, the presentation] are all personalized for the patient”

P2 “[the idea is] to show us as a team, so he doesn't have to rely on the other patients' views.” “Because what happens is, we even have patients who come voluntarily but who in a few days want to leave, because they hear a series of things that are unreal. - You won't leave, you took that psychologist, and you won't leave anymore, you'll stay in treatment for a year! And he believes" "the idea is that he receives all the information" "Anything you need, you turn to us. This is the fact of trust and being welcoming.”

P1 “Besides, it is a break. When he leaves there [the infirmary], it is a hostile environment and he goes to a more welcoming environment, seeing that the clinic is not hostile.”

Group 1 - to consolidate an existing service of welcoming with other patients.
Infirmary> group meeting > tour inside the dependences of the clinic> bedroom.
*Guitar, welcoming kit - book AA, notebook, bible, song book.

Group 2- new service to inform and reassure the patient. Is a private meeting with a senior monitor, the patient psychiatrist, and his psychologist. If possible, one of the directors of the clinic will be present.
Infirmary > staff meeting > group meeting > tour inside the dependences of the clinic > bedroom.
*Welcome environment, offer of tea and water, comfortable armchairs, welcoming kit - silicon armband, book AA, notebook, pen.

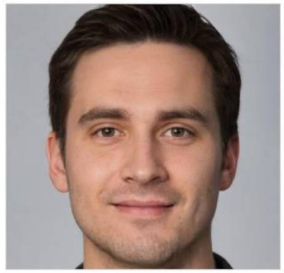
PROJECT: Emunah - Coesão Social e DfSB PERSONA: THIAGO

NOME

THIAGO

TYPE

PARTICIPANTE JOVEM



Dados Demográficos

♂ Masculino 28 anos

Classe média alta

Solteiro

Bigorrilho - Curitiba

Estudante

Comportamento

Mente para os pais
Faz chantagem emocional
Impulsivo
Rebeldia
Agressivo; Indisciplinado
Tem bom coração
Inteligente
Extrovertido
Irresponsável; Justificador
TDAH não controlada na infância

Objetivos

Viagem
Namorada - Sexo
Playstation 5
Carro

Dores

Não poder frequentar festas
Não poder ter carro/dinheiro
Neurose/medo de não conseguir

Frustrações

Não terminar os cursos universitários
Abandono do pai
Incapacidade de se empregar
Desconfiança dos outros
Impotência sexual
Frustrações amorosas

Frase

"Eu já sei"

" Meu pai quer fechar minha empresa"

Objetos

Whey Protein, Roupa de Marca e Iphone.

PROJECT: Emunah - Coesão Social e DfSB PERSONA: CARLOS

NOME

CARLOS

TYPE

PARTICIPANTE SÊNIOR



Dados Demográficos

♂ Masculino 60 anos

Classe média alta

Advogado - Desempregado

Bigorrilho - Curitiba

Divorciado

Objetivos

Beber sem ser incomodado
Ter uma namorada jovem
Ter dinheiro para beber melhor
Aposentar
Estabilidade
Autossuficiência

Comportamento

Falta no trabalho
Trai a esposa
Não se diverte sem álcool
Não vai ao médico
Arrogante
Projetivo

Dores

Arrependimento
Baixa Autoestima
Vergonha
Ressaca Moral
Comorbidades
Internamentos

Frustrações

Impotência sexual
Abandono Familiar/ Filhos
Fracassos profissionais
Envelhecer e ficar inválido
Perda de autonomia
Pai rígido

Frase

Bebo porque gosto e com o meu dinheiro.

Objetos

Coisas Antigas e Garrafas Vazias

SERVICE BLUEPRINT: Start of module 01 (pre-contemplation) - Welcome Service

PERSONAS: Thiago e Carlos

TOPIC: TRUST AND RECOVERY
SATISFACTION UNIT: AWAKENING CONFIDENCE
TARGET BEHAVIORS FOR CHANGE: denial, hostility, disorientation, anxiety, mistrust
EXPECTED BEHAVIORS: perception of time and space (START), perception of losses (APEX), acceptance (CLOSING)
EXPECTED FEELINGS: Sadness, shame, regret, anger, frustration (START & APEX), projection, self-pity, confidence (CLOSING)

Date: 25/06/2022

MOMENTS	START (~15')		APEX (~30')	CLOSING (~15')	
PHASES	> INFIRMARY JOURNEY - BIG HOUSE>	> ARRIVAL: WELCOME >	> CLINIC AND TREATMENT PRESENTATION >	> KIT DELIVERY>	> ROOM DIRECTION >
Touchpoints	**Senior Monitor** ID Badge, Clothing; Courtyard Servicescape; Sign with organizational values displayed on the way; Alternatives: no uniform	**Senior Monitor, Doctor, Psychologist** ID Badge, Clothing; Servicescape inside the big house; armchairs; Tea mug or water glass; Alternatives: no uniform Presence of one of the partners	**Doctor; Psychologist; Senior Monitor** TV; Video; Presentation; Alternatives: no video and presentation alternatives: folder, flipchart, poster, video, speech, artifact (cubes); Presence of one of the partners	**Senior Monitor, Doctor or Psychologist** Kit: Book, workbook, notebook, module ID pen and wristband Alternatives: Sports bag, Gift box; Presence of one of the partners	**Senior Monitor; Room leader;** leader bracelet
Beneficiary actions	**Participant** greets the monitor; Walks with the Monitor to the Casarão, Perceives the environment on the way, Questions, listens to instructions.	**Participant** perceives the environment; Greets, dialogues, questions, listens (paths of action, hypotheses/variability); sit down; Eats (hypothesis 1: chooses not to eat; hypothesis 2: chooses tea; hypothesis 3: chooses water).	**Participant** watches the video and the presentation broadcast on television and reflects on the themes presented; Interacts with professionals; (variability of archetypes - tearful, first time, return).	**Participant** receives the Kit; Comments, thanks, questions (variability of archetypes - hypotheses: tearful, first time, return); Put on the bracelet.	**Participant** accompanies the monitor; Greets the leader.
Frontstage	**Monitor** goes to the participant's meeting; greets; It presents the information about the trip to the Casarão; After noticing behavior, he seeks to accept in some way - a hug, a smile, a handshake and/or an affirmative gesture; Establishes Dialogue and Listens; He informs that later the participant will have time to get to know the spaces of the clinic better.	**Monitor** performs the presentation of the space, of the other professionals who are in the room; Offer tea or water; Invite him to sit down; **Psychiatrist and Psychologist** greet participant **Psychologist** invites you to watch the video	**Psychologist** Starts the video presentation on TV **Psychiatrist** explains about medication and physiological aspects for recovery **Psychologist** explains about therapeutic activities and benefits **Monitor** Explains the importance of willpower to overcome a situation, recognizes competences and informs about the reintegration process	**Psychiatrist** or psychologist presents the materials received (unboxing or oral explanation) **Monitor** complements the explanation of the delivered material; Informs about the personalized bracelet; Information on how to contact professionals	**Monitor** accompanies participant to the room leader; Presents leader; the wristband and module that the leader is on. **Room leader** greets participant and asks participant to accompany him.
Backstage	**Cleaning team** clean and decorate the environment, on the way between the infirmary and the mansion.	**Kitchen staff** brings tea and water apparatus to the living room. **Cleaning team** prepares the environment for reception (position and color of furniture, sounds and smell of the environment, art objects and the ways in which organizational values will be physically exposed).	**Another monitor** notifies the room leader about the reception.	**Administrative staff** gathers the materials that make up the Kit.	**Doctors and psychologist**s register in the system. **Psychologist** sends a whatsapp message to the family informing the participant about the entry. **Cleaning team** prepares bedding and towels to be made available in the room.
Support services	Involved **professionals and partners** prepare the Senior Monitor's welcome script (listening, stimulating a sense of belonging, promoting a shared future vision). **Outdoor landscaping services:** gardening, e-commerce materials for decoration, signboard.	Involved **professionals and partners** elaborate the reception behavioral script. **Company specialized in interiors:** Lighting project and interior design.	**Advertising agency:** video production and presentation to be broadcast on TV. Specific training with **external professionals** for the professionals who perform the reception.	Involved **professionals and partners** prepare informative and interactive material containing the rules, goals and organizational values; they prepare the professionals' script. **Advertising agency:** Customize kit materials needed for motivation.	

Responsible: Wellington M. Kihara; Alessandra C.C. petrecca; Aguinaldo dos Santos